DOCUMENT RESUME

ED 174 153 HE 011 603

AUTHOR Coldren, Sharon L., Ed.
TITLE Financial Measures Project: Measuring Financial Conditions of Colleges and Universities, 1978 Working Conference.
INSTITUTION American Council on Education, Washington, D.C.
SPONS AGENCY National Association of Coll. and Univ. Business Officers, Washington, D.C.; National Center for Education Statistics (DHEW), Washington, D.C.
PUB DATE 20 Oct 78
NOTE 170p.; Document prepared by the Economics and Finance Unit; Contains some small print
AVAILABLE FROM American Council on Education, One Dupont Circle, Washington, DC 20036

EDRS PRICE MF01/PC07 Plus Postage.
DESCRIPTORS *Data Analysis; Data Bases; *Economic Research; Economic Status; *Educational Finance; *Financial Support; Fiscal Capacity; Higher Education; *Institutional Evaluation; Private Colleges; *Research Methodology
IDENTIFIERS *Higher Education General Information Survey; New York

ABSTRACT

Papers are presented from a 1978 working conference on measuring financial conditions of colleges and universities. Contents include the following: "The Federal Government's Interest in the Development of Financial Measures" by M. Chandler; "Improving the Conceptual Framework for Measuring Financial Condition Using Institutional Management Data" by H. H. Jenny; "A Multivariate Approach to the Analysis of Institutional Financial Condition" by D. J. Collier; "Using HEGIS Data for Aggregate Analyses of Financial Conditions" by P. Mertins; "Monitoring the Financial Status of Independent Institutions in New York State" by P. Wing and N. A. Mercer; "Higher Education Financing in the Fifty States: Interstate Comparisons" by K. Halstead and M. McCoy; "Data and Ratios Used to Analyze the Financial Condition of Independent Colleges and Universities in Pennsylvania" by J. Minter; "Building an Accurate Financial Data Base" by C. A. Conger; "A Validity Check on the HEGIS Finance Data" by C. Patrick and D. J. Collier; "Comments on Methodological and Statistical Problems Present in Financial Measures Analyses" by A. J. Stenner; "Financial Analysis: The First Steps" by N. Dickmeyer; "Costing, Concepts, Methodologies, and Uses" by D. I. Carter; and "The Potential of a Shared Modeling System for Measurement of Comparative Financial Condition" by D. A. Updegrove. (SW)

FINANCIAL MEASURES PROJECT

MEASURING FINANCIAL CONDITIONS OF COLLEGES AND UNIVERSITIES

1978 WORKING CONFERENCE

ANNAPOLIS, MARYLAND

OCTOBER 19-20, 1978

Sponsored by:

Economics and Finance Unit
American Council on Education

National Association of College and University Business Officers

National Center for Education Statistics

FINANCIAL MEASURES PROJECT

Measuring Financial Conditions of Colleges and Universities

1978 Working Conference

October 19-20, 1978

Annapolis, Maryland

Conference organized by Carol Van Alstyne

Papers edited by Sharon L. Coldren

Sponsored by

Economics and Finance Unit, American Council on Education

National Association of College and University Business Officers

National Center for Education Statistics

American Council on Education Washington, D. C.

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This project has been funded in part with Federal funds from the Department of Health, Education, and Welfare under purchase order number P00780571. The contents of this publication do not necessarily reflect the views or policies of the Department of Health, Education, and Welfare, nor does mention of trade names, or organizations imply endorsement by the U. S. Government.

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PREFACE

This collection of papers makes available to those interested in the economic prospects of higher education the ideas presented at the second annual Annapolis Conference on Measuring Financial Conditions of Colleges and Universities. Cosponsored by the American Council on Education, the National Association of College and University Business Officers, and the National Center for Education Statistics, this conference brought together the experts who are focussing their attention on this important concern.

We are extremely pleased with the number of people who made a special effort to be with us at this conference, thus reflecting a fresh burst of interest in assessing financial conditions after years of sustained effort by those few who originally recognized the need for better analytic tools more than a decade ago.

The purpose of this series of conferences is to help speed the development and use of improved measures of financial conditions of higher education institutions. Four separate approaches were employed to work toward this ambitious objective for the 1978 meeting:

1. We organized a technical forum in which those people long established in this field were invited to present the most recent advances in their ongoing work.

2. We actively attempted to search out new contributors to give them an opportunity to introduce their ideas.

3. A network of resource people is being created that links the complementary areas of technical expertise which are all required to make the needed advances in our analytic capabilities. The people included in this rescource network are on the leading edges of new developments in financial planning, budgeting, and management; nonprofit accounting; computerized financial modeling; financial data base management: and statistics.

4. We are publishing this compilation of conference presentations in anticipation that they will be useful to those who want to know the current state of the art in measuring the financial condition of colleges and universities. The papers should be useful to managers at institutions doing financial self-assessment, to researchers trying to make still further advances in their analytic tools, and to government officials attempting to find better measures to employ in funding and evaluating higher education programs.

The papers in this collection represent the majority of the presentations made during the conference; a few speakers were unable to find time in their busy schedules to write papers summarizing their talks, but their contributions were nonetheless valuable, and our appreciation is great to all the contributors.

The participants agreed that significant progress had been made since the first conference in October, 1977 in conceptualizing and experimenting with indicators of financial conditions. The specific recommendations for the next steps in indicator development which we derived from the conference process and the work of our Financial Measures Project reported there are:

1. Financial indicators should be developed using time-series data.

2. Steps should be taken to design formats and procedures for collecting balance sheet data.

3. The possibility of collecting some financial data by major item of expense should be explored.

4. Financial indicators should be interpreted in context, with consideration of the changes in the quality of education and other nonfinancial institutional resources.

5. Data should be generated and reported for small, relatively homogeneous groups of institutions.

6. Efforts should begin to identify characteristic values or normal ranges of financial indicators for specified groups of institutions.

7. The costs and benefits of providing greater technical assistance to prospective users of financial indicators should be assessed.

8. Further conceptual development of financial indicators should be actively encouraged.

Carol Van Alstyne was the principal person responsible for organizing the conference. Sharon L. Coldren collected and edited the conference papers for wider distribution. Scott Hughes of NACUBO contributed materially to planning the agenda and securing particular speakers. In addition, we have benefited in organizing this conference from the intellectual and logistical support of James Farmer and Paul Brubaker of Systems Research, Inc.

With this publication, we can also announce the significant addition of Nathan Dickmeyer to our staff as Director of the Financial Measures Project. He brings experience, knowledge, and new ideas to the Project from his recent work with William Massy and David S.P. Hopkins at Stanford developing the TRADES model for institutional long-range planning and from his earlier work as the business officer of Johnson State College in Vermont. He is responsible for establishing the research agenda and for coordinating the burgeoning activities for the Financial Measures Project. Currently Nathan is leading the Project into a new phase of activity, testing innovative approaches to financial analysis in actual use with selected colleges and universities.

A most thoroughly rewarding part of our work on financial indicators has been the continuous growth of effective working relationships with NACUBO and NCES.

Carol Van Alstyne
Chief Economist and
Director, Economics and Finance Unit,
American Council on Education

Sharon L. Coldren
Assistant Director
Economics and Finance Unit
American Council on Education

THE FEDERAL GOVERNMENT'S INTEREST IN THE DEVELOPMENT OF FINANCIAL MEASURES

Marjorie Chandler
National Center for Education Statistics

On behalf of the National Center for Education Statistics, I want to welcome you to this second working conference on Measuring the Financial Condition of Colleges and Universities. We are pleased to cooperate again with the American Council on Education and the National Association of College and University Business Officers in sponsoring this conference.

All of you are probably familiar with the GAO's report to the Congress on The Problems and Outlook of Small Private Liberal Arts Colleges and are aware of its recommendation that the Secretary of Health, Education and Welfare periodically assess the financial condition of postsecondary institutions to determine whether HEW should act to sustain schools experiencing financial distress and what form any possible action should take.

We in the postsecondary community do not know precisely what "financial distress" is or how to measure it. But if this conference can provide guidance on how to measure the financial condition of colleges and universities, we will have made a good start.

In the present context of inflation and of projected changes in enrollment mix in private institutions in the 1980's, some institutions may have increasing problems in maintaining sound financial conditions. The federal government, which spent over $9.5 billion in FY 1977 on higher education, has an obvious interest in the condition of the institutions. If the financial situation of some institutions does deteriorate in the near future, information to assess their plight will be essential.

The large number of topics on our agenda makes it clear that many factors and many areas of expertise must be considered if a successful approach to measuring the financial condition of colleges and universities is to be developed. NCES is glad to have this opportunity to share your knowledge and perspectives on this problem.

IMPROVING THE CONCEPTUAL FRAMEWORK FOR MEASURING FINANCIAL CONDITION USING INSTITUTIONAL MANAGEMENT DATA

Hans H. Jenny
The College of Wooster

To be invited to speak at this Workshop is both a pleasure and an honor; to be asked to kick off the proceedings is slightly intimidating. But it is a pleasure to see so many good friends at this gathering, and one can have confidence from the program's detail that noticeable progress has been made since last year's conference. We owe a debt to Carol Van Alstyne for keeping up the pressure.

In preparing for this morning, I have tried to look for a symbol that might serve as a leitmotif for those who spend their time developing indicators in higher education. Last night, not too soon, I believe that I found one. After checking in, I proceeded to locate my room. After entering, I discovered that there was no bed in the room. I checked the bathroom. Nothing there either. In frustration I called the desk clerk. "Did you open the door in the bathroom that leads into your bedroom?" she asked tolerantly. "No," I said sheepishly. In due course I found my bed.

The moral of this tale is all too obvious: one should always look around the corner.

I believe that my experience can serve as a basis for my first comment this morning. To date, there has been already a considerable display of statistical pyrotechnics among some who toil in the indicator shop. Instead of looking around the corner in order to discover the workings of the higher educational system, all too many analysts take the available data, churn them around in most sophisticated fashion, and then treat us to conclusions that tend to leave most practitioners in wonderment.

Choosing the Right Content

In the Financial Measures Project in particular, we have not yet solved the problem of what is the right content. Before we engage in all these statistical fireworks, we must first produce the appropriate data elements, for without them we shall not be able to obtain the correct indicator information. Unfortunately, it is proving to be very difficult to convince certain analysts that presently available financial information

is essentially dysfunctional if one plans to use it for describing the financial condition of colleges and universities. I have been saying this for so long that many of my friends look for an escape hatch when they see me coming down the hall.

How many of you have ever participated for any length of time in the annual closing of a college's "accounting books" and in the preparation of the "financial audit?" Apparently only a few of you seem to have had this experience to judge from the showing of hands. It seems to me that this is one of the more interesting experiences, and one should have it before going into financial indicator work.

One really has to learn something about the translation process of taking financial data that have been used for managerial and budget control purposes and transforming this information into a fiduciary accounting format. Most of us could not manage the institution financially if we contented ourselves with this final audit format. A clear sign of its limited utility can be seen in the fact that, until the next auditing period comes along, we go back to our internally developed information systems.

Of course, audit and internal financial management information do overlap in certain areas. Unfortunately, those who are peddling indicators in higher education finance at the national level seldom succeed in making a bridge between the data elements the institutional policymakers use and need and those that tend to be available for national statistical use. And, if the decision-makers within the institutions will not give much credence to the variables that are routinely used in higher education financial analyses, we should be very careful why and under what circumstances we use the available data in our national policy work.

Unfortunately, the content problem has not yet been solved by the higher education industry. There is as yet no consensus on how we move from audit-centered, fiduciary, and HEGIS-modified financial information to relevant policy information. Depending on whose policy we are talking about, the policy information requires changes. If we are talking about federal policy and financial adequacy in relation to access in postsecondary education we are asking different questions than when we are interested in institutional viability, financial or otherwise.

Getting to the "Bottom Line"

One of the trustees at our college keeps asking: Have we done better this year than last? Are we falling behind? Assuming that we agree that we are doing reasonably well, and reasonably the right things, are we making progress?

In order to make progress, we know that the college's expendable and earnings assets must grow. To begin with, they must grow at least at the rate of collegiate inflation. They must also grow in relation to the institution's long-range plans. Unless there is some improvement in the quality of the educational program, there exists the danger that pure inflation will be passed on to students and funders.

Last year at this conference, William Wilkinson of The University of Rochester commented on his "expendable funds" concept. There is nobody in this room who can tell us what Higher Education's "expendable fund" balances are at this moment or at any other time in history. There is nothing in our time-honored fiduciary accounting system that will allow us to derive this important bit of information.

At our institution, we have been developing a "bottom line" concept. Some of my friends believe that non-profit institutions should not or do not have a "bottom line." This is, of course, debatable. Our trustees appear to care less about the debate and possible controversy; they tend to be interested in things that provide them with answers. The "bottom line" is to them not an objective as in a for-profit business, but an essential datum. Are we generating, over time, an adequate flow of revenues?

Capital Charges

A case in point is deferred maintenance. The concept has two meanings in college accounting. On the one hand, it is a book entry for actual expenditures which are charged to subsequent business years. On the other hand, the term refers to needed plant improvements that are being postponed. In both instances, current expenditures tend to be understated. In collegiate practice, the expression "deferred maintenance" has become a catch-all phrase which really tells us that we are generally under-financing ourselves. To the extent "deferred maintenance" can be defined quantitatively, college and university fund balances are by and large overstated.

Actually, the expression is misleading since it hides the true urgency. We all face the need to define the financial requirements for putting our laboratories, our equipment and equipment replacement programs, and our housing and teaching spaces into a condition of functional adequacy. Higher education has perennially under-financed its capital requirements. If we make our financial analysis in terms of actual accounting data, we shall continue to understate this capital requirement. Only by plugging in a factor for capital consumption will we come even close to defining the beginning of the problem.

G. Richard Wynn and I tried to work with this capital consumption concept a few years ago, and we defined for some 48 private colleges a simply staggering built-in capital requirement based solely on the capital expenditures that took place during the 1960s. June O'Neill attempted to do something similar in her path-breaking study. The industry welcomed our efforts with something akin to a yawn, and the pundits bogged down in a squabble about "depreciation"--which really is not the point at all.

The issue is whether or not colleges and universities over time generate enough revenues (expendable on current account) to cover all types of costs of operation. Marshall called this "financing the firm in the long run" and meant by it that current revenues would embrace variable as well as fixed costs, operating as well as capital costs. Higher education finance tends to embrace mostly variable costs in the Marshallian sense. A major portion of capital consumption costs are not covered. What would be the optimal capital requirement for regenerating the historical investments in plant and equipment in existing programs? And how would one handle the requirement for compensating for the inevitable technological and cultural obsolescence of the historical capital? It is with this in mind that our trustees have begun to experiment with a modified reporting format (as reported in last year's proceedings.) 1/

A Comprehensive Reporting Format

Exhibit 1 refers to a revised comprehensive reporting format developed by the Committee on Finance of the College of Wooster that, among other things, attempted to separate strict operating from capital-related expenditures. We took our cue from the business world and asked ourselves how we would obtain the so-called "operating result." While not exactly a budget-driven model, we had to make certain changes that moved us away from the traditional audit format.

Once we agreed on "normal annual revenues" and identified the "normal annual operating expenditures," we first came up with a net revenue or expenditure line from which certain other things could be deducted, such as the interest cost on our long-term debt.

The next step concerns the capital charge which includes allowances for long-term debt reduction, new equipment purchases and library acquisitions, and major plant improvements. In our case, both the debt and the improvement components are based on a

1/ New Developments in Measuring Financial Conditions of Colleges and Universities: Papers Presented at a Working Conference, Annapolis, Md., October 20-21, 1977 (Washington: Economics and Finance Unit, American Council on Education; National Association of College and University Business Officers; National Center for Education Statistics, [1978]).

Exhibit 1

SUMMARY STATEMENT OF 1975 - 78 FINANCIAL CONDITION

	Actual 1975	Actual 1976	Actual 1977	Budget and Estimates 1978
1. Revenue for Current Operations	$ 9,583,906	$ 9,949,129	$11,145,221	$11,719,000
2. Expenditures for Current Operations	9,037,405	9,404,937	10,213,857	10,882,725
3. Net Revenue from Operations	546,501	544,192	931,364	836,275
4. Minus: Interest on Debt	467,547	319,320	285,395	258,240
Sub-total	78,954	224,872	645,969	578,035
5. Minus: Capital Charge	462,305	853,600	884,000	851,000
6. Net Revenue (or Deficit) after Capital Charge	- 383,351	- 628,128	- 238,031	- 272,965
7. Plus: Other Unrestricted Gifts and Revenues	+ 459,581	+1,129,044	+ 488,031	+ 280,000
8. Total Net Revenue (Deficit) from all sources	+ 76,230	+ 500,916	+ 250,000	+ 7,035
9. Allocation of Net Revenue (or Deficit);				
a. Transfer to (from) Plant Maintenance and Debt Reduction Reserve Fund	-0-	370,416	-0-	-0-
b. Transfer to (from) Educational Development & Stabilization Reserve Fund	-0-	245,500	100,000	-0-
c. Transfer to (from) Trustee Designated Endowment	-0-	(115,000)	150,000	-0-
10. Unallocated Balance	76,230	-0-	-0-	7,035
11. Reserve Fund Balances:				
a. Plant Maintenance and Debt Reduction Reserve Fund;	-0-	599,712	741,595	705,274
b. Educational Development and Stabilization Reserve Fund;	-0-	245,500	345,000	345,500
c. Government Bond Reserve Funds;	356,963	381,794	407,229	432,000
12. Net Change in Restricted Fund Balances	1,094,397	676,421	2,506,654	NA
13. Consolidated Net Worth	$38,078,739	$41,007,647	$44,475,586	NA

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five-year plan. Other institutions might prefer to factor in a "capital consumption" figure here. The problem is essentially one of stabilizing the component in the long run, and this means that it may often exceed actual expenditures; on other occasions, the latter will be greater than the total capital charge.

This now gives rise to transfers to or from specifically designated reserve funds. When the capital charge exceeds expenditures, reserves must be built up in the amount of the excess. When expenditures exceed the capital charge, on the other hand, reserves will be called upon to make up the difference. Another alternative for funding might be to use debt financing when reserves are either inadequate or not appropriate as a source.

Finally, we provide a line on which we record all those current expendable (normally, unrestricted) revenues which in the normal audit report flow through the current revenue section. Included here may be unrestricted bequests, and also gifts that have been earmarked by donors for the kinds of capital purposes embodied in the capital charge concept. Many colleges -- if not most of them -- would tend to show a deficit before this special revenue line. And such deficits are more likely if the capital charge embraces an adequate "capital consumption" installment.

Even the special revenue line will not push the bottom line into the "black" in the majority of those instances where "capital consumption" is realistically calculated and not understated. What remains is either a long-range revenue deficiency or an addition to true surplus. If one were to agree to a "full cost" reporting of expenditures similar to the one adopted by June O'Neill or to even a modest program-driven "capital consumption" formula, it is our impression that the large majority of colleges and universities would report an historically negative "bottom line." And this would give us a measure, however superficial, of the under-financing of individual institutions and the industry as a whole.

Both for the sake of institutional planning and development as well as for national policy perspectives on funding requirements, such a reporting format becomes more than academic. Given the capital development of the 1960s throughout the nation, the need for capital renewal will coincide with enrollment weakness resulting from demographic forces. Contrary to conventional wisdom based on traditional accounting data, in spite of declining demand there may be a significant increase in revenue requirements that result from this capital dimension. The reporting format alone does not produce the requisite revenues; but it certainly sharpens one's awareness of future requirements.

As we begin to classify colleges and universities in comparative analysis, we already know that a number would now begin to show deficits. This is what I refer to as "stages in financial health" studies.

Student Cashflows

Since last year's conference, John Minter Associates of Boulder, Colorado, have taken up the challenge for improving financial reporting formats in several areas. One of these concerns is cash flows from and on behalf of students. As you know, established reporting formats, both under NACUBO and HEGIS guidelines, make it impossible to determine who pays the bills and how much they are. Although our initial data are subject to questions because many institutions apparently do not know the answers either, some reasonable guesses can be made from data in Pennsylvania and in Ohio.

The formal college and university audits provide information on tuition and fees income, on auxiliary enterprise revenues, and on student aid expenditures. But nowhere can we find an accounting of the cash flows that bring together what the student owes and what the student and others pay toward this liability. Exhibit 2 gives an idea of how one might approach the reporting. The disaggregation of the various cash flows is essential if one is to obtain an idea of the financial viability of a given college. Such centrally and comprehensively provided information would also help answer public policy questions on where state and federal funds are going.

With this kind of information, it is now possible to develop indicators of institutional dependence that are more meaningful than those we hear about at this Conference and elsewhere that are based on the traditional revenue breakdowns provided in presently available national statistics. Some private institutions have become increasingly dependent on public funds, a point that is made vividly by recent Brookings Institution studies. Other institutions, however, have also moved up the weight of their own internal (unfunded) discounts. Still others have improved their own financial flexibility. And if one can obtain information on the number of student aid recipients for each separate cash flow category, national and institutional information on the infamous "tuition gap" can be provided with considerably greater precision than is the case today.

It has been suggested that institutions will tend to object to such disclosure. Actually the exhibit contains little that is not already being reported, except that the pieces are not currently provided in one comprehensive report, but are being supplied piecemeal to separate agencies. As for the criticism that such a report-

EXHIBIT 2

NET CASH FLOW ANALYSIS FROM / FOR STUDENTS

	1972	1973	1974	1975	1976	1977
A. Revenue from Student Charges:						
a. Gross Tuition and Fees						
b. Dormitory Fees						
c. Food Service Fees						
Sub-Total A.						
B. Student Aid Income (Restricted)						
a. Endowment						
b. Gifts						
c. State Appropriations-OIG, PHEAA						
d. Federal Grants-SEOG, BEOG						
e. Other						
Sub-Total B.						
C. Expenses for Student Aid Grants						
a. Funded (Or Restricted)						
b. Unfunded						
Sub-Total C.						
Net Total: (A + B) - C =						
D. Work Study						
a. Revenues						
b. Expenditures						
E. Loans						
a. Institutional						
b. NDSL						
c. FISL						
e. Other						
F. Enrollment						
a. Body Count						
b. FTE Academic (On campus only)						
c. FTE Financial (On campus only)						
G. Operating Budget						
a. Current Operating Revenues*						
b. Current Operating Expenditures*						
Operating surplus/deficit						

*These should correspond to normal operating budget including interest expense on plant debt and debt amortization payments; exclude capital transfers to/from other funds.

College _____ Respondent _____

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ing requirement is "onerous," we can only reply that if institutions do not have readily available what is, in essence, managerial and planning information, one wonders how they conduct their business in a rational and informed manner at all.

Since last year's conference the reporting format has evolved; and further evolution is likely. We expect some publications to appear during the next several months and prior to any possible third Indicator Conference here in Annapolis.

Inflation and Analyzing Expenditures

When we ask the question of whether or not financial progress is being made in higher education, inflation indicators come to mind immediately. Among other things, an inflation indicator tells us when an institution or an industry holds its own, advances or falls behind, in terms of its constant dollar expenditures. In order to have even remotely useful productivity measures, an idea about the extent of inflation is a prerequisite.

We now have Kent Halstead's Higher Education Price Index time series; George Baughman has developed an inflation measure for the public institutions in the State of Ohio. But in spite of the recognized need, for some unknown reason, it still is not yet a reporting requirement to arrange expenditures by major line items, such as faculty salaries, classroom and laboratory supplies, interest on debt, etc. As any accountant will know, it is relatively easy to translate our traditional breakdown by functions (such as Instruction, Auxiliary Enterprises, Administration, etc.) into a basic line-item structure.

The line-item structure is essential if one must distinguish among variable and fixed costs. It is not enough, as some very recent studies are doing, to take the tenure track and say that this is the "fixed" cost of the institution. The line-item structure must encompass the capital cost element as well.

It is mind-boggling that it has taken all this time to alert the higher education accounting establishment to the need to know and report the structure of expenditures in a higher education institution. We therefore welcome the news that NACUBO has obtained funding for a project designed to develop a recommended object of expenditure classification structure. Hopefully when the results come out they will comprise an assessment of the whole institution. We also trust that the reporting requirements will allow sufficient differentiation among institutions by type, and that the primary effort will not be to impose a uniform format, however appealing it may be politically.

I should like to urge those of you who are primarily in the statistical game to address yourselves to the content of what you use when you engage in your extremely sophisticated pyrotechnics. There is at present much statistical and mathematical elegance and very little substance to what is being churned around.

I believe that if all of us here who are working on developing financial measures will concentrate on the essential first steps of concept development and consensus making, we shall shortly see considerable movement toward a resolution of what tends to frustrate all of us: the paucity of functionally appropriate data. And let me suggest that we all should pay more attention than we sometimes do to the managers and to the management information that they use or need. Please do not ignore those of us who work in the institutional trenches.

Washington policymakers have a tendency to impose on institutions reporting practices and policy directions that from time to time ignore the reality of how institutions function. The Financial Measures Project cannot afford to do this. It would be a serious mistake if a group of outsiders developed "big conclusions" --the "big picture"-- while not understanding what matters to institutions and what makes them financially viable. The result could be that, as now, the measures would be ignored by all who see no practical use in them. A worse result could be the distortion of an already weak condition. So please, help us who work at institutions, remain involved in your broader efforts. I am grateful for opportunities such as this. The exchange of views and the moving toward a common goal are promising developments.

A MULTIVARIATE APPROACH TO THE ANALYSIS OF INSTITUTIONAL FINANCIAL CONDITION

Douglas J. Collier
National Center for Higher Education
Management Systems

This is a summary of a report of progress made in the first year of a two-year project being carried out by the National Center for Higher Education Management Systems (NCHEMS). In this project we are developing indicators of institutional financial condition for higher education institutions, and our progress report includes: 1) a discussion of the potential role of indicators in higher education, 2) a discussion of the definition of "financial condition," 3) the description of an approach that was used to identify and test indicators of institutional financial condition, and 4) a summary of the results of those tests. Since this is the first year of a two-year project, we must emphasize that the results being described are interim results only. This report focuses only on the purpose of the NCHEMS Indicators project, the approach that was used in that project, and the results obtained from testing the indicators that were identified. A full report of the first year's results has been documented in A Multivariate Approach to the Analysis of Institutional Financial Condition. 1/

NCHEMS project, "Indicators of Institutional Financial Condition," will assist the development of indicators that can be used to monitor and understand changes in the financial condition of individual post-secondary education institutions. The focus of the project is on the creation of a set of tools that can be used to assess potential financial distress (rather than to report on the complete financial status of particular institutions). The project itself is a two-year effort in which the first year was directed toward developing and testing an approach for constructing financial condition indicators. The second year will be used to refine that approach and to develop a financial condition indicator (or set of indicators) that can be widely agreed upon as a valid predictor of strong or weak institutional financial condition.

1/ Douglas J. Collier and Cathleen Patrick, A Multivariate Approach to the Analysis of Institutional Financial Condition. National Center for Higher Education Management Systems, Boulder, Colorado, September 1978. (monograph). Study funded under a contract with the National Institute for Education.

The Project Approach

The precise goal of the project is to develop indicators which allow their users to distinguish those institutions which are in a strong financial condition from those which are in a weak financial condition. Thus, a criterion against which hypothesized indicators are judged is whether or not they are able to discriminate between strong and weak institutions. Three steps were followed in accomplishing that goal;

1. A framework was developed to reflect the various dimensions of an institution's financial condition.

   First, the "dimensions" of an institution's financial condition were identified. If a comprehensive set of dimensions could be identified and if indicators could be developed which would monitor changes along these dimensions, then we should be able to use some combination of these indicators to monitor changes in the institution's overall financial condition. One example of a dimension of financial condition is revenue drawing power. An institution must have sufficient revenue drawing power if it is going to be able to survive. Drawing power represents the overall ability of the institution to attract revenues (i.e., to set tuition rates at a level which maximizes their net contribution to revenues, to attract grants and contracts from external agencies, to solicit gifts from donors, and to generate endowment income). The revenue drawing power dimension should, therefore, reflect not only the amount of revenues an institution has generated from year to year but should reflect in addition the ability of the institution to continue to attract these revenues in the future. The following six dimensions were agreed upon by NCHEMS staff and consultants to the project as the initial framework to be used for the identification and development of indicators:

   a. revenue drawing power
   b. financial independence
   c. risk
   d. revenue stability
   e. financial flexibility
   f. reserve strength

2. Indicators were identified which measured change along each dimension.

   Each of the dimensions listed above was used to identify and develop indicators. We limited our consideration of indicators (at least initially) to those which could be constructed using HEGIS data, since a goal of the project is to develop indicators which can be replicated by any higher education user.

3. The set of indicators was constructed using the HEGIS data base and tested to determine whether or not they could discriminate between strong and weak institutions.

Once the individual indicators were developed for each dimension of financial condition, they were tested using an institution-based HEGIS data set. These tests determined which of the hypothesized indicators discriminated between weak and strong institutions. While initially a univariate approach to test the usefulness of each indicator was used, a multivariate approach (in this case, multivariate discriminant analysis) was acknowledged as the necessary final step to achieve significant discriminating ability.

The following steps were followed in testing and validating the individual indicators:

- Calculate each proposed indicator separately for public four-year institutions and private four-year institutions.
- Calculate summary descriptive statistics for each indicator by institutional type.
- From these preliminary statistical results, find the errors or inconsistencies due to HEGIS data problems; correct gross data errors and recalculate descriptive statistics for all measures using corrected data.
- Select those institutions considered by "experts" to be in a decidedly strong or weak financial condition for use in determining the discriminatory ability of the indicators.
- Examine the profile of all measures for each institution in order to check their "face validity."
- Intercorrelate the measures separately by institutional type (public and private) to investigate the degree of relationship among the measures.
- Perform a discriminant analysis, where institutions rated in strong financial condition are coded "one" and institutions rated in weak financial condition are coded "two."
- Refine the discriminant analysis results by the addition or deletion of indicators to attempt to find the "best" discriminating equation.

Summary of Results

The preliminary results showed the significant potential of the approach. A multivariate discriminant function was identified which correctly classified (predicted) 76.7% of the private four-year

institutions in the sample in the appropriate strong or weak category. This dicriminant function was based upon indicators of risk (interest ratio), flexibility (unrestricted funds ratio), reserve strength (average fund balance), and independence (dispersion), as indicated in the exhibit below.

Plans for the second year include additional theoretical work on the indicators, improvements in the ratings of the institutions (as well as increasing the number of institutions rated), and an extension of some of the statistics. These refinements should result in a valid set of indicators that can effectively discriminate between financially strong and financially weak higher education institutions.

EXHIBIT

PREDICTION RESULTS FROM DISCRIMINANT COEFFICIENTS:
PRIVATE FOUR-YEAR COLLEGES
(N=43)

		Predicted Group	
Actual Group	N	Strong (1)	Weak (2)
Strong (1)	21	(17) 81.0	(4) 19.0
Weak (2)	22	(6) 27.3	(16) 72.7

76.7% of 43 institutions classified correctly

	Standardized Coefficients for the Discriminant Function
Interest Ratio	.63
Unrestricted Funds Ratio	-.75
Average Fund Balance	-.64
Dispersion of Income Sources	-.41
Fixed Expenses Ratio	-.57
Canonical Correlation Coefficient	.63
Wilks Lambda Statistic	.61
Chi Square	19.32
df	5
probability	.002

USING HEGIS DATA FOR AGGREGATE ANALYSES OF FINANCIAL CONDITIONS

Paul Mertins
National Center for Education Statistics

Measuring the financial condition of postsecondary institutions is an ongoing effort of the American Council on Education (ACE), the National Association of College and University Business Officers (NACUBO), the National Center for Education Statistics (NCES), and selected institutions. The project is designed to develop and apply improved financial and other measures to the condition of colleges and universities.

One section of the Association for Institutional Research annual meeting in May 1977 was devoted to financial measures, and a follow-up meeting on the same topic was convened by the American Council on Education in June of that year. After this meeting, NCES became more actively involved in the issue, taking the initiative to develop a tape, based on 1975 financial and other HEGIS data, in order to arrive at state-by-state ratios that could be tested.

The Center aggregated two of the ratios developed from the tape and presented these data at the meeting last year here in Annapolis. Analysis of these data revealed considerable variation among the states. Some of the discrepancies appeared to be a function of the state's institutional population (for example, the inclusion of the U.S. service schools). Other variances are not so easily explainable.

Since such variation may be useful in identifying institutions either already in financial difficulty or tending in that direction, the measures were further analyzed. It is hoped that these data will be useful to states in carrying out institutional planning.

A major purpose of the project is to develop and analyze more current measures of the financial condition of postsecondary institutions. This complies with two of the Center's legislative mandates: (1) "To conduct and publish reports on specialized analysis of the meaning and significance of such statistics;" and (2) "to assist State and local educational agencies in improving and automating their statistical and data collection activities." This project will contribute to the mission of NCES by publishing reports on specialized analysis and interpreting the significance and meaning of these financial data. It will also help state postsecondary education agencies to improve their statistical data collection activities by:

1. consolidating data for the colleges in their state on a single tape; and

2. calculating selected measures and helping to demonstrate the uses and benefits of the Center's on-line EDSTAT system and the variety of statistical program packages that can be used with that system.

One of the policy issues that the study addresses is: Who is providing direct support to colleges--students, private sources, or federal or state governments?

NCES has also been working with various government offices on the problem of how to distribute funds under the Strengthening Developing Institutions program. Some of the state work we have completed may be of help in determining criteria for funding under this program. For example, the data show considerable variation from state to state as well as within any one state. The mean of the ratio of state and local appropriations to each full-time-equivalent student varies from a high of $5,500 to a low of $1,100, with many states clustering around the $1,500 - $2,000 range. The mean of the ratio of education and general expenditures to each full-time-equivalent student varies from a high of $9,953 to a low of $2,000 with many states clustering around the $2,500 - $3,500 level.

Alaska has the highest ratio of expenditures per FTE student. Nonetheless, it is still possible for a postsecondary institution in Alaska to be in financial difficulty. Therefore, the notion that a single measure can be used to assess the financial health of all postsecondary institutions in the nation may need further examination.

In reviewing the ratios which have so far been developed, one of my associates suggested that data covering one year provide only a snapshot of the issue and that it might be useful to develop ratios over time. This could be a worthwhile project for the future, especially since HEGIS financial data for 1976 and 1977 are now available.

MONITORING THE FINANCIAL STATUS OF INDEPENDENT INSTITUTIONS IN NEW YORK STATE

Paul Wing
Norman A. Mercer
New York State Education Department

The New York State Board of Regents and State Education Department have been concerned for several years with the financial conditions of the colleges and universities in the state. They have developed procedures for monitoring this financial status and for correcting problems that are evident. These procedures respond to a number of fundamental concerns:

(1) to maintain the diversity of higher education opportunities for New York State citizens;

(2) to identify institutions in or headed for difficulty so that assistance and guidance can be provided; and

(3) to avoid payments by the State to institutions that are destined to fail in the near future.

The project currently deals only with independent institutions, primarily because finance data important for evaluating independent institutions is not meaningful for public institutions. Attention is being devoted to the problem of indentifying indicators that are not related to the public/independent status of institutions.

The data base for the monitoring effort is derived primarily from the Higher Education Data System (HEDS) maintained by the Education Department, which is based in large part on the Federal HEGIS system. Basic data on 145 independent institutions have been compiled and stored in computer files. The 145 institutions include some 115 chartered independent colleges and universities, hospital schools of nursing, seminaries and proprietary institutions. This basic data bank covers 10 major categories of information, with a total of 57 data items for a period of 5 years. Hence, for each institution, a maximum of 285 items of information is available. The computer is programmed to print out this information in a two-page profile (sample copy below).

Initially, Department staff examined the institutional profiles, with special attention to a handful of key indicators, to classify the institutions by financial condition. Based on this examination, specific indicators have now been identified and a computer program has been developed to classify institutions directly and to provide printouts of the classification. Five classifications are used in descending order of financial distress. Group I includes those with the strongest and most indicators of financial difficulty. Groups II, III and IV have

progressively fewer signs of difficulty. One-half of the independent institutions in the State show no significant signs of financial difficulty in recent years or at the present time and thus were assigned to Group V.

Twenty institutions were placed in Groups I, II, and III. Detailed case studies have been prepared for each of these institutions. There may be other institutions headed for financial difficulty on which case studies should be prepared. Project staff are continuing their review of profiles, supplementing the work of the computer, to identify such institutions. All staff in higher and professional education have also been alerted to the need to inform the monitoring project staff of any problems at individual institutions which they happen to find in the course of their work, institutional visits, etc.

It should be noted that only a relatively small number of variables have been identified as key indicators of financial condition. The total amount of quantitative data reported by the institutions in the HEDS/HEGIS annual surveys and the supplementary reports and documents routinely received from institutions constitute a considerable mass of data. Several thousand data items are probably available on each institution for each of the last 10 or more years. The Higher Education Data System extracts from these some 150 key items for the permanent computer bank for each year. The items contained in the computer profiles are drawn from these and several supplementary sources, primarily audit reports. Given the thousands of data elements available, it would be possible to calculate an almost infinite number of ratios, percentages, averages and other measures, but staff early recognized the possibility of becoming inextricably immersed in a statistical morass. The six indicators finally chosen are quite sufficient for a preliminary determination of the financial condition of an institution. That process of preliminary identification and classification has been kept relatively simple, precisely because it is preliminary and because it is essential when dealing with more than 100 institutions.

A grant of $24,150 from the Ford Foundation has contributed much to work completed over the past nine months. The funds were used to employ temporary staff members, with education and background in accounting, finance and statistics, who completed the loading of five-year trend data into the computer and prepared drafts of the case studies. The case studies are reviewed by regular professional staff and are edited and rewritten for submission to the Deputy Commissioner and the Commissioner.

The case studies on the eight institutions which have been found to be in serious financial difficulty are being submitted to the Commissioner for his review. The Regents Guidelines for Commissioner's Procedures in Addressing Cases of Higher Educational Institutions Experiencing Financial Distress, adopted by the Regents in January 1977, specified the procedures to be followed. Basically, the institutional leaders will be informed of our findings, provided with a copy of the case study and invited to consult with the Commissioner. It is important to acknowledge

that the staff findings and the case studies are based upon the information available through the 1976-77 year. Information and reports on the 1977-78 year will not be available until September-November of 1978. The troubled institutions are expected to be visited this fall for the purpose of reviewing the case study and other findings with the chief executive officer and other staff of the institutions. The Commissioner's staff will secure additional information on what has transpired in the past year, and will determine what the institution is doing to address its problems and its own perception of prospects for the future.

Sample Profile

	FALL 1973	FALL 1974	FALL 1975	FALL 1976	FALL 1977
ENROLLMENT					
Undergraduate					
Full-Time	2,974	2,898	3,176	3,343	3,408
Part-Time	491	520	576	474	475
Subtotal	3,465	3,418	3,752	3,817	3,883
Graduate and 1st-Prof.					
Full-Time	68	61	67	85	55
Part-Time	709	748	771	661	569
Subtotal	777	809	838	746	624
Total (Headcount)	4,242	4,227	4,590	4,563	4,507
FTES	3,442	3,382	3,692	3,806	3,811
ADMISSIONS (FIRST-TIME)					
Undergraduate					
Applications	2,102	2,424	2,498	2,928	2,648
Acceptances	1,833	2,069	2,142	2,270	2,168
Percent	87.20	85.35	85.75	77.53	81.87
Enrolled	823	795	944	988	967
Percent	44.90	38.42	44.07	43.52	44.60
Graduate and 1st-Prof.					
Applications	215	323	368	619	512
Acceptances	205	310	349	595	499
Percent	95.35	95.98	94.84	96.12	97.46
	1973-74	1974-75	1975-76	1976-77	1977-78
FACULTY					
Full-Time	—	—	200	188	191
Part-Time	—	—	94	103	106
STUDENT/FACULTY RATIO	—	—	15.96	17.12	16.84
PLANNED ENROLLMENT					
Undergraduate					
Full-Time					
Part-Time					
FACILITIES (IN THOUSANDS OF SQ. FT.)					
Gross Sq. Ft.	—	804	—	843	842
Net Assignable Sq. Ft. (Exc. Residential)	—	333	—	235	—
NASF/FTES (Sq. Ft.)	—	98.60	—	74.86	—
Dormitory Cap. (Beds)	—	—	—	931	923
Dormitory Occ. (Beds)	—	—	—	931	948
TUITION & REQUIRED ANNUAL FEES					
Undergraduate	—	2,400	2,600	2,780	2,850
Graduate	—	2,180	2,400	2,400	2,420

(Continued)

Sample Profile - continued

	1973-74	1974-75	1975-76	1976-77	1977-78
FINANCE (IN THOUSANDS)					
CURRENT FUNDS					
Total Revenues	11,262	11,943	13,197	14,758	—
Total Expenditures & Mandatory Trans.	11,258	11,737	12,967	14,468	—
Surplus/Deficit	4	206	230	290	—
Educational & General					
Total Revenues	9,673	10,463	11,564	12,863	—
Total Expenditures & Mandatory Trans.	9,739	10,420	11,482	12,604	—
Surplus/Deficit	-65	43	83	259	—
Auxiliary Enterprises					
Total Revenues	1,275	1,216	1,353	1,674	—
Total Expenditures & Mandatory Trans.	1,519	1,344	1,511	1,826	—
Surplus/Deficit	-243	-127	-157	-151	—
Independent Operations					
Expenditures	—	-26	-25	38	—
Endowment Income	40	54	53	62	—
Current Assets	1,259	1,286	2,089	2,761	—
Current Liabilities	2,281	1,645	2,218	2,600	—
Current Ratio	0.55	0.78	0.94	1.06	—
Balance	-1,021	-358	-128	161	—
Tuition & Fee Rev/Adj. E&G Exp.	0.89	0.91	0.94	0.96	—
Spons. Res/E&G Exp.	0.06	0.02	0.04	0.04	—
Revenue from NYS %	8.34	7.95	6.41	5.65	—
Revenue from US %	4.35	4.62	3.39	3.68	—
OTHER FUNDS					
Total Assets Excluding Plant	5,256	5,738	7,138	8,268	—
Total Fund Balances Excluding Plant	2,614	3,972	4,861	5,549	—
Plant & Equipment	36,877	36,446	35,693	37,114	—
Long Term Debt Plant	4,544	4,399	4,159	3,969	—
Dormitory Authority	1,565	1,530	1,405	1,335	—
Other	2,979	2,869	2,754	2,634	—
Total Endowment(Book)	1,451	1,465	1,474	1,475	—
Quasi-Endowment	—	—	—	950	—
DEBT SERVICE PAYMENT					
E&G Principal & Int.	—	—	136	135	—
Auxiliary Enterprises Principal & Int.	—	—	180	208	—

HIGHER EDUCATION FINANCING IN THE FIFTY STATES: INTERSTATE COMPARISONS

Kent Halstead
National Institute of Education

Marilyn McCoy
National Center for Higher
Education Management Systems

The importance of state and local government support in financing higher education requires intense study of the topic. Information is needed to assess past appropriations patterns and to assist in formulating future strategies.

To date, much of the public discussion of state and local appropriations has focused on state rankings of total support provided. This simplification of an extremely complex situation is often misleading or misinterpreted. The face value of high or low state rankings in total support is not particularly informative. Rankings can be explained by a variety of factors. It is important that educators and legislators involved in the funding process know these influences and be able to evaluate their merit. For example, appropriations are strongly influenced by the public's interest or apathy toward education, or by the state's financial strength. Also economies of operation are introduced when enrollments are large or when more students are enrolled in lower cost community colleges. Appropriations also are set with knowledge of the availability of additional funding from tuition and non-state sources.

Information useful for assessing past performance serves equally well in guiding current decision making. For example, financing profiles may be compared to suggest how states can add revenues by securing better balance among the several funding sources. Enrollment patterns may also be studied to determine if the mix is consistent with state program requirements, access opportunities, and economy of operation. (Some states with an emphasis on community colleges have achieved remarkable success in this regard.) Where greater appropriations are required, the range of tax revenue allocations to higher education--4 to 17 percent--indicates ample room for states with low rates to negotiate increases. These and other factors need to be examined in advocating funding changes or in justifying current support levels.

The relative financing posture of a state must also be thoroughly understood to effectively respond to questions by citizens and legislators regarding a state's national ranking. Certainly explanation must be provided citizens where the range of state and local government appropriations to higher education runs from $130 per capita down to less than one-fourth this amount ($31); and to students and parents when tuition at public comprehensive 4-year colleges ranges from $1,191 to $203; and to students, faculty, and administrators at public major doctoral granting institutions where total support per student varies from $7,860 to one-third this amount ($2,689). An understanding of the cause of these

differences and their justification is an important aspect of state accountability--a responsibility of state higher education system officers, institutional officers and state legislators.

Study Design

Responding to these needs, the National Institute of Education the National Center for Higher Education Management Systems have collaborated in preparing a study titled Financing Higher Education in the Fifty States: Interstate Comparisons. 1/ The study, to be published in alternate years (beginning with FY 76 data), focuses on the presentation and analyses of a wide variety of factors affecting state financial support of higher education. Components of the analyses include:

- Review of state appropriation increases relative to enrollment growth and inflation.
- Study of the source and evolution of enrollments.
- Identification of state public system enrollment patterns.
- Investigation of state fiscal capacity and effort and the degree to which tax revenues are allocated to education.
- Evaluation of institutional support and student aid levels by institutional classification.
- Examination of institutional expenditure patterns.

To facilitate the above analyses, this study provides a systematic construct or model of data relating to state financing. To simplify, yet comprehensively and rigorously investigate the multitude of factors involved, three rules have been employed:

(1) Data elements were carefully selected to concentrate on essential measureable factors only, with secondary determinates excluded.

(2) The presentation is organized into five components--PUBLIC ENROLLMENTS, GOVERNMENT FINANCES, INSTITUTIONAL LEVEL, OTHER REVENUES, and EXPENDITURES--to encourage more simplified independent analyses.

(3) A majority of factors are interrelated by formula to demonstrate relationships and permit quantified assessment of the consequences of alternative input values.

1/ Available in early 1979 from the U. S. Government Printing Office, Washington, D. C.

An additional important feature of the model is the emphasis given comparative values. The indices provide immediate measures of variance; high or low positions relative to other states or the U.S. average, suggesting conditions a state may particularly wish to examine for consistency with objectives.

Explanation of Analysis

The analysis of state support of higher education is presented for each state on facing pages. An example for the United States as a whole is provided following the text. The three part presentation--"Commentary," "Trends," and "Financing Diagram" are explained below.

Commentary Section

° This short commentary highlights major aspects of the state's higher education financing profile.

Trend Section

The table "Trends in State and Local Appropriations to Higher Education" shows one-year changes (FY 75 to FY 76) in appropriations in absolute dollars, per student, and adjusted for inflation. Appropriations per student after adjustment for inflation (6.6 percent from FY 75 to FY 76) indicates the degree to which purchasing power per student unit has been maintained. Institutions must also, of course, expand their budgets to support new programs and add funds for improvement in operations, as when larger more complex computer hardware or services are purchased.

The second trend table, "Trends in the Mix of Support to Public Higher Education," shows the changes in the roles of different institutional funding sources over a four-year span from fiscal year 1972 to 1976.

State Higher Education Financing Diagram

The financing diagram is a graphic display of information and relationships which establish a state's profile of financial support for higher education. In the upper left portion of the diagram, public enrollments are derived from high school graduates, in-migration, and entrance and retention rates. At the lower left, appropriations are derived from state and local finances involving tax capacity, effort, and allocation. Enrollments and finances are presented on a per capita population basis. The institutional category section of the diagram relates appropriations and students according to the state's enrollment profile. Institutional revenues combine state and local appropriations with revenues from other sources. In this institutional section, as opposed to the previous state focus, amounts are expressed on a per student basis rather than per capita. Finally, institutional revenues are converted to expenditures to show the utilization of financial support.

PUBLIC ENROLLMENTS

(per 1000 p. p.)

#1 HIGH SCHOOL GRADUATES		#2 ENTRANCE RATE TO PUBLIC INSTITUTIONS		#3 FIRST-TIME RESIDENT ENROLLMENT		#4 IN-MIGRATION TO PUBLIC INSTITUTIONS
.15	x	59%	=	8.7	+	.9

=

#5 FIRST-TIME ENROLLMENT: 9.6

x

#6 RETENTION FACTOR (Relationship of first-time to total enrollment): 4.3

x

#7 CONVERSION FACTOR (Headcount to FTE): .72

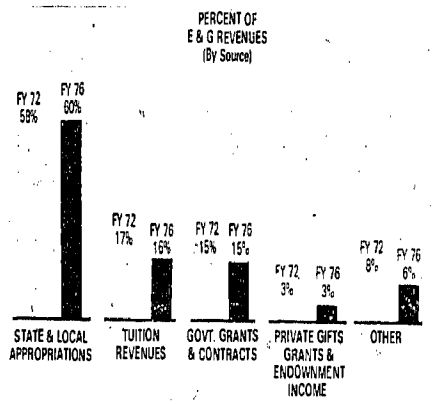
=

#8 FTE ENROLLMENT IN PUBLIC INSTITUTIONS: 29.8

TRENDS IN STATE & LOCAL E & G APPROPRIATIONS TO HIGHER EDUCATION FY 75 to FY 76

	Number of Institutions in Each Category	FTE Enrollment 1976	S&L Appropriations FY76 (Actual $ Amt.)	Percent Change in Appropriations Since FY75	Change in FTE Enrollments 1975 to 1976	Change in Appropriations Per Student FY75 to FY76	Change in Constant Dollar Appropriations Per Student FY75 to FY76
Public Institutions	16	111,131	$199,943,877	9.7%	10.0%	-0.3%	-6.5%
Major Doctoral Institutions	2	50,576	118,318,700	2.7	-6.1	9.4	2.6
Comprehensive Institutions	1	9,643	15,175,600	2.8	7.7	-4.6	-10.5
Baccalaureate Institutions	-	-	-	-	-	-	-
Two-Year Institutions	13	50,912	63,749,577	28.1	33.1	-4.0	-9.9
Health Professional Institutions	-	-	-	-	-	-	-
Other Professional & Specialized Schools	-	-	-	-	-	-	-
Independent Institution	5	4,502	0	0	-5.1	0	0

TRENDS IN THE MIX OF SUPPORT TO PUBLIC HIGHER EDUCATION FY 72 to FY 76



INSTITUTIONAL REVENUES

(Educational & General per student)

INSTITUTIONS:	STUDENT AID (per capita)	INSTITUTIONAL SUPPORT (per capita)		FTE ENROLLMENT (per 1,000 pop)		#14 STATE & LOCAL APPROPRIATIONS (per student)		#15 OTHER REVENUES: TUITION (per student)		GOVT. CONTRACTS (per student)		PRIVATE GIFTS & GRANTS (per student)		OTHER (per student)		#16 TOTAL E&G REVENUES (per student)
PUBLIC	$1.04	$60.9		29.8		$2047		$548		$520		$112		$215		$3443
Major Doctoral Granting		23.9		9.1		2627		817		993		259		421		5116
Comprehensive		12.8		6.4		2000		540		296		42		112		2990
General Baccalaureate		2.4	÷	1.5	=	1634	+	609	+	360	+	39	+	90	=	2731
Two Year		15.6		11.2		1398		306		159		11		97		1971
Health Professional		3.4		0.2		17376		1012		8490		2272		2045		31134
Other Professional		2.9		1.5		1949		644		413		68		167		3240
INDEPENDENT	1.26	0.8		9.0		91		2442		1002		984		383		4901

INSTITUTIONAL EXPENDITURES

(Educational & General per student)

	INSTRUCTION (per student)	RESEARCH (per student)	PUBLIC SERVICE (per student)	OTHER (per student)	TOTAL (per student)
PUBLIC	$1489	$339	$163	$1311	$3303
Major Doctoral Granting	1953	886	388	1727	4955
Comprehensive	1489	114	73	1249	2925
General Baccalaureate	1252	50	62	1328	2692
Two Year	972	6	34	873	1885
Health Professional	11446	4725	1531	7934	25636
Other Professional	1448	163	67	1430	3108
INDEPENDENT	1861	589	106	2289	4845

STATE & LOCAL FINANCES

(per capita)

#13 STATE & LOCAL APPROPRIATIONS TO PUBLIC HIGHER EDUCATION: $60.9

=

#12 ALLOCATION TO PUBLIC HIGHER EDUCATION: 10%

x

#9 STATE & LOCAL TAX CAPACITY		#10 TAX EFFORT		#11 STATE & LOCAL TAX REVENUES
$643	x	100%	=	$643

PERCENT DISTRIBUTION

60%	16%	15%	3%	6%
51	16	15	5	8
67	18	10	6	4
60	22	13	1	3
71	16	8	1	5
56	3	27	7	7
60	20	13	2	5
2	50	20	20	8

PERCENT DISTRIBUTION

PUBLIC	45%	10%	5%	40%
Major Doctoral Granting	39	18	8	35
Comprehensive	51	4	3	43
General Baccalaureate	47	2	2	49
Two Year	52	0	2	46
Health Professional	45	18	6	31
Other Professional	47	5	2	46
INDEPENDENT	38	12	2	47

Indexes shown in red are based on U.S. average = 100

U.S. AVERAGES

DATA AND RATIOS USED TO ANALYZE THE FINANCIAL CONDITION OF INDEPENDENT COLLEGES AND UNIVERSITIES IN PENNSYLVANIA[1/]

John Minter
John Minter Associates

Two years of intense study of Pennsylvania colleges and universities covering four years of financial data have provided an excellent base for the empirical study of financial data and ratios. During this time we have learned not only what the institutions desire as financial indicators but also what they are willing to pay for. In this brief summary of the Pennsylvania report we are giving only the rationale for the data and ratios we have used and the summary reports for the institutions aggregated by type.

The Concept of a Going Concern

The purposes of the Pennsylvania studies are to measure cumulative financial condition and financial progress and to develop and refine selected measures of financial condition. The framework for these analyses is the concept of a going concern. This approach views institutions as though they will continue to operate rather than face bankruptcy and liquidation. The problems of restricted and unrestricted classifications of funds are thus minimized. The data are used to determine whether or not such risks might be increasing or decreasing. One risk category is nonfinancial, including low morale, legal jeopardy, uncertain revenues, and uncontrolled expenditures. A second risk category is financial and it includes the inability to increase debt, the decreasing ability to pay debt, shrinking equity capital, and shrinking working capital. A change in an indicator may be interpreted as a change in the risks to an institution continuing as a going concern. It is the long view that interests us and the financial indicators derived here are one part of assessing long-run financial stability.

1/ The research committee of the Pennsylvania Council of Independent Colleges and Universities, particularly Dr. Richard Hoffman, Vice President for Planning and Budgeting, Franklin and Marshall College and Mrs. Cathleen Conger, Director of Financial Coding Services, John Minter Associates, have made significant contributions to the work reported here.

Trend Consensus

Another type of analysis borrowed from business is consensus analysis. The technique is elegantly simple, yet it has proved as accurate and reliable as Federal Reserve Board indices.1/ The method is this. The percentage of firms reporting a decrease in an indicator--sales, for example--is subtracted from the percentage of firms reporting an increase. The result is a "trend consensus." Of course, some firms experience no change at all. If most firms are reporting increases, the consensus will be negative and large. Small consensus numbers suggest an even split in directions. Changes in the size of either positive or negative consensus are signs of change in the entire industry. This type of analysis describes industry-wide performance and shows the proportion of individual institutions experiencing positive, negative, or no trends at all. Each institution is given equal weight and we are not concerned with the magnitude of change--only its direction. See Table F for the trend consensus in financial ratios for Pennsylvania in FY 1977.

Source of the Financial Data

This survey, like others, relies on the financial data provided by institutions. Quite different, however, are the steps by which the final numbers are derived. The burden of response by the institution was kept to a minimum by requesting audited financial statements and supporting schedules rather than asking for completed questionnaires. The John Minter Associates (JMA) staff then re-coded the audits to AICPA and NACUBO standards. Any ambiguities or missing information was cleared up by a telephone conversation with the chief financial officer at the institution. Upon completing this task, coding sheets were returned to each institution for verification. These were the final numbers incorporated in our data base. Thus, we were assured of compliance with NACUBO definitions and reasonable comparability on an institution-by-institution and year-by-year basis.

There are two important reasons why this effort is warranted compared to the option of using self-reported financial data such as Higher Education General Information Survey (HEGIS). Many institutions are not yet reporting according to the NACUBO guidelines. Thus, for some expenditure categories we find as many as

1/ Ammer, Dean S., The National Association of Purchasing Management Business Survey: Past Performance and Present Application in Forecasting, New York, 1977.

49% of the institutions reporting differences of plus or minus 15%. Overall, we find that 22% of the national sample of independent colleges and universities reporting differences in total revenues of 2% or more; 15% are reporting differences plus or minus 5%. These latter figures are about the same for total expenditures. While many individual institutions are reporting to NCES correctly, one can never be sure which ones. In addition, some key figures needed for financial analysis, such as current liquid assets and different classes of liabilities, are not reported on the government form.

Presentation of the Analysis--Executive Financial Summary

A special effort is made to present financial data for easy use by the executive officer. As a result, John Minter Associates, in cooperation with the research committee of the Pennsylvania Council of Independent Colleges and Universities, has developed an Executive Financial Summary. Tables A through D present the executive summaries for each of the Pennsylvania groups. On one page the reader can find the most important financial and related ratios and trends for the study. Each president may discover some "news" about the performance of the institution when compared to others. Or performance may be "verified" as expected trends appear. Both findings are useful for follow-up examination of a variety of distribution tables which are included in the report, but not in this summary.

On the pages following Table F are presented the executive summary ratios with their definitions, interpretations, and significance for the Pennsylvania institutions.

We consider our greatest achievement this year to be the fact that the presidents themselves are leading the workshops reviewing the results of this study with their peers. The Pennsylvania Council of Independent Colleges and Universities Research Committee continues to function and we anticipate further refinements both in the data and the financial ratios that are used to indicate financial condition of individual colleges and universities.

TABLE A

EXECUTIVE FINANCIAL SUMMARY
PENNSYLVANIA INDEPENDENT COLLEGES AND UNIVERSITIES
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SELECTED FINANCIAL RATIOS (MEDIAN INSTITUTIONS)	PA ALL 74	75	76	77	NS 1977 ALL
ASSET & LIABILITY RATIOS					
TOTAL NET LIABILITIES % TOTAL NET ASSETS	21	21	21	19	17
INTERNAL DEBT % TOTAL UNRES FUND BALANCE	6	5	5	8	12
CURRENT EXTERNAL LIAB % CURRENT LIQUID ASSETS			45	47	69
CURR EXT & PLANT LIAB%CURR LIQ & PLANT ASSETS			67	62	80
CURR EXT&PLANT LIAB%CURR LIQ,PLANT&RSV ASSETS			42	36	33
CURR LIQ ASSETS % UNRES CURR FUND BALANCE			149	136	114
WORKING CAPITAL RATIO					
UNRESTRICTED FUNDS BALANCE % E&G EXPENDITURES	30	27	28	25	22
DEBT SERVICE RATIOS					
CURRENT EXT PLANT LIAB % E & G EXPENDITURES			5	5	4
CURRENT EXT PLANT LIAB % UNRES FUNDS BALANCE			10	8	6
OPERATING NET RATIOS					
NET TOTAL REVENUES % TOTAL REVENUES	2	3	3	2	2
NET EDUCATIONAL & GENERAL REV % E & G REV	4	4	3	2	2
NET AUXILIARY REVENUES % AUXILIARY REVENUES	1	0	1	1	1
NET AID GRANT REV % RESTRICTED AID GRANT REV	-3	-3	-6	-19	-3
CONTRIBUTION RATIOS					
TUITION AND FEES % E & G EXPENDITURES	78	76	74	76	63
FEDERAL GOVT REV % E & G EXPENDITURES	5	5	5	4	7
STATE GOVT REV % E & G EXPENDITURES	0	3	3	3	0
GIFTS & GRANTS APPLIED % E & G EXPENDITURES	7	7	7	7	14
ENDOWMENT INCOME APPLIED % E & G EXPENDITURES	3	2	2	2	3
E & G REVENUES % E & G EXPENDITURES	104	104	104	103	102
FTS FRESHMAN % FRESHMAN APPS RECEIVED					42

* NS=NATIONAL SAMPLE ALL TYPES OF INSTITUTIONS

INDEX OF:	BASE YEAR 73	74	75	76
PRIOR YEAR FTE				
PA ALL	99	98	100	102
NS ALL	94	96	100	101

INDEX OF:	BASE YEAR 74	75	76	77
TOTAL REVENUES				
PA ALL	81	90	100	107
NS ALL	81	91	100	109
TOTAL EXPENDITURES				
PA ALL	82	92	100	107
NS ALL	82	91	100	109
TOTAL EDUC & GENERAL EXPENDITURES				
PA ALL	84	92	100	108
NS ALL	82	91	100	109
UNRESTRICTED FUNDS BALANCE				
PA ALL	97	92	100	105
NS ALL	93	97	100	103
NET ASSETS				
PA ALL	89	93	100	105
NS ALL	92	95	100	105
TOTAL LIABILITIES				
PA ALL	82	87	100	103
NS ALL	78	88	100	103

TABLE B

EXECUTIVE FINANCIAL SUMMARY
PACIFIC, GROUP ONE
[COPYRIGHT, JMA 1978]

SELECTED FINANCIAL RATIOS (MEDIAN INSTITUTIONS)	PA GRP 1 74	75	76	77	PA 1977 ALL	NS 1977 2-YR	ALL
ASSET & LIABILITY RATIOS							
TOTAL NET LIABILITIES % TOTAL NET ASSETS	32	33	32	31	19	10	17
INTERNAL DEBT % TOTAL UNRES FUND BALANCE	1	0	0	0	0	3	12
CURRENT EXTERNAL LIAB % CURRENT LIQUID ASSETS			75	67	47	60	69
CURR EXT & PLANT LIAB%CURR LIQ & PLANT ASSETS			77	67	62	64	80
CURR EXT&PLANT LIAB%CURR LIQ,PLANT&RSV ASSETS			51	54	36	64	33
CURR LIQ ASSETS % UNRES CURR FUND BALANCE			55	56	136	88	114
WORKING CAPITAL RATIO							
UNRESTRICTED FUNDS BALANCE % E&G EXPENDITURES	15	11	21	16	25	9	22
DEBT SERVICE RATIOS							
CURRENT EXT PLANT LIAB % E & G EXPENDITURES			3	3	5	3	4
CURRENT EXT PLANT LIAB % UNRES FUNDS BALANCE			8	4	8	4	6
OPERATING NET RATIOS							
NET TOTAL REVENUES % TOTAL REVENUES	0	8	12	6	2	3	2
NET EDUCATIONAL & GENERAL REV % E & G REV	-3	4	9	6	2	3	2
NET AUXILIARY REVENUES % AUXILIARY REVENUES	10	9	-14	7	1	4	1
NET AID GRANT REV % RESTRICTED AID GRANT REV	0	0	0	-3	-19	0	-3
CONTRIBUTION RATIOS							
TUITION AND FEES % E & G EXPENDITURES	79	74	79	78	76	49	63
FEDERAL GOVT REV % E & G EXPENDITURES	6	7	6	7	4	7	7
STATE GOVT REV % E & G EXPENDITURES	0	4	5	5	3	0	0
GIFTS & GRANTS APPLIED % E & G EXPENDITURES	2	2	3	1	7	22	14
ENDOWMENT INCOME APPLIED % E & G EXPENDITURES	0	0	0	0	2	1	3
E & G REVENUES % E & G EXPENDITURES	97	103	110	107	103	103	102
FTE FRESHMAN % FRESHMAN APPS RECEIVED						83	42

* NS=NATIONAL SAMPLE 2-YR = TWO-YEAR COLLEGES

INDEX OF: PRIOR YEAR FTE	73	74	BASE YEAR 75	76
PA GRP 1	65	65	100	106
PA ALL	99	98	100	102
NS 2-YR	84	88	100	98
NS ALL	94	96	100	101

INDEX OF: TOTAL REVENUES	74	75	BASE YEAR 76	77
PA GRP 1	68	71	100	110
PA ALL	81	90	100	107
NS 2-YR	79	88	100	110
NS ALL	81	91	100	109
TOTAL EXPENDITURES				
PA GRP 1	75	80	100	115
PA ALL	82	92	100	107
NS 2-YR	80	89	100	111
NS ALL	82	91	100	109
TOTAL EDUC & GENERAL EXPENDITURES				
PA GRP 1	72	76	100	120
PA ALL	84	92	100	108
NS 2-YR	79	88	100	111
NS ALL	82	91	100	109
UNRESTRICTED FUNDS BALANCE				
PA GRP 1	41	25	100	133
PA ALL	97	92	100	105
NS 2-YR	98	87	100	96
NS ALL	93	97	100	103
NET ASSETS				
PA GRP 1	89	91	100	105
PA ALL	89	93	100	105
NS 2-YR	91	96	100	103
NS ALL	92	95	100	105
TOTAL LIABILITIES				
PA GRP 1	92	96	100	99
PA ALL	82	87	100	103
NS 2-YR	95	101	100	97
NS ALL	78	80	100	103

TABLE C

EXECUTIVE FINANCIAL SUMMARY
PACICU, GROUP TWO
[COPYRIGHT, JHA 1978]

SELECTED FINANCIAL RATIOS (MEDIAN INSTITUTIONS)	PA GRP 2				PA 1977	NS 1977	
	74	75	76	77	ALL	LA 2	ALL
ASSET & LIABILITY RATIOS							
TOTAL NET LIABILITIES % TOTAL NET ASSETS	24	23	21	20	19	23	17
INTERNAL DEBT % TOTAL UNRES FUND BALANCE	3	3	3	4	8	1	12
CURRENT EXTERNAL LIAB % CURRENT LIQUID ASSETS			49	51	47	117	69
CURR EXT & PLANT LIAB%CURR LIQ & PLANT ASSETS			79	76	62	114	80
CURR EXT&PLANT LIAB%CURR LIQ,PLANT&RSV ASSETS			47	41	36	63	33
CURR LIQ ASSETS % UNRES CURR FUND BALANCE			154	166	136	134	114
WORKING CAPITAL RATIO							
UNRESTRICTED FUNDS BALANCE % E&G EXPENDITURES	22	24	23	22	25	1	22
DEBT SERVICE RATIOS							
CURRENT EXT PLANT LIAB % E & G EXPENDITURES			6	5	5	4	4
CURRENT EXT PLANT LIAB % UNRES FUNDS BALANCE			11	10	8	1	6
OPERATING NET RATIOS							
NET TOTAL REVENUES % TOTAL REVENUES	2	3	4	3	2	2	2
NET EDUCATIONAL & GENERAL REV % E & G REV	4	5	4	3	2	2	2
NET AUXILIARY REVENUES % AUXILIARY REVENUES	0	-1	0	0	1	4	1
NET AID GRANT REV % RESTRICTED AID GRANT REV	-1	-3	-3	-14	-19	0	-3
CONTRIBUTION RATIOS							
TUITION AND FEES % E & G EXPENDITURES	78	76	74	70	76	58	63
FEDERAL GOVT REV % E & G EXPENDITURES	4	5	5	4	4	8	7
STATE GOVT REV % E & G EXPENDITURES	0	4	4	3	3	0	0
GIFTS & GRANTS APPLIED % E & G EXPENDITURES	6	7	6	6	7	15	14
ENDOWMENT INCOME APPLIED % E & G EXPENDITURES	2	2	2	2	2	2	3
E & G REVENUES % E & G EXPENDITURES	104	105	104	102	103	102	102
FTE FRESHMAN % FRESHMAN APPS RECEIVED						52	42

* NS=NATIONAL SAMPLE LA 2=LIBERAL ARTS COLLEGES II

INDEX OF:	BASE YEAR			
PRIOR YEAR FTE	73	74	75	76
PA GRP 2	101	99	100	102
PA ALL	99	98	100	102
NS LA 2	97	97	100	101
NS ALL	94	96	100	101

INDEX OF:	BASE YEAR			
TOTAL REVENUES	74	75	76	77
PA GRP 2	85	93	100	109
PA ALL	81	90	100	107
NS LA 2	83	91	100	109
NS ALL	81	91	100	109
TOTAL EXPENDITURES				
PA GRP 2	86	93	100	109
PA ALL	82	92	100	107
NS LA 2	83	92	100	108
NS ALL	82	91	100	109
TOTAL EDUC & GENERAL EXPENDITURES				
PA GRP 2	86	93	100	109
PA ALL	84	92	100	108
NS LA 2	84	92	100	109
NS ALL	82	91	100	109
UNRESTRICTED FUNDS BALANCE				
PA GRP 2	90	96	100	105
PA ALL	97	92	100	105
NS LA 2	116	112	100	91
NS ALL	93	97	100	103
NET ASSETS				
PA GRP 2	94	97	100	103
PA ALL	89	93	100	105
NS LA 2	91	95	100	105
NS ALL	92	95	100	105
TOTAL LIABILITIES				
PA GRP 2	101	100	100	100
PA ALL	82	87	100	103
NS LA 2	94	95	100	103
NS ALL	78	88	100	103

TABLE D

EXECUTIVE FINANCIAL SUMMARY
PACIFIC, GROUP THREE
[COPYRIGHT, JMA 1978]

SELECTED FINANCIAL RATIOS (MEDIAN INSTITUTIONS)	PA GRP 3				PA 1977	NS 1977	
	74	75	76	77	ALL	LA 1	ALL
ASSET & LIABILITY RATIOS							
TOTAL NET LIABILITIES % TOTAL NET ASSETS	8	10	9	8	19	7	17
INTERNAL DEBT % TOTAL UNRES FUND BALANCE	13	10	19	30	8	18	12
CURRENT EXTERNAL LIAB % CURRENT LIQUID ASSETS			29	37	47	33	69
CURR EXT & PLANT LIAB%CURR LIQ & PLANT ASSETS			40	43	62	45	80
CURR EXT&PLANT LIAB%CURR LIQ,PLANT&RSV ASSETS			11	16	36	20	33
CURR LIQ ASSETS % UNRES CURR FUND BALANCE			162	158	136	151	114
WORKING CAPITAL RATIO							
UNRESTRICTED FUNDS BALANCE % E&G EXPENDITURES	90	83	78	50	25	49	22
DEBT SERVICE RATIOS							
CURRENT EXT PLANT LIAB % E & G EXPENDITURES			3	3	5	2	4
CURRENT EXT PLANT LIAB % UNRES FUNDS BALANCE			1	4	8	6	6
OPERATING NET RATIOS							
NET TOTAL REVENUES % TOTAL REVENUES	6	4	4	2	2	2	2
NET EDUCATIONAL & GENERAL REV % E & G REV	8	5	4	7	2	3	2
NET AUXILIARY REVENUES % AUXILIARY REVENUES	4	2	1	5	1	3	1
NET AID GRANT REV % RESTRICTED AID GRANT REV	-35	-34	-31	-54	-19	-14	-3
CONTRIBUTION RATIOS							
TUITION AND FEES % E & G EXPENDITURES	78	76	77	75	76	64	63
FEDERAL GOVT REV % E & G EXPENDITURES	3	4	2	3	4	3	7
STATE GOVT REV % E & G EXPENDITURES	0	1	1	1	3	0	0
GIFTS & GRANTS APPLIED % E & G EXPENDITURES	13	13	9	12	7	16	14
ENDOWMENT INCOME APPLIED % E & G EXPENDITURES	19	17	16	16	2	11	3
E & G REVENUES % E & G EXPENDITURES	109	106	104	107	103	103	102
FTE FRESHMAN % FRESHMAN APPS RECEIVED						35	42

* NS=NATIONAL SAMPLE LA 1=LIBERAL ARTS COLLEGES I

INDEX OF:	BASE YEAR			
PRIOR YEAR FTE	73	74	75	76
PA GRP 3	99	98	100	99
PA ALL	99	98	100	102
NS LA 1	98	98	100	102
NS ALL	94	96	100	101

INDEX OF:	BASE YEAR			
TOTAL REVENUES	74	75	76	77
PA GRP 3	85	92	100	107
PA ALL	81	90	100	107
NS LA 1	87	92	100	112
NS ALL	81	91	100	109
TOTAL EXPENDITURES				
PA GRP 3	83	91	100	106
PA ALL	82	92	100	107
NS LA 1	86	93	100	109
NS ALL	82	91	100	109
TOTAL EDUC & GENERAL EXPENDITURES				
PA GRP 3	83	91	100	106
PA ALL	84	92	100	108
NS LA 1	86	93	100	109
NS ALL	82	91	100	109
UNRESTRICTED FUNDS BALANCE				
PA GRP 3	94	97	100	97
PA ALL	97	92	100	105
NS LA 1	95	98	100	108
NS ALL	93	97	100	103
NET ASSETS				
PA GRP 3	94	97	100	104
PA ALL	89	93	100	105
NS LA 1	94	95	100	107
NS ALL	92	95	100	105
TOTAL LIABILITIES				
PA GRP 3	101	107	100	99
PA ALL	82	87	100	103
NS LA 1	106	99	100	98
NS ALL	78	88	100	103

TABLE E

EXECUTIVE FINANCIAL SUMMARY
PACICU. GROUP FOUR
[COPYRIGHT, JMA 1978]

SELECTED FINANCIAL RATIOS (MEDIAN INSTITUTIONS)	PA GRP 4 74	75	76	77	PA 1977 ALL	NS 1977 COMP	ALL
ASSET & LIABILITY RATIOS							
TOTAL NET LIABILITIES % TOTAL NET ASSETS	20	20	18	18	19	19	17
INTERNAL DEBT % TOTAL UNRES FUND BALANCE	52	41	54	43	8	13	12
CURRENT EXTERNAL LIAB % CURRENT LIQUID ASSETS			59	52	47	72	69
CURR EXT & PLANT LIAB%CURR LIQ & PLANT ASSETS			73	67	62	80	80
CURR EXT&PLANT LIAB%CURR LIQ,PLANT&RSV ASSETS			38	34	36	36	33
CURR LIQ ASSETS % UNRES CURR FUND BALANCE			57	77	136	185	114
WORKING CAPITAL RATIO							
UNRESTRICTED FUNDS BALANCE % E&G EXPENDITURES	39	32	31	37	25	23	22
DEBT SERVICE RATIOS							
CURRENT EXT PLANT LIAB % E & G EXPENDITURES			3	4	5	6	4
CURRENT EXT PLANT LIAB % UNRES FUNDS BALANCE			9	5	8	13	6
OPERATING NET RATIOS							
NET TOTAL REVENUES % TOTAL REVENUES	0	1	2	2	2	2	2
NET EDUCATIONAL & GENERAL REV % E & G REV	1	1	1	0	2	3	2
NET AUXILIARY REVENUES % AUXILIARY REVENUES	-2	1	5	1	1	-3	1
NET AID GRANT REV % RESTRICTED AID GRANT REV	0	0	0	-31	-19	-31	-3
CONTRIBUTION RATIOS							
TUITION AND FEES % E & G EXPENDITURES	47	47	50	50	76	77	63
FEDERAL GOVT REV % E & G EXPENDITURES	15	14	15	15	4	6	7
STATE GOVT REV % E & G EXPENDITURES	0	2	3	2	3	0	0
GIFTS & GRANTS APPLIED % E & G EXPENDITURES	11	12	11	11	7	8	14
ENDOWMENT INCOME APPLIED % E & G EXPENDITURES	6	6	6	6	2	4	3
E & G REVENUES % E & G EXPENDITURES	101	101	101	100	103	103	102
FTE FRESHMAN % FRESHMAN APPS RECEIVED						43	42

* NS=NATIONAL SAMPLE COMP=COMPREHENSIVE UNIVERSITIES & COLLEGES

INDEX OF: PRIOR YEAR FTE	73	74	BASE YEAR 75	76
PA GRP 4	99	100	100	102
PA ALL	97	98	100	102
NS COMP	98	98	100	101
NS ALL	94	96	100	101

INDEX OF: TOTAL REVENUES	74	75	BASE YEAR 76	77
PA GRP 4	79	89	100	106
PA ALL	81	90	100	107
NS COMP	85	92	100	109
NS ALL	81	91	100	109
TOTAL EXPENDITURES				
PA GRP 4	81	91	100	106
PA ALL	82	92	100	107
NS COMP	83	92	100	109
NS ALL	82	91	100	109
TOTAL EDUC & GENERAL EXPENDITURES				
PA GRP 4	83	93	100	108
PA ALL	84	92	100	108
NS COMP	83	92	100	109
NS ALL	82	91	100	109
UNRESTRICTED FUNDS BALANCE				
PA GRP 4	106	87	100	112
PA ALL	97	92	100	105
NS COMP	103	99	100	110
NS ALL	93	97	100	103
NET ASSETS				
PA GRP 4	85	89	100	106
PA ALL	89	93	100	105
NS COMP	92	96	100	105
NS ALL	92	95	100	105
TOTAL LIABILITIES				
PA GRP 4	69	77	100	105
PA ALL	82	87	100	103
NS COMP	101	100	100	100
NS ALL	78	88	100	103

TABLE F

TRENDS OF CHANGE IN CONSOLIDATED BALANCE SHEET
PENNSYLVANIA INDEPENDENT COLLEGES AND UNIVERSITIES

	PERCENTAGE REPORTING							
	INCREASE		DECREASE		NO CHANGE		INC - DEC	
	76	77	76	77	76	77	76	77
ASSETS								
UNRESTRICTED CURRENT	69	61	27	32	4	7	42	29
RESTRICTED CURRENT	58	57	38	36	4	7	20	21
TOTAL CURRENT ASSETS	66	59	27	35	7	6	39	24
LOAN	78	77	11	9	11	14	67	68
ENDOWMENT	68	73	20	5	12	22	48	68
ANNUITY AND LIFE	22	23	7	4	71	73	15	19
UNEXPENDED PLANT	45	36	42	51	13	13	3	-15
INVESTMENT IN PLANT	59	58	1	1	40	41	58	57
TOTAL PLANT	57	70	9	4	34	26	48	66
AGENCY	31	30	22	22	47	48	9	8
TOTAL ASSETS	80	86	12	0	8	14	68	86
DUE FROMS	46	41	38	38	16	21	8	3
NET ASSETS	80	89	11	0	9	11	69	89
LIABILITIES								
UNRESTRICTED CURRENT	61	58	36	38	3	4	25	20
RESTRICTED CURRENT	18	15	15	14	67	71	3	1
TOTAL CURRENT LIABILITIES	61	57	34	39	5	4	27	18
LOAN	18	16	12	18	70	66	6	-2
ENDOWMENT	16	19	16	11	68	70	0	8
ANNUITY AND LIFE	3	4	0	1	97	95	3	3
PLANT	18	18	73	70	9	12	-55	-52
AGENCY	31	30	22	22	47	48	9	8
TOTAL LIABILITIES	39	32	51	47	10	21	-12	-15
FUND BALANCES								
UNRESTRICTED CURRENT	53	50	35	41	12	9	18	9
RESTRICTED CURRENT	57	57	39	36	4	7	18	21
TOTAL CURRENT FUND BALANCES	58	55	36	43	6	2	22	12
LOAN	77	77	11	9	12	14	66	68
ENDOWMENT	70	72	18	8	12	20	52	64
ANNUITY AND LIFE	22	22	7	4	71	74	15	18
PLANT	88	91	5	1	7	8	83	90
TOTAL FUND BALANCES	85	91	8	5	7	4	77	86

SOURCE: AUDITED FINANCIAL STATEMENTS CODED TO NACUBO STANDARDS, JHA BOULDER COLORADO

ASSET AND LIABILITY RATIOS

RATIO The Total Net Liabilities as Percent of Total Net Assets.

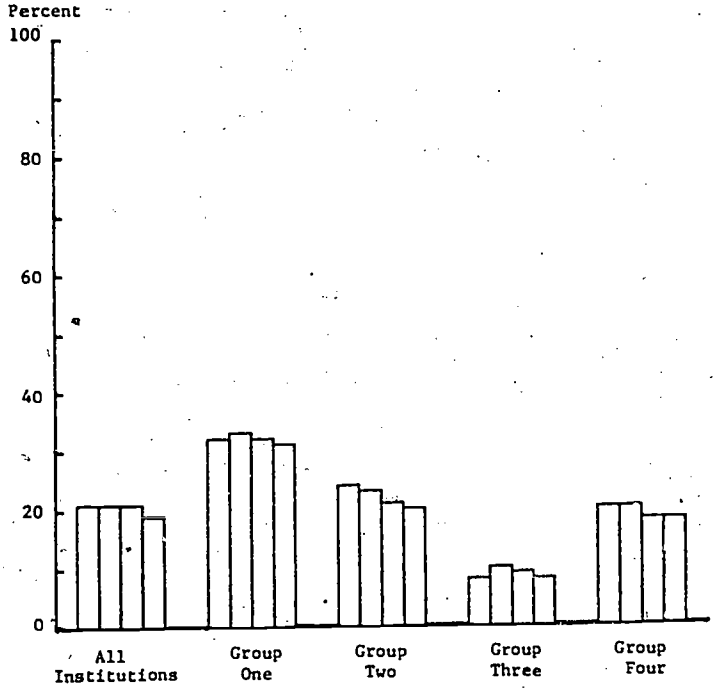
DEFINITION The total of all liabilities less interfund debt *divided by* the total assets less interfund debt.

INTERPRETATION This ratio reflects the degree to which assets are debt financed. By excluding interfund borrowing, both from the liability and asset sides, the extent of external debt financing can be seen.

PENNSYLVANIA Overall, Pennsylvania institutions are decreasing their debt financing. The exceptions were Groups One and Three which, in 1975, assumed a higher burden of debt compared to the year before.

FIGURE I

Total Net Liabilities as Percent
of Total Net Assets
(Median Institutions)



Pennsylvania Colleges and Universities
Fiscal 1974 through 1977

RATIO — Internal Debt as Percent of Total Unrestricted Funds Balances.

DEFINITION — Total amount of internal borrowing as a percent of total unrestricted funds balances.

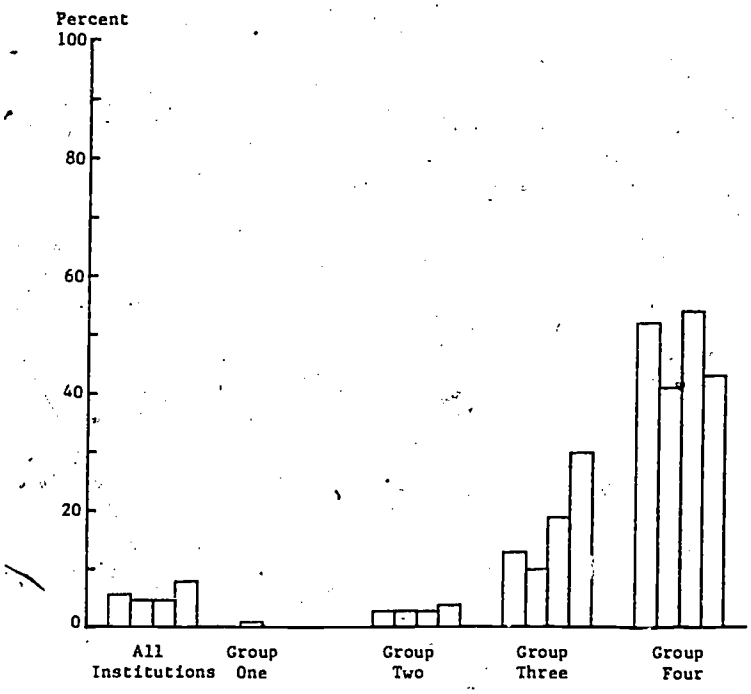
INTERPRETATION — Because fund accounting allows for the short and long-term borrowing of assets from one fund group to another, it is sometimes difficult to determine the precise level of available unrestricted fund balances (e.g., if construction in progress is temporarily being financed by current unrestricted or quasi endowment funds, the unrestricted funds balances available to the institution are overstated by this amount).

By showing internal borrowing as a percentage of the total unrestricted funds balances, the institution has a better estimate of the percentage of *available* unrestricted funds it can call upon.

PENNSYLVANIA — Internal debt is on the rise again. The increase is particularly noticable in Group Three institutions.

FIGURE II

Internal Debt as Percent of
Total Unrestricted Funds Balances
(Median Institutions)



Pennsylvania Colleges and Universities
Fiscal 1974 through 1977

RATIO Current External Liabilities as a Percent of Current Liquid Assets.

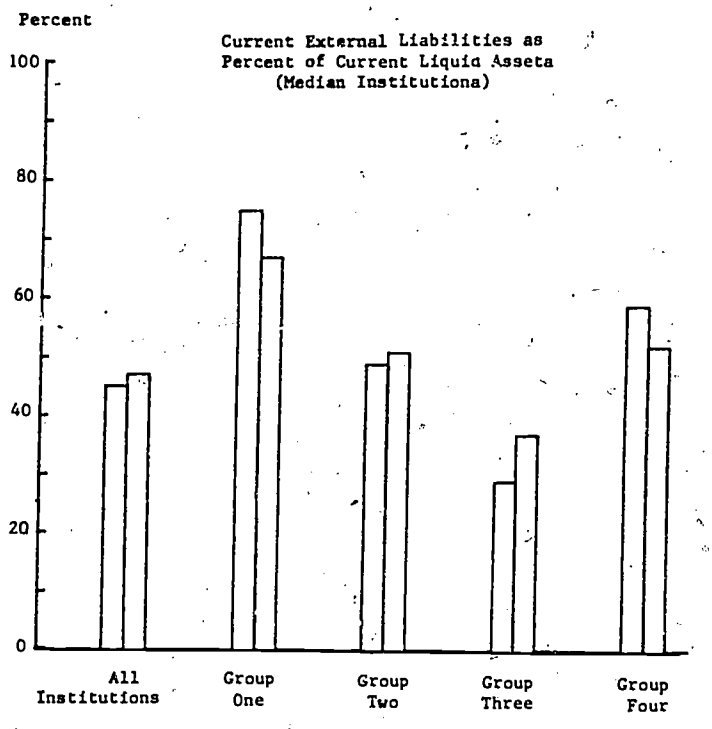
DEFINITION Only external current liabilities (not including internal borrowing, deposits, or deferred revenues) are *divided by* cash and near cash (excluding prepaid expenses and inventories).

INTERPRETATION The test of true liquidity (in business it is called the Quick Ratio or Acid Test) is the relationship between the amount owed to vendors and creditors and the amount of cash or near cash available to pay these obligations in the current period. Most colleges show a current *external* liability ratio higher than the current liability ratio, or, one might say, a current financial position of greater risk.

PENNSYLVANIA The median CELR for all Pennsylvania institutions moved up from 45.4 to 47.1 in 1977. The CELR was calculated for only the last two years of the study and, if this increase was to continue over period of time, it could become significant. 51% of the institutions reported an increase in CELR for 1977 over 1976.

Group III institutions reported the largest increase in the median, from 28.9 in 1976 to 36.7 in 1977 suggesting that current external debt is increasing at a faster rate for these institutions, though Group III institutions median CELR is much lower (36.7) than for all Pennsylvania institutions (47.1). Group IV institutions actually decreased their median CELR in 1977 to 51.6 from 59.4 in 1976.

FIGURE III



Pennsylvania Colleges and Universities
Fiscal 1976 through 1977

RATIO — Current External and Plant Liabilities as a Percent of Current Liquid and Plant Assets

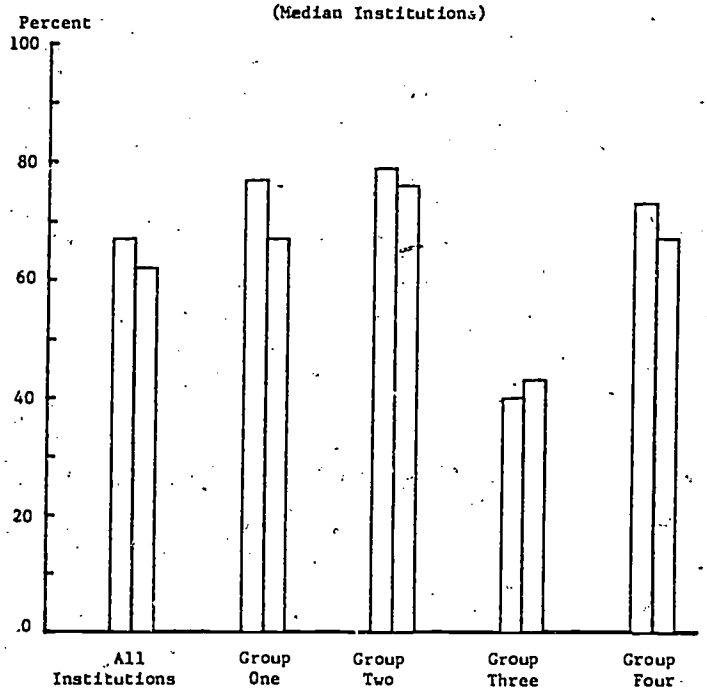
DEFINITION — Current plant liabilities (current accounts and contracts payable, and the current portion of mortgages and notes payable due within the year) and corresponding assets (excluding internal borrowing) set aside to pay the annual plant debt are added to the Current External Liability Ratio formula.

INTERPRETATION — This formula gives the reader a more complete picture of current financial risk for an institution. Both current external liabilities and current external plant liabilities need to be met in times of financial distress. It is often the institution's inability to meet its current mortgage and notes payable obligations that create a cash flow crisis. If adequate revenues are set aside to service plant debt, the ratio remains unchanged. If current plant assets are not available, though, the ratio can only increase, reflecting much higher risk to the institution.

PENNSYLVANIA — Overall, current external debt is increasing. Group II and III Institutions had a Trend Consensus in 1977 that was active but balanced, a positive 2; 51% up and 49% down.

FIGURE IV

Current External and Plant Liabilities as Percent of Current Liquid, Plant and Reserve Assets (Median Institutions)



Pennsylvania Colleges and Universities
Fiscal 1976 through 1977

RATIO Current External and Plant Liabilities as a Percent of Current Liquid, Plant and Reserve Assets.

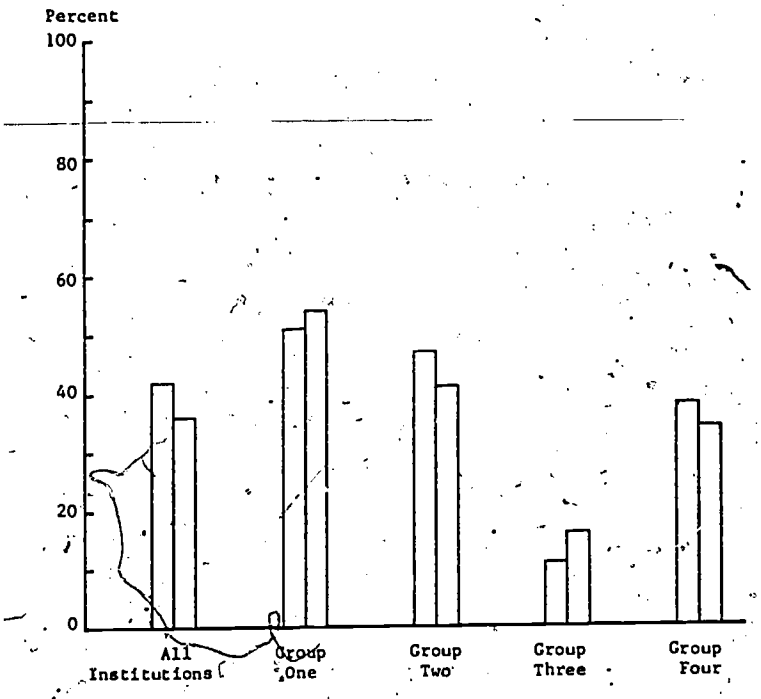
DEFINITION Reserve assets (quasi-endowment funds) are now added to the Current External and Plant Liabilities Ratio formula.

INTERPRETATION One can now look at the complete picture of current financial risk for the institution. If the institution has adequate reserves to meet both external current and plant debt, the financial risk decreases, reflecting in a realistic interpretation of the financial situation. If the institution does not have adequate reserves to call on, the Current External and Plant Liabilities Ratio remains unchanged and the institution's financial risk has not diminished.

PENNSYLVANIA External liabilities relative to liquid assets and reserves are decreasing overall. The median institution of Group III, however, posted an increase from 29% to 33%.

FIGURE V

Current External and Plant Liabilities
as a Percent of C L P and R A
(Median Institutions)



Pennsylvania Colleges and Universities
Fiscal 1976 through 1977

RATIO Current Liquid Assets as a Percent of Current Unrestricted Fund Balance.

DEFINITION Current unrestricted cash and near cash (short term investments, accounts receivable) are divided by the unrestricted current fund balances.

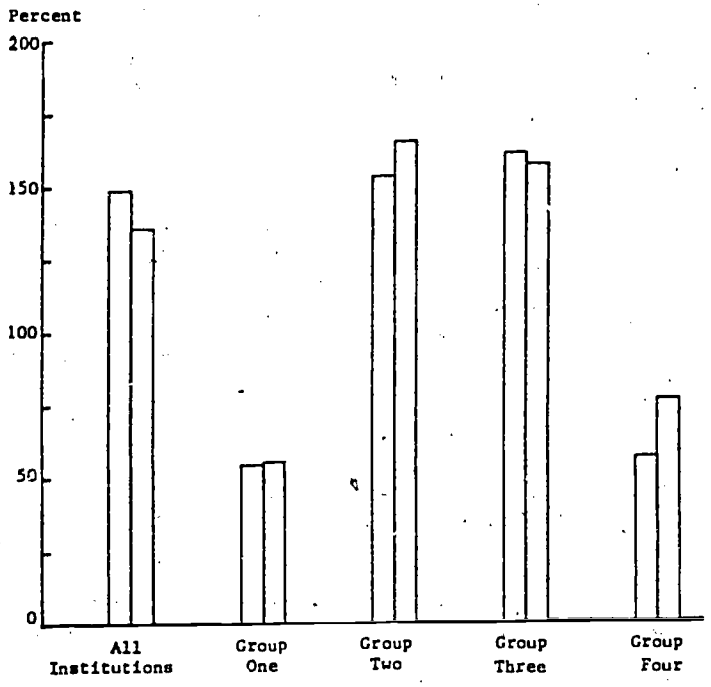
INTERPRETATION This ratio allows an institution to establish a measure of true liquidity of its unrestricted current fund balances. If unrestricted current fund assets include large amounts of internal borrowing and/or prepaid items, the unrestricted current fund balance may be misleading as it is not truly liquid. By applying the formula of current unrestricted liquid assets to current unrestricted fund balances, one obtains a more detailed picture of the financial health of the institution. The higher the ratio, the better short run financial picture.

The institution that shows a very low ratio of liquid assets to fund balances probably should be concerned with its cash flow. If that same institution has low reserves (quasi endowment) and a high ratio of current external and plant obligations, it may be in a financial risk situation and careful consideration should be paid to cash flow. The institution with adequate reserves to call upon need not be as concerned with a low current liquid asset ratio.

PENNSYLVANIA The median ratio shows a downward trend for 1977. Trend Consensus shows a positive 3 with 50% up and 47% down, illustrating a weakening situation.

FIGURE VI

Current Liquid Assets as Percent of
Current Unrestricted Fund Balance
(Median Institutions)



Pennsylvania Colleges and Universities
Fiscal 1976 through 1977

WORKING CAPITAL RATIO

RATIO Unrestricted Funds Balances as a Percent of Education and General Expenditures.

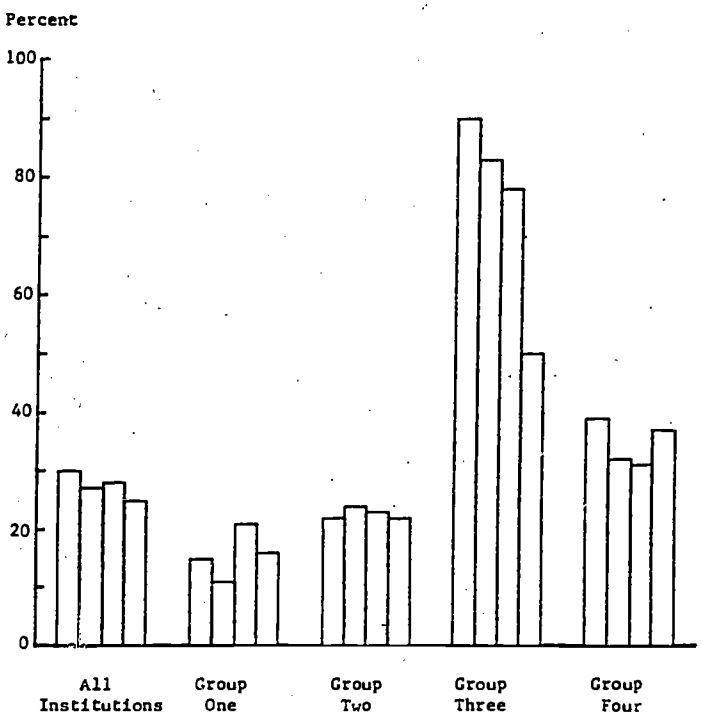
DEFINITION The total of all unrestricted funds balances *divided by* the total of all educational and general expenditures and mandatory transfers.

INTERPRETATION The purpose of this ratio is to compare total unrestricted funds balances with total yearly educational and general expenditures. Unrestricted funds could then cover that amount of yearly expenditures. There is general agreement that this ratio should remain resonably constant. If the ratio is decreasing, it could mean that expenses may be increasing too rapidly given the institution's operating base. An institution in the midst of an expanded building program, though, may also experience a decrease in this ratio but need not be significantly concerned. The key here is whether or not the downward trend is reversed after a period of two or three years.

PENNSYLVANIA Overall, more Pennsylvania institutions are reporting a decrease in the amount of unrestricted funds balances in relation to educational and general expenditures. Trend consensus is negative and has increased from -14 to a -23. Expenditures are increasing more rapidly than revenue bases.

FIGURE VII

Unrestricted Funds Balance as Percent
of Educational and General Expenditures
(Median Institutions)



Pennsylvania Colleges and Universities
Fiscal 1974 through 1977

DEBT SERVICE RATIOS

RATIO Current External Plant Liabilities as Percent of Education and General Expenditures

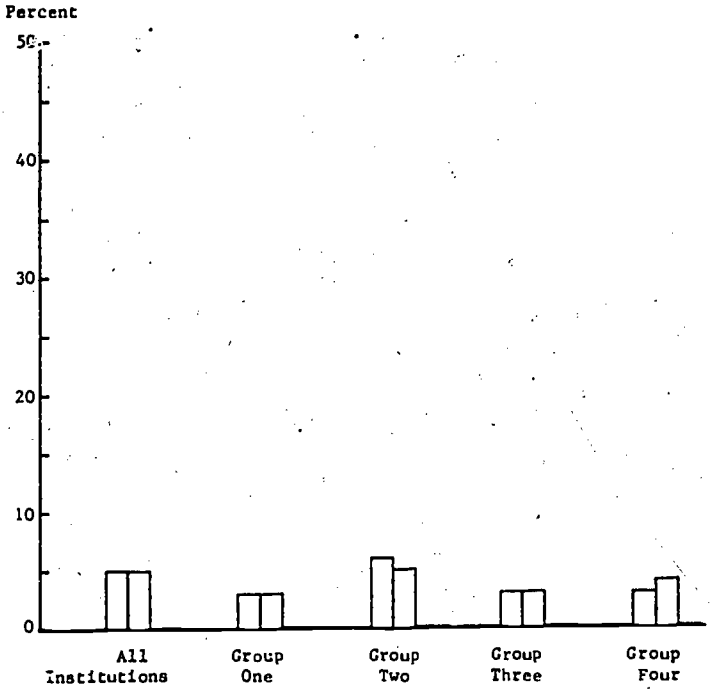
DEFINITION Total plant liabilities owed to external sources and due within the current year compared with total education and general expenditures.

INTERPRETATION It is important to relate current external plant debt to a relatively stable operating category to establish whether the proposition of plant debt is increasing or decreasing. (Educational and General Revenues would give almost the same ratio.) The ratio should be slowly decreasing except when a new facility is built and debt is increased for that purpose.

PENNSYLVANIA Essentially stable overall.

FIGURE VIII

Current External Plant Liabilities as Percent of Education and General Expenditure (Median Institutions)



Pennsylvania Colleges and Universities
Fiscal 1976 through 1977

RATIO — Current External Plant Liabilities as a Percent of Unrestricted Funds Balances.

DEFINITION — The total of external plant liabilities due within the current year *divided by* the total of unrestricted funds balances available to the institution.

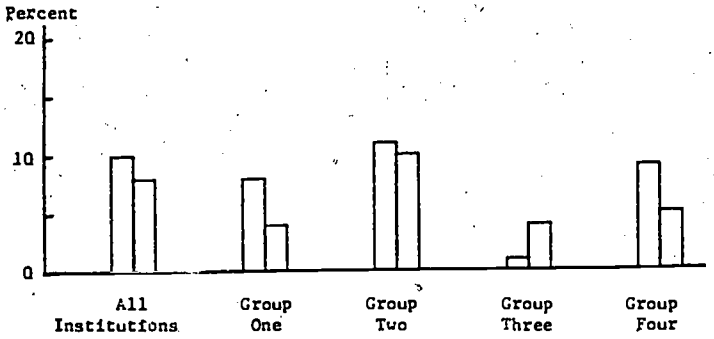
INTERPRETATION — It is important to isolate external plant debt due within the year from total plant debt (both external and internal). It is not unusual for an institution to borrow from one fund (current and/or endowment) to provide monies to another fund (plant) for construction or renewal and replacement. It is also not unusual for an institution to owe large amounts in mortgages and notes payable due over an extended period of time. The institution needs to isolate the external plant debt due within the year from total plant liabilities and compare that external debt with the resources upon which the institution can draw to pay that debt.

The trend here should be a decreasing ratio over the years, relecting retirement of indebtedness. Construction in progress would affect this ratio. An institution with a high ratio of current plant liability to unrestricted fund balances may want to consider the effects of added construction debt to existing plant liabilities. Of course, large plant fund drives could also be called upon to offset needed renewal and replacement or construction in progress.

PENNSYLVANIA — The median debt service ratio of current external plant liabilities to unrestricted funds balances dropped significantly in 1977 over 1976. The 1977 median was 7.5 whereas 1976 was 9.9. Trend consensus, as we would expect, is negative, but not strong at -16.

FIGURE IX

Current External Plant Liabilities as Percent of Unrestricted Funds Balances (Median Institutions)



Pennsylvania Colleges and Universities
Fiscal 1976 through 1977

OPERATING NET RATIOS

RATIO Net Total Revenues as a Percent of Total Revenues

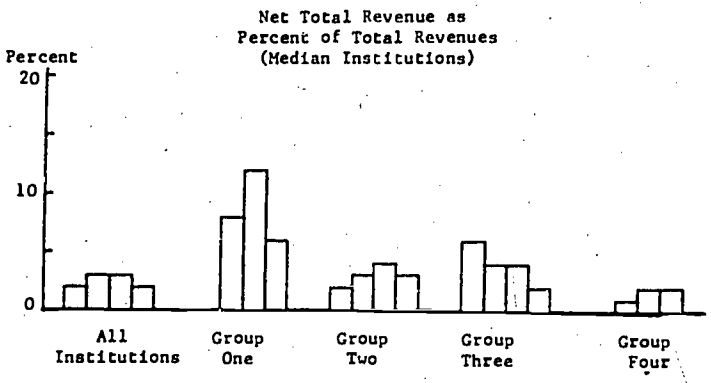
DEFINITION Total net revenues after expenditures and mandatory transfers *divided by* total revenues.

INTERPRETATION The result of current operations (before non-mandatory transfers) is measured in this ratio. An operating result of 0 or greater generally means the current year's operation is in balance. A generous excess of revenues over expenditures can mean a flow of new money into the institution. A modest negative ratio (signifying a surplus of expenditure over revenues) may not be distress, but a wish not to appear affluent or "profitable".

To some degree this balance can be manipulated though certainly not as much as a balance struck after non-mandatory transfers. A negative balance of increasing proportions should be viewed with concern.

PENNSYLVANIA The trend for Pennsylvania institutions in 1977 is a negative 30 (-30) which is a strong indication of the institutions' struggle with inflation. While the 1977 median ratio for Pennsylvania is 2.4, up over the low of 1.9 median of 1974, it is a serious drop from the 1976 high of 3.3 and the 1975 median of 3.2. 62% of Pennsylvania institutions showed a decrease in 1977 of their net total revenues as a percentage of total revenues.

FIGURE X



Pennsylvania Colleges and Universities
Fiscal 1974 through 1977

RATIO Net Educational and General Revenues as Percent of Educational and General Revenues.

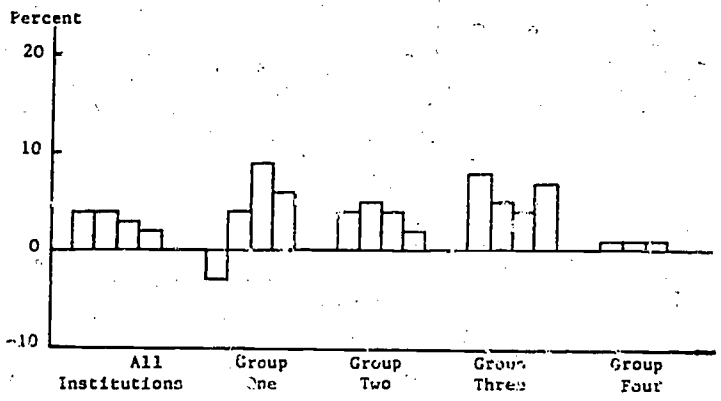
DEFINITION Total educational and general revenue (excluding Auxiliary Enterprises and Independent Operations) less total educational and general expenditures equals total net educational and general revenues (surplus), *divided by* total educational and general revenues.

INTERPRETATION This net revenue ratio measures the result of educational and general operations. In a healthy institution, one would expect this ratio to be positive and remain constant or to be increasing. A negative (net loss) ratio or a decreasing ratio over a period of time suggests that educational and general expenditures are increasing at a more rapid rate than are revenue sources. An institution with a strong reserve base (quasi endowment funds) is better able to withstand current operating losses. An institution with a negative ratio over a period of time should consider its total unrestricted funds balances and see how many years it can offset this negative trend. Of course, this ratio is established before other transfers are considered. An institution which finances some of its current operations through realized Endowment gains on investments, may actually plan on a negative ratio, knowing it will offset this loss through other transfers.

PENNSYLVANIA The consensus change for Pennsylvania institutions for this E & G Net Operating Ratio showed a negative 25. While the median of 2.5 for 1977 shows that Pennsylvania institutions are not running their educational and general operations at a net loss, it does reflect that inflation is a concern as the median has dropped from 3.5 in 1976, and from 3.7 in 1975 and 1974. 61% of the institutions reported a decrease in this operating net ratio. The exception to this trend were the Group III institutions where 56% of the institutions were reporting an increase with a median rate of 6.6%.

FIGURE XI

Net Educational and General Revenues as
Percent of Educational and General Revenues
(Median Institutions)



Pennsylvania Colleges and Universities
Fiscal 1974 through 1977

RATIO Net Auxiliary Enterprises Revenue as Percent of Total Auxiliary Enterprises Revenue.

DEFINITION Total auxiliary enterprises revenue less total auxiliary enterprises expenditures and mandatory transfers equals total net auxiliary enterprises revenue (surplus), *divided by* total auxiliary enterprises revenue. Intercollegeate Athletics have been excluded.

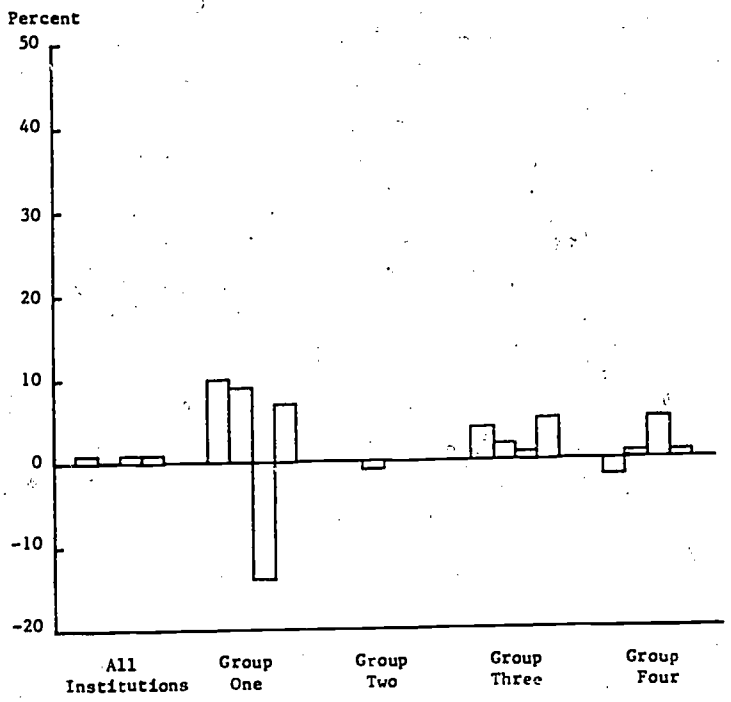
INTERPRETATION This net revenue ratio measures the results of auxiliary enterprise operations. One would expect that auxiliary enterprises would be self-supporting. Thus this index should be positive and remain constant over time.

When institutions are showing a negative (net loss) ratio for auxiliary enterprises it suggests that either revenues are not being carefully allocated between educational and general and auxiliary enterprises, or that expenditures (institutional and plant maintenance) are not being carefully allocated to auxiliary enterprises. Price levels may also be low (perhaps deliberately so).

PENNSYLVANIA The one Operating Net Ratio that is improving for Pennsylvania institutions across the board is the Net Auxiliary Enterprises Ratio, illustrating that Pennsylvania institutions are making positive progress towards self-supporting auxiliary enterprises. 59% of the institutions reported increased net auxiliary enterprises revenues ratios. The 1977 median is 1.3, up over 1.0 in 1977; .2 in 1975; and .8 in 1974.

FIGURE XII

Net Auxiliary Revenues as
Percent of Auxiliary Revenues
(Median Institutions)



Pennsylvania Colleges and Universities
Fiscal 1974 through 1977

RATIO Net Student Aid Grant Revenues as Percent of Total Student Aid Grants Revenue

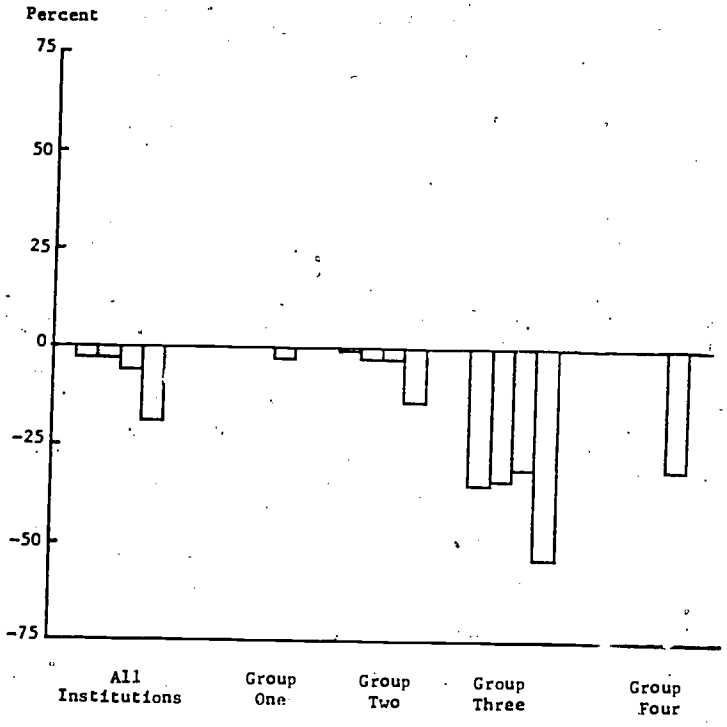
DEFINITION Total student aid grant dollars (funded from restricted sources) less total student aid grant dollars awarded *divided by* total student aid grant dollars funded from restricted sources.

INTERPRETATION Zero net ratio is desirable; however, most institutions award more student aid grant dollars than are covered or funded by sources restricted to student aid. The result is expenditure of general fund unrestricted dollars for student aid, in effect, a discount. If careful budgeting and budget control are not exercised, the effort to increase enrollments through "unfunded" student aid may bring about a serious drain on operating resources.

PENNSYLVANIA All types of institutions were showing larger negative ratios in 1977 compared to prior years. Overall, the four year trend has been toward larger deficits in grants programs. The noticable increase in negative balances in the most recent year suggests concern both for rising costs (to be offset by aid) and enrollment competition (more aid to attract students). These trends are not good signs.

FIGURE XIII

Net Student Aid Grant Revenues as Percent of Total Student Aid Grant Revenue (Median Institutions)



Pennsylvania Colleges and Universities
Academic 1973-74 through 1976-77

RATIO — Tuition and Fees Contribution

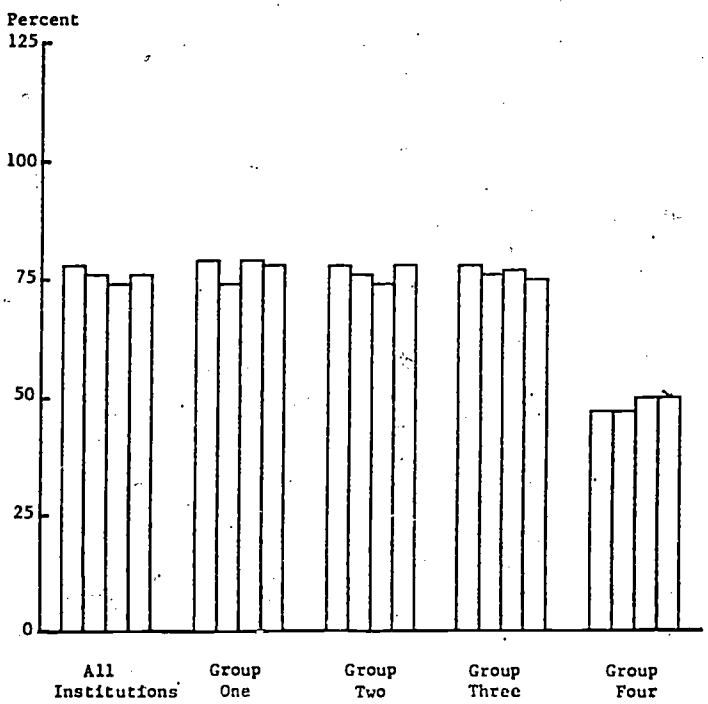
DEFINITION — Tuition and fees revenues *divided by* total educational and general expenditures.

INTERPRETATION — This index shows revenues from tuition and fees as a percentage of educational and general expenditures. Within higher education there seems to be a general agreement that this ratio should be as low as possible and be decreasing, provided the decreasing trend does not occur as a result of unplanned enrollment decreases or inelasticity in tuition pricing. The pressure upon this ratio is upward as a result of a slower rate percent increase in private gifts and grants and in endowment income.

PENNSYLVANIA — The median ratio of tuition and fees revenues as a contribution source to educational and general expenditures increased overall for Pennsylvania institutions in 1977. Group II accounted for most of the increases.

FIGURE XIV

Tuition and Fees Contribution
(Median Institutions)



Pennsylvania Colleges and Universities
Fiscal 1974 through 1977

RATIO Federal Government Revenue Contribution

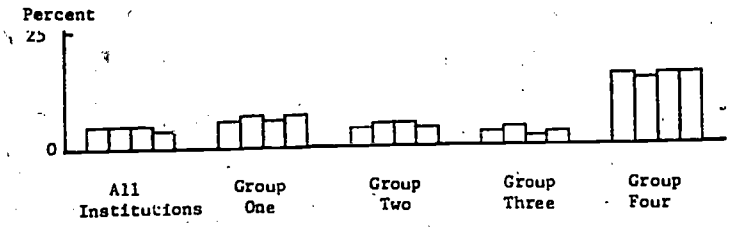
DEFINITION Total federal government revenues (including indirect cost reimbursements, appropriations, and restricted grants, but excluding student aid in which the institution does not select the recepient (BEOG's)) *divided by* total educational and general expenditures and expressed as a percentage.

INTERPRETATION Most institutions have shown a substantial increase in federal government revenues since 1974 due to the increased number of federal government programs available to higher education. This increased revenue support of educational and general expenditures may be substantially affected through a change in Congressional priorities. The trend toward more and more input to revenues from public sources might be regularly assessed as an institutional policy issue.

PENNSYLVANIA Federal support has decreased slightly overall and notably in Group II institutions. (A negative Trend Consensus increased from -1 to -16 over two years.) This may reflect reduced student aid flow because of lower enrollments. Group IV continues stable and relatively the most dependent on Federal support.

FIGURE XV

Federal Government Revenues Contribution
(Median Institutions)



Pennsylvania Colleges and Universities
Fiscal 1974 through 1977

RATIO State Government Revenue Contribution

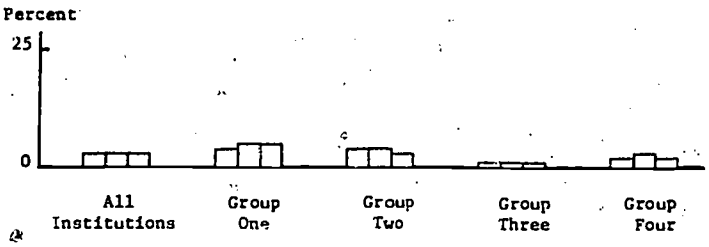
DEFINITION State government revenues (excluding state selected recipient scholarships) *divided by* total educational and general expenditures.

INTERPRETATION The importance of public monies to the institution can be best illustrated by determining its endowment equivalent at an 8% return. This can put in perspective the Board, faculty, and student self-interest in legislative communication. Direct state revenues used for institutional assistance help to maintain lower tuition and fees. Without this assistance, most institutions would need to raise tuition rates to offset this revenue loss.

PENNSYLVANIA As with federal revenue sources, state revenue sources in 1977 also did not keep up with inflation. The negative Trend Consensus for Pennsylvania institutions increased in 1977 from -15 to -39. Only nineteen percent of the institutions reported increased revenue contribution rations from the state. 58% showed decreased revenue ratios while 23% showed no change. The median value remained essentially static.

FIGURE XVI

State Government Revenues Contribution
(Median Institutions)



Pennsylvania Colleges and Universities
Fiscal 1974 through 1977

RATIO — Gifts and Grants Applied Contribution

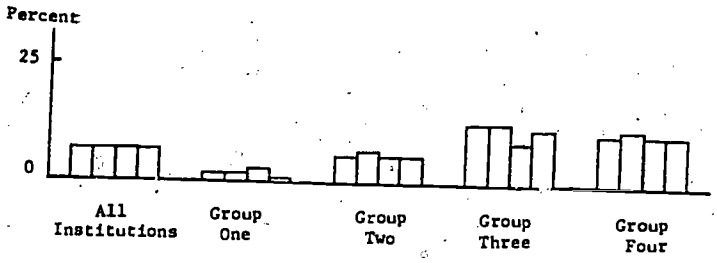
DEFINITION — Total revenues from gifts and grants applied *divided by* total educational and general expenditures, expressed as a percentage.

INTERPRETATION — The proportion of educational and general expenditures financed by private gifts and grants applied is the significant factor here. The object is to show a constant or increasing value for this index. Are development goals keeping up with inflation? More attention may need to be applied to a decline in private gifts and grants for current operating purposes.

PENNSYLVANIA — While the median for Pennsylvania institutions increased from 6.8 in 1976 to 7.2 in 1977, Trend Consensus was static, a modest positive trend of 7 but with considerable movement. 43% of the institutions were reporting an increase in this revenue contribution ratio. 50% were reporting a decrease, and 7% reported no change. Overall this ratio has remained constant. Group I was down in 1977 while Group III posted a strong increase to recover from 1976.

FIGURE XVII

Gifts and Grants Applied Contribution
(Median Institutions)



Pennsylvania Colleges and Universities
Fiscal 1974 through 1977

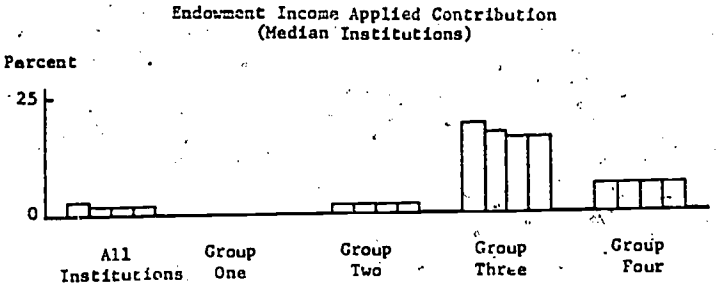
RATIO — Endowment Income Applied Contribution

DEFINITION — Total endowment income applied to current operations *divided by* total Educational and General expenditures expressed as a percentage.

INTERPRETATION — The percent of endowment income to E & G expenditures should remain constant or show a slight increase over a period of time. Institutions can improve the net results of current operations by increasing the level of support from endowment income, but this may be at the expense of future operations by drawing down capital reserves or limiting the growth of endowment assets through appreciation.

PENNSYLVANIA — Endowment income is a relatively stable source of revenue income to E & G expenditures for Pennsylvania institutions. This can be expected as it is probably the most controlled revenue source for the institution. However, for Group III this source has not kept pace with expenditures. This is not a good sign because of the substantial contribution endowment to E & G expenditures.

FIGURE XVIII



Pennsylvania Colleges and Universities
Fiscal 1974 through 1977

RATIO Educational and General Revenues Contribution

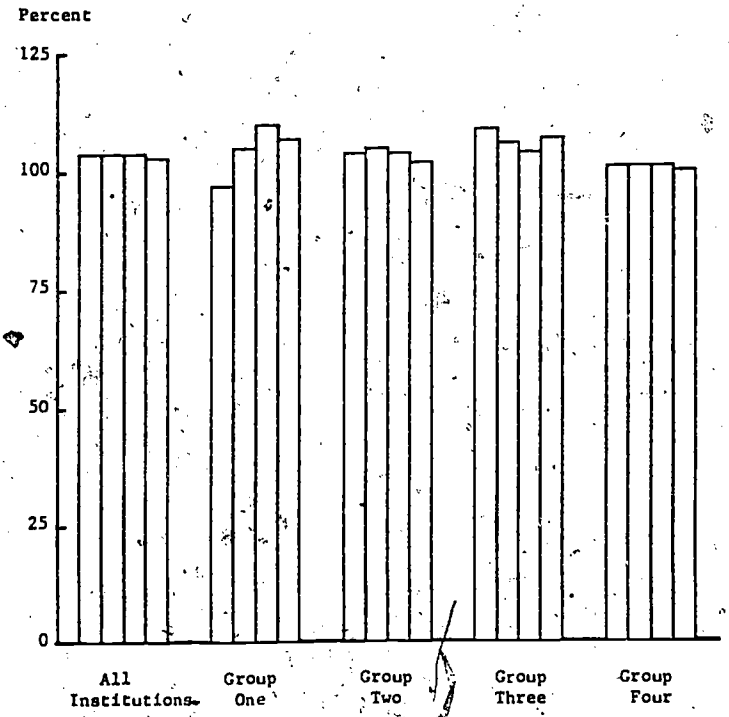
DEFINITION The total of all educational and general revenues (excluding Auxiliary Enterprises and Independent Operations) *divided by* total educational and general expenditures and expressed as a percentage.

INTERPRETATION This ratio measures total (not net income) Education and General revenues contribution to total Educational and General expenditures. One would expect this ratio to be 100 or above and to remain constant or to be increasing. Because fund accounting allows for some revenue sources (e.g., endowment gains on investments) to be shown as transfers rather than as revenues, it is difficult to establish a precise value for this ratio.

PENNSYLVANIA The median 1977 E & G revenues to E & G expenditures was down to 102.5 from 103.6 for 1976, and 103. 8 for 1974. 61% of the Pennsylvania institutions reported a decrease in the ratio while only 35% of the institutions reported improved total E & G Revenue Contribution.

FIGURE XVIV

Educational and General Revenues Contribution
(Median Institutions)



Pennsylvania Colleges and Universities
Fiscal 1974 through 1977

BUILDING AN ACCURATE FINANCIAL DATA BASE

Cathleen A. Conger
John Minter Associates

Let's step back a moment, and examine the quality of the data base used for financial indicators. The major difference in using HEGIS data and in using data obtained from an audited financial statement for an institution is that one is self-reported and must be taken at face value; the other is prepared by a third party and provides a complete financial picture, with supporting statements providing both detail and accuracy.

Making the Data Comparable

In using an audited financial statement, John Minter Associates (JMA) recodes each audit completely to the NACUBO/AICPA audit guidelines of 1974, and provides such refinements as distributing staff benefits and work-study expenditures to the expenditure areas where the salaries have been incurred. We provide this refinement of detail for approximately 65% of JMA's participating institutions, and thus are able to provide comparable expenditure categories within our study groups.

Audit changes are made retroactively, thus all data are comparable within an institution from year to year, and among institutions within a study group.

Audit changes are essential for comparative data. An easy illustration is an institution that decides in 1977 to capitalize its library books. On the surface, this audit change looks like investment in plant substantially increased in 1977. Instead, JMA obtains the capitalized value of the library books for all years that institution has participated in our studies.

Exhibit A-2 illustrates JMA's refinement of financial data. This well-managed institution is not the exception, but typical of the reclassification of financial data that JMA provides. In a simplified version, this is the data reported to HEGIS, and the data JMA recoded, using the audited statement and contact with the institution.

EXHIBIT A-1

COMPARISON OF FINANCIAL DATA
(dollars in thousands)

Revenues	HEGIS	JMA
Tuition & Fees	$ 6,686	$ 6,686
Federal Sources	78	548
State Sources	433	9
Private Gifts & Grants	2,062	1,277
Endowment	485	505
Other	299	74
Auxiliary Enterprises	2,829	2,829
Total Revenues	$12,871	$11,928

Expenditures	HEGIS	JMA
Instruction	$ 4,612	$ 4,238
Academic Support	211	743
Student Services	581	590
Institutional Support	1,119	999
Plant Operation	786	794
Scholarships	2,266	1,470
E & G Mandatory Transfers	46	186
Auxiliary Enterprises	3,118	3,976
Total	$12,739	$11,996

In this exhibit, note first that the revenues are overstated on HEGIS by $943,000. This happened because there was confusion over which student aid revenues to include, and which to exclude. Many institutions include both the Basic Educational Opportunity Grants and the Supplemental Educational Opportunity Grants, while others exclude both. Here both were included, but included under private gifts and grants. Also included under State revenues were $424,000 of state-designated scholarships that should have been excluded. JMA excluded student aid totaling $718,000.

Another major concern with revenues is "Other Sources." This institution used $225,000 from its unrestricted current fund balance reserves from prior years in this year's current operations. To balance the Statement of Current Funds Revenues and Expenditures, this was shown as a revenue instead of as a net reduction of unrestricted current fund balance.

A minor revision was the reclassification to endowment income of $20,000 designated for scholarships incorrectly classified as private gifts and grants.

Exhibit A-1 also shows a quick comparison of expenditures. The institution had already distributed staff benefits, but not work-study expenditures. The major other concerns were in the academic support area and the institutional support area. Only library expenditures had been reported on HEGIS for academic support. Some mandatory transfers had been included under institutional support on HEGIS. There were additional minor misclassifications.

Exhibit A-2 reports the net result of the Current Funds Revenues, Expenditures, and Mandatory Transfers. HEGIS and JMA tell a different story, but neither tells the entire story of the institution's financial condition for that year.

Funds Flow Statement

Of the three major financial statements, the Statement of Changes in Fund Balances offers the most data for understanding the financial "bottom line" of the institution.

It summarizes all the financial activity of the institution during a given period of time. Yet, this very crucial statement is the one to which institutions and the industry have paid the least attention. Many of JMA's participating institutions (up to 50%) do not provide a consolidated Statement of Changes in Fund Balances in their audit. Without this consolidated statement, institutions are not as aware of their total financial condition or the relationship among fund groups.

CURRENT FUNDS REVENUES & EXPENDITURES

	HEGIS	JMA
TOTAL REVENUES	$12,871	$11,928
TOTAL EXPENDITURES & MANDATORY TRANSFERS	12,739	11,996
NET REVENUES BEFORE NONMANDATORY TRANSFERS	$ 132	$ (68)

Within the past year JMA has collected data from consolidated and individual fund Statements of Changes in Fund Balances. We have recoded this information in a consolidated Funds Flow Statement that allows us to provide consistent data for all JMA's participating institutions.

The major distinction of JMA's Funds Flow Statement is that we have identified the total of new revenues to an institution from other additions and have distinguished the exchange of assets among fund groups.

In order to identify new revenues, JMA has coined the phrase "Exchange of Assets" which refers to a situation when the expenditures of one fund group become the revenues of another fund group. Under this heading, there can be many items, but most significant are those under plant. Expenditures which are capitalized and retirement of indebtedness can be considered exchanges of assets rather than revenues and other additions, expenditures and other deductions.

Exhibit B provides a consolidated example of JMA's Funds Flow Statement. This institution received significant revenues under plant and endowment from private sponsors. In fact, of total gifts and grants from private sponsors received during this year, 51 percent went into current operations, while 49 percent went into other funds.

Other revenue sources to the institution were government grants to loan funds, investment income, and realized gains on investments.

Institutions with large endowment funds receive a significant amount of support from realized gains on endowment investments, and even when these are used for current operations, they are not recorded as a current fund revenue, but as a transfer, and so are not identified as a separate revenue source.

Expenditures are limited outside of current funds. Most significant is interest paid on physical plant. This institution does not capitalize plant equipment expenditures from current funds, but pays for all renewal and replacement out of current operations.

Here the institution has spent $1,124,000 on capitalized plant facilities from unexpended plant resources. It also has reduced its principal debt by $319,000.

ALL AMOUNTS IN THOUSANDS

EXHIBIT B

FUNDS FLOW STATEMENT

	CURRENT	LOAN	ENDOWMENT	PLANT
REVENUE RESOURCES				
Customer	9,515			
Government	557	293		
Private Sponsors	1,277			
Excess of Restricted Receipts	(48)			
TOTAL PRIVATE SPONSORS	1,229		134	1,051
Investment Income	505		7	36
Realized Gains			142	
Other	74	46	33	
TOTAL NEW REVENUES	$11,880	339	316	1,087
EXPENDITURES				
Current Operations*	11,417			
Other		223	9	
Renewal & Replacement	168			
Interest on Indebtedness				295
Building Razed				28
TOTAL EXPENDITURES	$11,585	223	9	323
*Less Mandatory Transfers & Renewal & Replacement				
EXCHANGE OF ASSETS				
Plant Facilities Capitalized				1,124
Retirement of Indebtedness				319
TOTAL EXCHANGE OF ASSETS				1,443*
MANDATORY TRANSFERS				
For NDSL	(33)	33		
For Principal	(180)			180
For Interest	(198)			198
TOTAL MANDATORY TRANSFERS	(411)	33		378
NONMANDATORY TRANSFERS				
For Principal	(118)			118
For Quasi-Endowment	(4)		4	
For Unexpended Plant			(8)	8
TOTAL NONMANDATORY TRANSFERS	(122)		(4)	126
NET CHANGES IN FUND BALANCES	(238)	149	303	1,268

JMA's Funds Flow Statement allows for more detail on both mandatory and nonmandatory transfers, and thus provides a better understanding of the relationship of the fund groups within the institutional operations.

The net changes in fund balances are coded, thus providing the "bottom line" for the institution. This Funds Flow Statement combined with JMA's recoded Balance Sheet and Statement of Current Funds Revenues, Expenditures, and Other Changes provides a complete consolidated management tool for the participating institution, as well as consistent overall financial trends for the industry.

An example of the detail JMA can now provide for each fund group is Exhibit C. By combining statements, we can provide complete detail on plant fund operations. We can tell how much the investment in plant assets increased, which ones increased, what was debt-financed, how much was spent on renewal and replacement, what is the external plant debt owed, what is due in the current year, and the total plant liabilities including internal borrowing. Of the total plant fund balances, we separate the amount related to net investment in physical plant fund balances, and thus provide a more accurate detail of the resources available to the institution.

Most significantly, the net result of JMA's Funds Flow Statement is that JMA can now provide a consolidated Statement of Changes in Financial Position for both the industry and for the participating institution.

Statement of Changes in Financial Position

Exhibit D-1 reports the total revenue resources used by the institution, what they were expended for, and the total net increase in fund balances for the entire institution. It can also summarize the exchange of assets for that given period of time. Additional information could also be provided on the unrestricted, expendable, and restricted fund balances available to the institution at the end of the given period of time.

Next, the total net result for the institution (see Exhibit D-2) is compared with the result for its current operations only.

Thus, an institution reporting negative net current fund revenues of $68,000 reports an increase in total fund balances of $1,458,000. For financial planning and trend analysis, both figures should be known.

JMA is now able to provide a consolidated Statement of Changes in Financial Position using the financial statements presently recommended by NACUBO/AICPA audit guidelines of 1974 without the institution having to change its present financial statement format, without losing the distinction of the major fund groups, and without losing comparability with other higher education institutions.

INVESTMENT IN PLANT

TOTAL ASSETS		INCREASED ASSETS	INCREASED DEBT	INCREASED FUND BAL.
$ 1,033	LAND	$ 66		$ 66
24,294	BUILDINGS	1,547	275	1,272
2,575	EQUIPMENT	77		77
$27,902	TOTALS	$1,690	275	$1,415

ADDITIONAL INFORMATION

Expenses Incurred During the Yea			
Renewal & Replacement	$ 168		
Interest on Indebtedness	295		
Building Razed	28		
Total External Plant Debt Owed at End of Year:		$ 6,771	
Current Portion of External Debt	382		
TOTAL PLANT LIABILITIES			$ 8,420
TOTAL PLANT FUND BALANCES			$21,586
NET INVESTED IN PLANT		$19,545	

EXHIBIT D-1

STATEMENT OF CHANGES IN FINANCIAL POSITION

REVENUE RESOURCES		
From Customers	$ 9,515	
Government	850	
Private Sponsors	2,414	
Investment Income	548	
Realized Gains	142	
Other	153	
TOTAL REVENUE RESOURCES		$13,622
EXPENDED FOR		
Current Operations	$11,609	
Other	232	
Renewal & Replacement	168	
Interest on Indebtedness	295	
Building Razed	28	
TOTAL EXPENDITURES		$12,164
NET INCREASE IN FUND BALANCES		$ 1,458
EXCHANGE OF ASSETS		
Plant Facilities Capitalized		$ 1,124
Retirement of Indebtedness		319
TOTAL EXCHANGE OF ASSETS		$ 1,433

EXHIBIT D-2

SUMMARY

STATEMENT OF CHANGES IN FINANCIAL POSITION

	CURRENT FUNDS	TOTAL FUNDS
TOTAL REVENUES	$11,928	$13,622
TOTAL EXPENDITURES	11,996	12,164
NET REVENUES	$ (68)	$ 1,458

Exchanges of assets, mandatory transfers, and nonmandatory transfers change the relationship between fund groups, but not the total financial condition of the institution.

A VALIDITY CHECK ON THE HEGIS FINANCE DATA

Cathleen Patrick
Douglas J. Collier
National Center for Higher Education Management Systems

The National Center for Education Statistics collects data about the financial operations of the colleges and universities in the U.S. through its Higher Education General Information Surveys (HEGIS). From the annual HEGIS finance survey, data are collected about each institution's revenues, expenditures, assets, liabilities, and changes in fund balance. The HEGIS finance date set, due to its comprehensiveness and frequency of collection, constitutes what is considered to be both the primary source of information about higher education's finances as well as the primary financial database for research in higher education.

The HEGIS finance data, however, have been frequently criticized because they are believed to be inaccurate. It is suggested that many institutions place a low priority on completing the HEGIS finance questionnaire. In some cases institutions have been known to repudiate their own HEGIS data if those data are used to describe the institution's financial operations. Obviously such charges about the accuracy and validity of the HEGIS finance data have seriously undermined their utility and have caused many to discount research findings when those findings have been based on HEGIS data.

This study was designed to address the problem of the validity and accuracy of the HEGIS finance data. The approach used was to compare a set of variables for a particular group of institutions from the HEGIS finance surveys to the same variables from the same group of institutions collected by John Minter Associates. John Minter Associates (JMA) has been collecting financial data from private colleges and universities for several years for use in publishing annual reports on the financial condition of private higher education.[1] The approach taken by JMA in obtaining and verifying the financial data they use in their studies is one that the authors feel results in a "standard" against which the HEGIS finance data can be compared. JMA asks each of the institutions in its national sample (125 private institutions in total) to submit

[1]Minter, W. John and Howard R. Bowen, Independent Higher Education: Fourth Annual Report on Financial and Educational Trends in the Independent Sector of American Higher Education. National Association of Independent Colleges and Universities, Washington, D.C., July 1978.

their audited financial statements. A JMA staff member then recodes the data from those financial statements in a standard format using the definitions and guidelines specified by the American Institute of Certified Public Accountants in Audits of Colleges and Universities (AICPA: 1973). These are exactly the same guidelines and definitions specified for use in completing the HEGIS finance surveys. Once the data have been recoded, they are sent back to the institutions for verification to ensure that the recoding has been done correctly and that the data are accurate. The authors believe that the JMA procedures result in an accurate set of financial data for the 125 institutions included in the sample. Since the JMA recoding procedures are based upon the same reporting definitions and guidelines as those used in collecting HEGIS finance data, a comparison of the two sets of data for the same institutions should serve as a meaningful test of the validity of the HEGIS finance data (i.e., how well did respondents to the HEGIS finance survey follow the specified definitions and guidelines in reporting their data).

Research Study Design

The authors looked at a set of financial variables which included categories of current fund revenues, assets, liabilities, and changes in fund balances.[1] JMA provided the authors with summary statistics (minimum, maximum, mean, standard deviation, and three quartile points) for three fiscal years (FY74, FY75, FY76) for the following financial variables:

- net tuition and fees (revenue for tuition and fees minus expenditures for scholarships and fellowships)
- revenue from gifts and grants
- revenue from endowment gifts
- "other revenue" (the sum of "other" revenue and services of education department)

[1] It should be noted that this study was undertaken to validate the variables that were used in an NCHEMS project on indicators of institutional financial condition. Therefore the HEGIS variables selected for comparison with the JMA data base were those variables which were needed for the Indicators project. Ideally a full range of HEGIS data elements would have been studied and compared in order to be able to make more generalizable statements about HEGIS finance data. However JMA was only asked to provide data for those variables that are discussed in the remainder of this report, and it was not possible to obtain further statistics from JMA.

- physical plant debt
- plant assets
- physical plant interest (not available in 1973-74 on our data file)
- net increase (or decrease) for the year in each of the five fund accounts (not available from HEGIS in 1973-74).

The JMA summary statistics were provided for a random sample of 125 private institutions that JMA considers to be its "national sample." A full range of private institutions are included in this sample: large and small, liberal arts and specialized, doctoral granting and baccalaureate. The authors calculated the same statistics as those provided by JMA for the 125 institutions using the finance data submitted for HEGIS. Statistical tests were then combined with judgments of the magnitude of differences to determine if there were, in fact, significant differences between HEGIS data and similar data collected using the JMA procedures. The purpose of these comparisons was to address the following questions:

1. Are the HEGIS financial data significantly different from the JMA financial data?
2. Are certain HEGIS data items more likely than others to differ from the same JMA data items?
3. Have the HEGIS finance data become more or less accurate over the three-year time period from FY74 to FY76?

Because the authors did not obtain individual institutional data from JMA, it was not possible to investigate the magnitude of error in the HEGIS data for individual institutions, but it was possible to thoroughly address the issue of the reliability of aggregated HEGIS data for private institutions.

The Statistical Approach

The basic statistical question in this study was: are the distributions of each HEGIS variable significantly different from the JMA distributions? If all the summary statistics obtained for each sample are reasonably similar, then one can infer that the distributions are the same and, therefore, that the HEGIS data are probably as reliable and valid as the more carefully collected JMA data. For this study, the statistics obtained were the:

- minimum
- maximum
- mean
- standard deviation
- 25th, 50th, and 75th percentiles.

Figure 1 shows a plot of the distribution of a HEGIS financial variable (external plant debt) across the 125 institutions with the seven summary statistics available indicated on the graph.

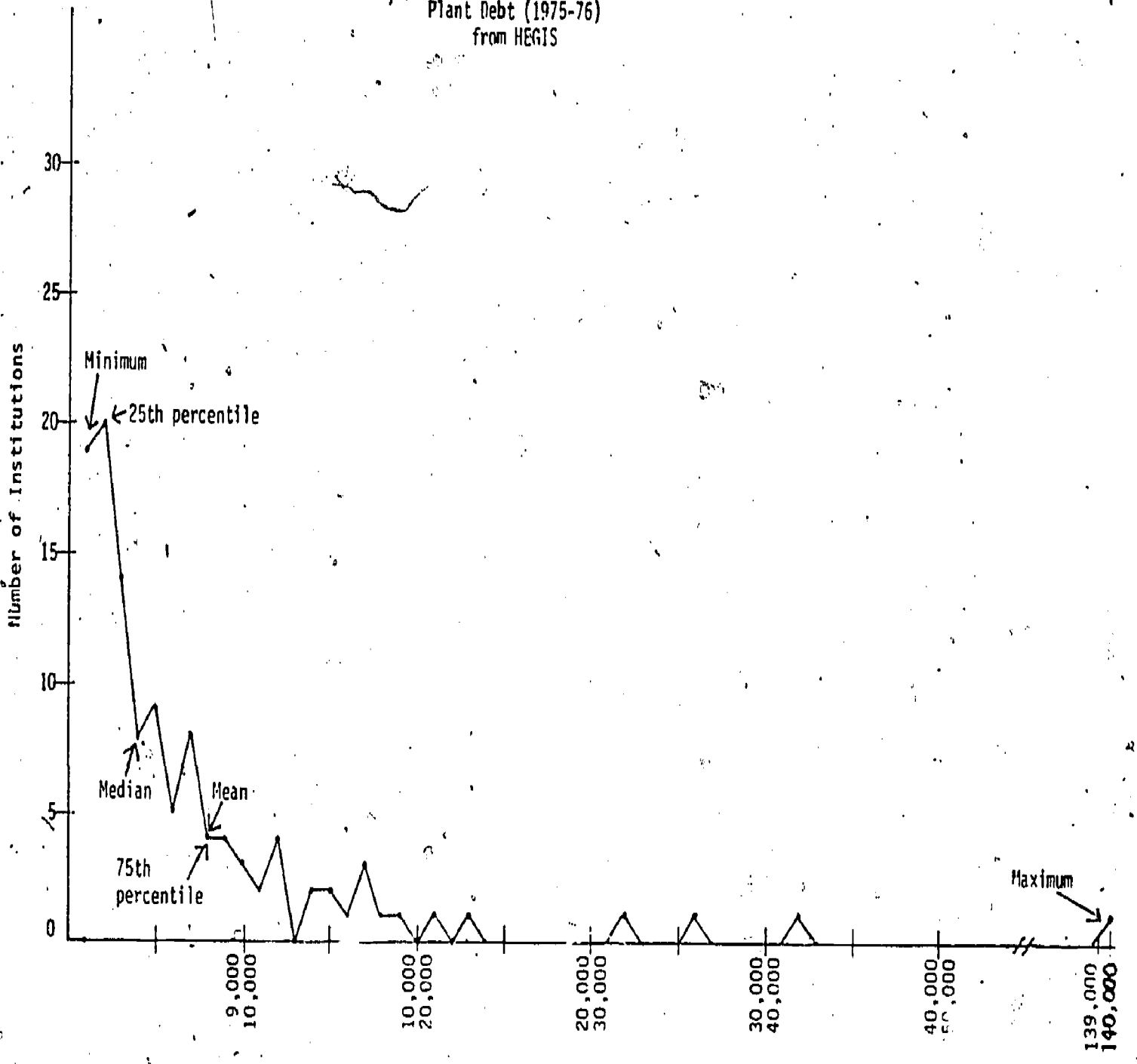
The research approach used statistical hypothesis tests where possible to test for differences in the summary statistics, and where hypothesis tests were not possible, visual examinations and comparisons were made with the results from the two sets of data to check for consistency and similarity. In analyzing these data, two pertinent facts about the distribution of the data surfaced. First, the data were not normally distributed. In general, as is depicted in Figure 1, the data were highly skewed in the positive direction and truncated in the negative direction (usually at zero). Second, since both sets of data are estimates of the same population, the data are correlated to some unknown degree. Because individual data for each institution were not available from JMA, the actual correlation between the two samples could not be calculated. Hypothesis tests for differences in means were, therefore, calculated for three different values of the correlation coefficient (r=.50, .75, and .90).

The two hypothesis tests that were possible (i.e., for which formulas have been derived for dependent or correlated samples) were for the difference between (a) the means and (b) the variances. It is well known that the t-test for mean differences is robust even under extreme violations of the normality assumption. It is perhaps equally well-known that the test for equality of variances is extremely sensitive to non-normality, so much so that most variance tests may be considered tests of the normality of the distribution of the data.[1] A few values of the test for equality of variances for dependent samples were calculated and very high t values were found, a finding which the authors believe generally reflected the extreme skewness of the data rather than a true difference in variances.

[1]There is a test for equality of variances that is not sensitive to non-normality, but it requires individual data, and, thus, could not be used.

Figure 1

Frequency Distribution of External Plant Debt (1975-76) from HEGIS



The t-test for means which we used was:

$$t = (\bar{X}_1 - \bar{X}_2) \sqrt{(N_1 + N_2)/2} \Big/ \sqrt{S_1^2 + S_2^2 - 2r_{12}S_1S_2}$$

where $\bar{X}_1$, $\bar{X}_2$ are the means; S_1^2, S_2^2 are the variances; N_1, N_2 are the sample sizes; r_{12} is the correlation between the samples. (This is the standard formula for this test except that $\sqrt{N}$ is usually given, rather than the $\sqrt{(N_1 + N_2)/2}$. In most cases, one would have matched pairs of data and, therefore, equal N's in each group. In our study, the sample sizes were sometimes slightly different for the two samples.)

Statistical Results

Tables 1, 2, and 3 show all summary statistics (with the exception of quartiles) for 1973-74, 1974-75, and 1975-76, respectively, for each of the 13 variables. Each of the statistics is discussed below.

N, Number of Observations

There were minor fluctuations in the number of institutions with non-zero data. Both HEGIS and JMA reported non-zero data for plant assets and net tuition and fees for every institution in every year. For the other five variables, the two samples differed by one to three institutions and in no case differed by more than 11 institutions (of a total of 125).

Minimum

Generally, across the three years, minimum values recorded for the JMA and HEGIS samples were quite similar. For 19 of the variables, the two sets of minimum values were three thousand or fewer dollars apart. The largest differences between the two sets of data occurred in two areas. The first area was in the changes in the fund balances. In 1974-75, the minimum values for the annuity and life fund balances were substantially different as were the 1975-76 minimum values for change in the loan fund and plant fund balances. Other minimums for fund balance increases or decreases were quite similar for HEGIS and JMA. The other large discrepancy

Table 1

1973-74 FINANCIAL DATA SUMMARY STATISTICS ($000)
CALCULATED USING HEGIS VERSUS JOHN MINTER ASSOCIATES DATA[1]
(N = 125 INSTITUTIONS)

Data Element	N		Minimum		Maximum		Mean		Std. Dev.	
	HEGIS	JMA	HEGIS	JMA	HEGIS	JMA	HEGIS	JMA	HEGIS	JMA
Net Tuition and Fees[2]	125	125	-68	18	48730	46098	5100	5314	7215	7339
Gifts and Private Grants	125	125	2	2	30250	33074	1823	1929	4160	4415
Endowment Income	115	112	1	3	50490	51689	1540	1581	5586	5863
Other Revenue	120	124	2	3	112800	23830	2739	1185	11429	3484
External Plant Debt	118	119	1	1	111100	96940	6647	6326	11580	10424
Plant Assets	125	125		596	430000	758254	32000	38225	57320	87743
Physical Plant Interest										
Current Funds Balance Net Change										
Loan Funds Balance Net Change										
Endowment Funds Balance Net Change										
Annuity and Life Funds Balance Net Change										
Plant Funds Balance Net Change										

[NOTE: These values were not collected in the 1973-74 HEGIS Survey.]

[1]Zeroes were excluded from analysis for the first seven variables in this table and included in the remaining five.

[2]Net tuition and fees is revenue from tuition and fees minus expenditures for scholarships and fellowships.

Table 2

1974-75 FINANCIAL DATA SUMMARY STATISTICS ($000)
CALCULATED USING HEGIS VERSUS JOHN MINTER ASSOCIATES DATA[1]
(N = 125 INSTITUTIONS)

Data Element	N		Minimum		Maximum		Mean		Std. Dev.	
	HEGIS	JMA	HEGIS	JMA	HEGIS	JMA	HEGIS	JMA	HEGIS	JMA
Net Tuition and Fees[2]	125	125	-650	7	53250	53930	3564	5702	7044	8131
Gifts and Private Grants	125	125	2	2	35150	35150	1992	2087	4919	4841
Endowment Income	114	113	4	2	57000	57695	1686	1643	6253	6212
Other Revenue	121	124	2	5	27960	28698	1465	1441	4350	4207
External Plant Debt	117	119	3	4	110900	95212	6713	6537	11730	10134
Plant Assets	125	125	598	597	430000	764234	33820	40073	60040	90094
Physical Plant Interest	115	108	1	4	4742	4742	281	310	516	560
Current Funds Balance Net Change	125	125	-5677	-6311	27580	6314	416	85	3149	1133
Loan Funds Balance Net Change	125	125	-363	-363	5074	3181	226	219	666	534
Endowment Funds Balance Net Change	125	125	-21160	-20925	118900	34043	661	-4	11.10	4220
Annuity and Life Funds Balance Net Change	125	125	-524	-1159	2703	2163	72	83	371	404
Plant Funds Balance Net Change	125	125	-305	-225	13370	13509	1744	1584	2540	2764

[1]Zeroes were excluded from analysis for the first seven variables in this table and included in the remaining five.

[2]Net tuition and fees is revenue from tuition and fees minus expenditures for scholarships and fellowships.

Table 3

1975-76 FINANCIAL DATA SUMMARY STATISTICS ($000)
CALCULATED USING HEGIS VERSUS JOHN MINTER ASSOCIATES DATA[1]
(N = 125 INSTITUTIONS)

	N		Minimum		Maximum		Mean		Std. Dev.	
Data Element	HEGIS	JMA	HEGIS	JMA	HEGIS	JMA	HEGIS	JMA	HEGIS	JMA
Net Tuition and Fees[2]	125	125	-57	-38	61830	63720	6259	6486	8945	9322
Gifts and Private Grants	123	125	3	3	35150	35440	2159	2184	5109	5053
Endowment Income	112	113	5	4	57000	57650	1685	1734	6334	6374
Other Revenue	124	124	1	9	33830	33838	1596	1568	5132	4891
External Plant Debt	117	119	1	19	139400	127631	7137	7180	14230	13896
Plant Assets	125	125	599	598	430000	775494	34390	41998	62220	93822
Physical Plant Interest	117	106	1	3	4911	4911	285	324	523	610
Current Funds Balance Net Change	125	125	-11440	-12601	1589	2193	-118	-155	1253	1373
Loan Funds Balance Net Change	125	125	-192	-99	3290	3634	220	243	496	545
Endowment Funds Balance Net Change	125	125	-831	-959	49920	34073	1205	1273	5019	4292
Annuity and Life Funds Balance Net Change	125	125	-795	-750	1121	2480	49	88	177	351
Plant Funds Balance Net Change	125	125	-555	-278	17540	18142	1328	1574	2684	3119
Total FTE Student Enrollment	125	125	125	125	20553	19332	2769	2885	3358	3473

[1]Zeroes were excluded from analysis for the first seven variables in this table and included in the remaining five.

[2]Net tuition and fees is revenue from tuition and fees minus expenditures for scholarships and fellowships.

between the two groups occurred in the minimum reported value for net tuition and fees for 1973-74 and 1974-75. (It should be noted that a few negative values were found for this computed variable for both JMA and HEGIS samples, indicating reported excess of scholarship and fellowship expenditures over revenues from tuition and fees.)

Maximum

Reported maximum values for JMA and HEGIS were within three percent of each other for the four revenue variables in fiscal years 1975 and 1976. (There were somewhat greater discrepancies in 1974, probably because the new HEGIS form, which incorporated more specific reporting instructions, was not in use at that time.) HEGIS maximum values for plant debt and plant interests were within 16 percent of the JMA values. Within the fund account variables, however, there was considerable variability in reported maximums between the two samples, with the exception of the increase (or decrease) to the plant fund balance. These differences were not consistent in magnitude or direction across the fund accounts, and tended to decrease in 1975-76.

Mean

Table 4 shows the results of calculating t-tests for the differences between the means for JMA and HEGIS for three possible values of the correlation coefficients ($r=.50$, .75, and .90). The critical value of t is 1.98 for a two-tailed test with $\alpha=.05$ and 120 degrees of freedom. In no case for $r \leq .75$ did the means differ significantly between the two samples, and in only four instances (of a possible 31) did the means differ significantly when the correlation was assumed to be as high as .90. Even for the four statistically significant variables (1974 "other" revenue, 1975 and 1976 change in plant fund balance, and 1976 change in annuity and life fund balance), the t values were only slightly greater than 1.98; since in performing 33 t tests one would expect (by chance alone) three Type I errors, a finding of four such values does not provide much evidence of highly significant differences even for these four variables. There is another reason to discount the importance of these statistically significant mean differences. Given the other distributional similarities found between the two sets of data, one can argue that a correlation between the two samples of .90 tends to support the hypothesis that the distributions are nearly identical, even if the means were moderately different in these four instances.

Standard Deviation

As was stated previously, because the distributions were highly skewed for all 13 variables, it was not possible to statistically test for differences in variances of the two sets of data. It simply

Table 4

SUMMARY OF t-STATISTICS FOR DIFFERENCES IN MEAN FOR THREE VALUES OF THE CORRELATION COEFFICIENT

Data Element	1973-74 N	1973-74 t when r= .50	1973-74 t when r= .75	1973-74 t when r= .90	1974-75 N	1974-75 t when r= .50	1974-75 t when r= .75	1974-75 t when r= .90	1975-76 N	1975-76 t when r= .50	1975-76 t when r= .75	1975-76 t when r= .90
Net Tuition and Fees	125	-.33	-.46	-.73	125	-.31	-.43	-.68	125	-.28	-.39	-.62
Gifts and Private Grants	125	-.28	-.39	-.61	125	-.22	-.31	-.49	124	-.05	-.08	.12
Endowment Income	113.5	-.08	-.11	.17	113.5	.07	.10	.16	112.5	-.08	-.12	-.18
Other Revenue	122	1.69	1.89	2.34	122.5	.06	.09	.14	124	.06	.09	.14
External Plant Debt	118.5	.32	.44	.69	118	.17	.24	.37	118	-.03	-.05	-.07
Plant Assets	125	-.90	-1.19	-1.58	125	-.88	-1.16	-1.57	125	-1.03	-1.36	-1.83
Physical Plant Interest					111.5	-.57	-.80	-1.25	111.5	-.72	-1.00	-1.54
Current Funds Balance Net Change					125	1.34	1.53	1.69	125	.31	.44	.69
Loan Funds Balance Net Change					125	.13	.18	.26	125	-.49	-.70	-1.08
Endowment Funds Balance Net Change					125	.77	.88	.99	125	-.16	-.23	-.35
Annuity and Life Funds Balance Net Change					125	-.32	-.45	-.70	125	-1.43	-1.76	-2.11
Plant Funds Balance Net Change					125	-1.01	-1.42	-2.23	125	-.94	-1.31	-2.01

Table 5

FINANCIAL DATA QUARTILE POINTS FOR HEGIS AND JOHN MINTER ASSOCIATES DATA ($000)

Data Element	1973-74 25% tile HEGIS	1973-74 25% tile JMA	1973-74 50% tile HEGIS	1973-74 50% tile JMA	1973-74 75% tile HEGIS	1973-74 75% tile JMA	1974-75 25% tile HEGIS	1974-75 25% tile JMA	1974-75 50% tile HEGIS	1974-75 50% tile JMA	1974-75 75% tile HEGIS	1974-75 75% tile JMA	1975-76 25% tile HEGIS	1975-76 25% tile JMA	1975-76 50% tile HEGIS	1975-76 50% tile JMA	1975-76 75% tile HEGIS	1975-76 75% tile JMA
Net Tuition and Fees	915	1073	2386	2418	5934	6951	904	1105	2520	2512	6405	6590	1100	1257	2701	2915	7021	7403
Gifts and Private Grants	206	295	564	574	1050	1148	313	310	603	650	1111	1166	278	305	631	610	1203	[illegible]
Endowment Income	55	50	186	197	668	571	52	65	197	231	704	778	57	56	232	212	747	[illegible]
Other Revenue	122	68	327	210	717	517	87	[illegible]	213	217	481	572	86	71	241	[illegible]	592	[illegible]
External Plant Debt	1759	1437	3217	3284	7502	7830	1702	[illegible]	3246	[illegible]	8040	8005	1648	1475	3556	3275	7910	[illegible]
Plant Assets	6953	7072	14112	14321	32323	33736	7181	[illegible]	15031	15521	33842	36822	7219	7281	15737	16058	34528	[illegible]
Physical Plant Interest							60	63	126	114	322	351	55	[illegible]	135	152	311	[illegible]
Current Funds Balance Net Change							-81	-163	11	10	99	159	-140	-142	29	21	170	131
Loan Funds Balance Net Change							2	17	42	62	159	176	2	14	61	175	201	227
Endowment Funds Balance Net Change							-96	-103	14	9	220	205	0	5	71	[illegible]	594	[illegible]
Annuity and Life Funds Balance Net Change							0	0	0	0	6	15	0	0	0	0	10	[illegible]
Plant Funds Balance Net Change							130	171	426	469	1446	1772	124	165	415	503	1277	1192

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observing the standard deviations for both groups, one can see that for (a) the four revenue variables, (b) plant debt, (c) plant interest, (d) loan fund balance net change, and (e) plant fund balance net change, the standard deviations were quite similar. For plant assets, the JMA standard deviation was about half again as large as for HEGIS across all three years. The other dissimilar standard deviations were in the three remaining fund balance net change variables. In general, standard deviations of the two groups were more similar in 1975-76 than the other two years.

Quartiles

Table 5 shows the three quartile points for each set of data and each fiscal year. Again, there is no statistical test for percentile differences between dependent samples. Visual inspection of the results in Table 5 leads to the conclusion that the three quartile points are remarkably similar--across all 12 variables and across all three years.

The Distribution as a Whole

Figure 2 shows the net tuition and fees with the seven summary statistics indicated for both HEGIS and JMA. As can be seen in Figure 2, six of the seven statistics fell in the same frequency class for both samples, and the seventh, the maximum, was two classes higher for JMA than for HEGIS. While we cannot obtain an actual frequency distribution for the JMA data as is shown here for HEGIS data, there is every reason to believe that the plot would differ little from that graphed in Figure 2. This graph is typical of others that could be drawn.

Conclusions

The purpose of this study was to address three questions:

1. Are the HEGIS financial data significantly different from the JMA financial data?

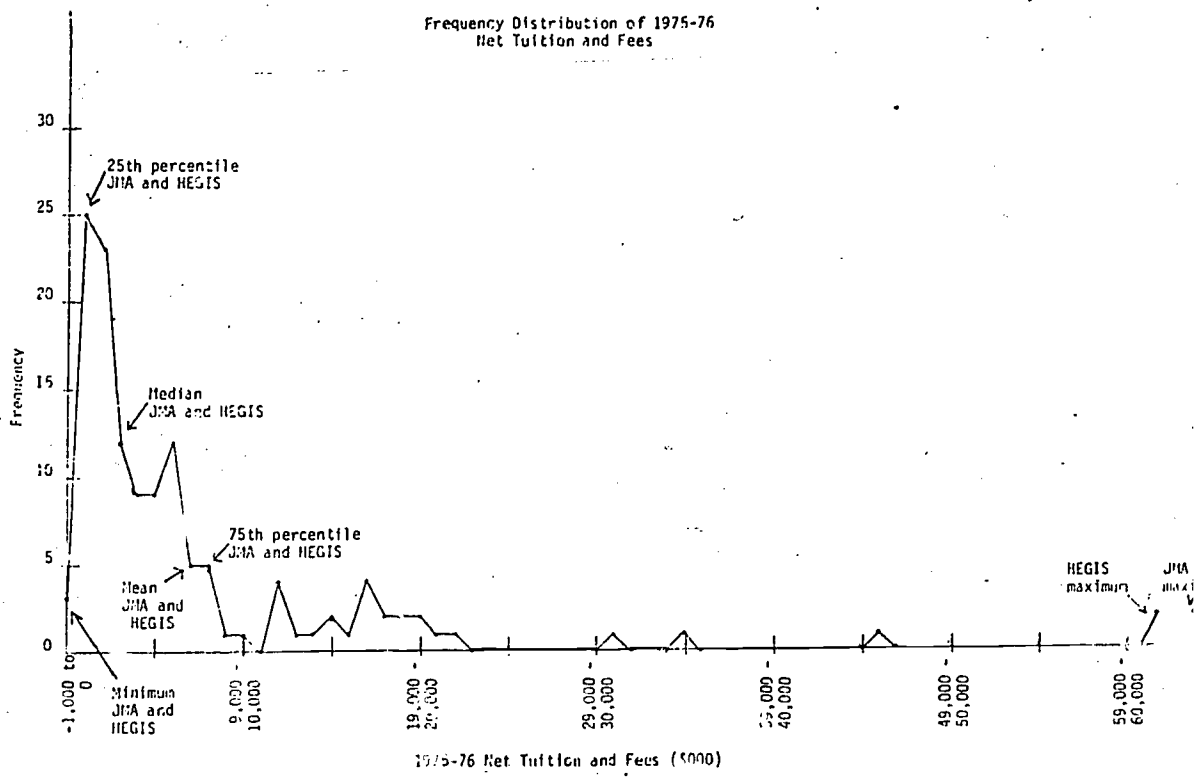
2. Are certain HEGIS data elements more likely than others to differ from the same JMA data items?

3. Have the HEGIS financial data become more or less accurate over the three year time period from fiscal year 1974 to 1976?

Addressing the second question first, there is, in fact, more agreement between HEGIS and JMA for certain items than for others. The four revenue variables and the plant debt variable are the most consistent between the two samples across

Figure 2

Frequency Distribution of 1975-76
Net Tuition and Fees



the three years. Plant assets, physical plant interest, and net change in endowment fund balance are next in consistency, followed by the remaining four net-change-in-fund-balance variables. Even for this group of variables, however, differences were generally not substantial across most of the seven statistics: means were almost never significantly different; standard deviations were not very different; the three quartiles were quite similar; and most minimum and maximum values were comparable.

There were some trends observed in the degree of similarity of the statistics we examined across the three fiscal years. Some of the larger differences between HEGIS and JMA maximum and minimum points tended to become insignificant by fiscal year 1976. The differences noted for "other revenue" in 1973-74 also became insignificant in the following two years (probably due to the change in the HEGIS financial data survey form that occurred between 1974 and 1975). Differences between HEGIS and JMA data for the five fund balance variables were somewhat inconsistent between the two years for which we had data: for some of the five, differences decreased slightly and some increased slightly from 1975 to 1976.

Perhaps the question of greatest interest in viewing the data over time is whether or not the most recent data (1975-76) can be said to be reliable and accurate when compared against JMA data as the standard. The answer to this question is also the answer to the first question stated above concerning whether or not the two data bases are significantly different. The two sets of data yield statistics that are very similar in most cases for 1975-76. In this year, the means for all variables were not statistically different (except for two variables when the correlation is assumed to be .90, an assumption that in itself tends to support the hypothesis of similar distributions, even if these two means are moderately statistically different). The standard deviations were generally in the same range. (The two variables which had somewhat different standard deviations were plant assets and net change in the annuity and life income fund balance.) And minimum, maximum, and percentile points were all in close agreement between HEGIS and JMA in fiscal year 1976.

Overall, we believe the results of this study show that the HEGIS data (at least when considered in the aggregate) compare very favorably to data obtained independently using procedures known to be very reliable. There is evidence from this study that HEGIS data, at least for private institutions, are becoming increasingly accurate over time, and that any of the variables reported on in this study (and probably most other financial variables) can be used in the aggregate with confidence that the results are reliable and valid.

COMMENTS ON METHODOLOGICAL AND STATISTICAL PROBLEMS PRESENT IN FINANCIAL MEASURES ANALYSES

A. Jackson Stenner
NTS Research Corporation

I was introduced to the problems and potential of measuring the financial conditions of colleges and universities last year at the first annual conference on this topic. Prior to last year's conference, I critiqued a paper published by Lupton and Augenblick in Change magazine and, at Carol Van Alstyne's request, made some recommendations for improving the methodology employed in that study. I admit to being a newcomer to this field, but at the same time find that some of the statistical and methodological approaches surrounding the measurement of financial health are closely related to techniques and approaches with which I have been working for several years. My remarks today are quick reactions to the papers we have heard and, as such, may at times appear a little disjointed.

Analytic Framework

First, I am impressed with the importance of a good conceptual framework to guide the development of indicators of financial condition, or financial health. I am also impressed with the variance in conceptual frameworks that evolve when different analysts set about the task of framework development. A very informative exercise would be to compare a couple of these conceptual frameworks. For instance, Paul Wing's and Doug Collier's frameworks could be applied to a common data set to determine how our inferences might change regarding financial conditions of these institutions if we adopt a different conceptual framework. As one consideration for further research, I suggest that it would be fruitful to identify additional conceptual frameworks, and then apply all these conceptual frameworks to a common data set and see what judgmental differences we might arrive at.

Level of Analysis

A second general point which was addressed briefly by Hans Jenny, is that we are perhaps too comfortable with the process of aggregation of data from one level to the next. There are some very knotty technical issues surrounding the aggregation problem that are being explored by very competent statisticians today. Much of this work is far enough developed that it has something to offer to those working in this area.

The process of going from institutional to regional data and then to some kind of national index is not as straightforward a process as it might first appear. It is not like adding up the number of cattle in the state of California and then getting the number of cattle in HEW Region Nine, and then the number of cattle in the nation. The relationships, in particular, among the indicators within states, within regions, and at the national level, must remain invariant if we are going to be permitted to make the same inferences about differences at those levels when the figures are aggregated. I am persuaded from the limited analyses I have done in this area that those relationships do not remain invariant. Blind aggregation of relational data without consideration of how the meaning of indicators changes in moving from level to level is a dangerous practice because we infer meaning from the relationships that these variables have with one another at their respective levels. When these relationships change, then the inferences we choose to make from the indicator values must also necessarily change. Too often we do not qualify our analyses at these respective levels with some attention to the structure of the indicator relationships and how that structure changes from level to level. This same concern applies to year-to-year analyses.

Quality and Performance Indicators

The third general consideration, which was addressed by a couple of presenters today, concerns the assessment of "quality" in addition to input of financial variables. Clearly the prevailing zietgeist at the Secretary level in HEW is characterized by an emphasis on performance or quality indicators.

Let us take a topic closer to my area of current interest, Head Start, a program for disadvantaged three-, four-, and five-year olds. Secretary Califano is committed to developing a set of 25 to 30 indicators for what you might call the programmatic health of Head Start. HEW wants to apply these indicators each year as a check on the extent to which the program is in place and operating as Congress and HEW intend it to operate. This approach is appropriate primarily for mature programs because it is taken for granted that the program is effective and there is little probability that any new information is going to dislodge Head Start as a line item in the Administration's budget. The program has built up a constituency and it is taken for granted that Head Start is successfully delivering some social good. The question as far as HEW is concerned is: How do we keep it on track? This movement toward performance indicators is gaining momentum and may, in the future, affect higher education.

There is increasing recognition of a discontinuity between the policy perspective--the time frame within which policymaking

operates at the Federal level--and the ability of evaluations to deliver information to policymakers. This discontinuity is recognized as being rather large, and since institutions have short memories, we may anticipate increasing emphasis on quick turn-around studies and annual indicators that can alert policymakers to trends. It is this latter Federal interest that makes the financial indicator work so timely.

Collier-Patrick Study

I would like to make a couple of comments about Doug Collier's and Cathleen Patrick's paper. I think their work, which built upon Andrew Lupton's and John Augenblick's methodology to a large extent, effectively addressed some of the problems in that earlier work. Collier's is the kind of work that enables this development process to proceed rapidly. It is one thing to sit around and talk about the types of problems one encounters in doing this kind of work and what the solution might be, and another thing to actually try it. I think we have seen in the one year between Andrew's and John's work, and Doug Collier's work here, a rather substantial improvement. I would like to touch a little bit on some of the methodological problems which I think were resolved in this new piece of work and some which still remain.

Cross-Validation of Results

The first consideration in all of this work is that whenever we use measures of association, in this case product moment correlations, it is absolutely essential that we cross-validate those estimates, particularly when the correlations are computed on small sample sizes. Now the typical way we think about cross-validation is that we have some kind of hold-out sample but, as Doug might rightfully point out, when you only have 45 cases, it is not a wise thing to take half of them and use them for cross-validation purposes.

But there are a couple of alternatives in small sample research that do enable you to cross-validate your results, one of which was developed by John Tukey. In applying the "Jack Knife" technique, you systematically back out ten percent of the sample, let's say, and recompute your estimates on the remaining sample, then average across each of the replicates to get an estimate of the regression coefficient. This estimate is a more generalizable value than one computed without the "Jack Knife" technique. I would encourage that small sample work such as Doug's draw upon some of the cross-validation methodologies that have been developed to inform us a little more about how much confidence we can place in some of these values.

Generalizability Analysis

I was a little surprised to see in Collier's correlation matrix example how little relationship there was among the indicators. There are two possibilities for those small correlations: One is that the values are conceptually independent; another is that they are very unreliable. If you have a lot of error variance in these indicators, then you are not going to get very high correlation among them. I suggest that some rather rigorous reliability, or what is now being called generalizability, work be done on these indicators to try to identify the different sources of error that influence indicator scores and the extent to which measurement error is conditioned by the type of institution.

There has been a lot of focus on private and public institutions. That split is intuitively a very obvious split, but there might be some dimensions which we are ignoring now, which need to be taken into consideration. The sample may need to be broken on those dimensions because the estimates that we get are not invariant across those characteristics. By invariant across those characteristics, I mean the indicator does not have the same meaning in public institutions as it might have in private institutions. There may be other similar breaks in institutional type that would render our indicators invalid when we are interested in comparing indicator values that cross those types.

The only justifiable basis for grouping indicators into categories once data is available--conceptually you can do it before the data arrives--is if the correlations among indicators within the category are higher than the correlations of those indicators with indicators in other categories. I did not see any evidence for that in the presentation. But as Doug Collier mentioned, there is interest in applying factor-analysis or multidimensional scaling. Either would allow you to get some indication of the extent to which the grouping of indicators is empirically a sound procedure.

Continuous vs. Dichotomous Variables

One problem with the study, which was also the problem I raised with the Lupton and Augenblick study, is that we would like to think about financial condition as a continuous variable, not a dichotomous variable. I think some of the people who made representations today alluded to the fact that it is not necessarily a discrete kind of thing, you do not reach a point where all of a sudden you are financially in trouble--where if you had ten dollars more you would have been financially all right. It is a continuous variable.

Sources of Error in Ratios

Lastly, ratios are very sensitive devices. And as I have listened to Kent Halstead for the last three times that I have heard him speak--he has a way of thinking, a paradigm, which I think would be very useful. When anybody presents him with an indicator he immediately reverts to thinking about ways that it might not tell you what you think it is telling you, which is an armchair way of looking at different sources of error. I think these indicators are very error-ridden; a fruitful activity would be to attempt to identify the different sources of error which operate on the indicator scores. I would suggest that a ratio brings two potential sources of error. The error associated with both the variables present in the ratios can run up that error count very quickly. Thinking about the whole problem of error and how we can estimate error is a very useful way of thinking about the whole range of reliability and validity issues, because they all revolve around the notion of different sources of error in our indicators. A useful activity might be to develop a taxonomy of sources of error for these kinds of measures.

FINANCIAL ANALYSIS: THE FIRST STEPS

Nathan Dickmeyer
American Council on Education

A good analysis of the financial condition and prospects of a college or university can help guide policy decisions about tuition levels, salary increases, staffing levels and endowment payout rates. Financial analysis can also provide early warnings of approaching crises. These analyses typically begin with budget item projections from historical or logically based rates of growth and lead to an examination of various budget proportions and comparisons with similar institutions.

This effort blends the data-gathering workbook being put together by Bryn Mawr College and the computerized financial trade-off analysis of Stanford University.[1] Our goal is to develop a pencil (and desk calculator) approach to financial analysis for a small school which approximates the sophistication of Stanford's analysis of available financial options. This paper briefly describes the data needed for the analysis and the "problem finding"[2] necessary to begin the analysis. The detail of the analysis has been made into a workbook and is now being tested.

Data Gathering

The data necessary for careful analysis must be brought together from many sources and in many forms, including:

A. Cost of Function. The Higher Education General Survey (HEGIS) asks for expense data in this form, at least in gross categories like instruction, research and student services.

1/ The comparative financial analysis project at Bryn Mawr is directed by Margaret Healy, Treasurer, and funded by the Ford Foundation. Carol Van Alstyne, Hans Jenny, Richard Ramsden, and Nathan Dickmeyer have served as consultants to to the project.

A description of Stanford's work is available in Dickmeyer, Hopkins and Massy, "Trades: A Model for Interactive Financial Planning," NACUBO Business Officer. (March 1978): 22-27.

2/ Pounds, W. F., "The Process of Problem Finding," Industrial Management Review (Fall 1969): 1-19.

B. Cost of Objects. Data in this form would include all administrative salaries, all supplies and all equipment. Having data available in object form makes projecting future costs easier. Most cost series trend data (e.g., Halstead's Higher Education Prices and Price Indexes 1/) are based on object costs.

Object data provide a good vehicle for cost control. Policies for average salary increases, travel or equipment are sometimes easier to monitor than total program costs.

C. Marginal Costs and Revenues. What is the cost of a change? Given the real probability of changing numbers of students or faculty, or changing tuition or salary levels, what is the full impact of these changes? What is the total incremental cost of adding a faculty member including salary, benefits, library costs, secretarial costs, etc.? What would be the net gain of adding 100 students? This calculation reduces the tuition revenue gain by the projected increases to institutional student aid, to library costs and to student services costs.

D. Budget vs. Expense Data. In institutions where controls successfully keep expenses near to budget figures and where yearly budget changes are thoughtfully incorporated to make sure that budgets are not merely recognitions of expenditures faits accompli, we recommend the use of budget data. Budget data are immune to the one-time "accidents" of expenditure or income which are easily corrected the following year and which should not be included in any projection calculations. Second, the data are timely. In general, a good budget for any year is available one or two years before good expense data. However, where budget data are not available, or where budgets are sham concoctions of guesses about what powerful budget officers will actually do, expense data are best used.

E. Projections. With the data above, projections should be made using these rules.

1. If no policies or information exist about future levels of a budget item, simple mathematical projections should be done. At Bryn Mawr we have projected using the weighted average of historical growth rates with four to five years of data. The weights imply a 50 percent gain in relevancy for each succeeding year.

1/ Halstead, D. Kent, Higher Education Prices and Price Indexes, DHEW Publication No. (OE) 75-17005, 1975.

2. If better information is available, historical trends should be ignored. In California, the cost of utilities can be predicted using rainfall estimates and natural gas availability estimates. Historical trends (which include drought years) produce poor estimates. Also, gift income can be better estimated from pledge counts and knowledge about the ebb and flow of gift campaigns than from historical trends.

3. If policies exist, for example, that tuition or salaries should follow the estimated consumer price index (CPI), then these figures should be used for projections rather than historical averages. Part of the analysis, of course, will be to vary these figures in a search for the policies which best produce the desired financial balance. However, as a starting point, policies (or even nonpolicies[1] --practices which simply "are" even though some control may be possible) should be explicitly recognized in the projection.

F. Aggregation. At this point the decision maker is probably inundated with numbers, and, if non-computer analysis is going to be possible, some simplification must occur.

1. Lump together all those individual numbers which may be covered by a single policy--all administrative salaries (both student service and general), all fringe benefits, etc.

2. Lump together nonpolicy items whose costs or revenues may be growing similarly and can be covered by a single, approximated growth rate -- all equipment, all contracts including fire, police, custodial, etc.

II. Problem Finding

With the data assembled as above, some quick checks are possible.

A. Growth Rate Imbalance.

Applying the appropriate growth rate to each expense and income item (the endowment income projection is more complex but has been described in the workbook), the total dollar growth of

1/ Bachrach, P. and M. S. Baratz, Power and Poverty, New York: Oxford University Press, 1970.

expense and income can be calculated. If the new dollars of expense exceed the new dollars of income (and they usually do) an examination of the policies reflected in the analysis is warranted. Specifically, income growth rates (e.g., tuition) may need to be raised, or planned expense increases (e.g., salaries) may need to be cut back. The urgency of the problem is dictated by the size of the increasing deficit each year. Another option is to undertake cost cutting campaigns to make one-time reductions of higher growth sectors of the budget, thus bringing down the overall average growth of expenses.

B. Asset Depletion.

1. Endowment. Is the endowment forecasted to continue to provide the same share of income to the budget? In other words, is the value of the endowment growing as fast as expenses?

2. Is maintenance expenditure per square foot of space keeping abreast of needs?

3. Are current assets providing the same cushion as before, or does there seem to be a movement (not necessarily bad) toward a precarious cash position? (Is it getting harder and harder to send in that bi-weekly social security check?).

C. Control Indicators.

The projected growth rates are useful as indicators of past policy, because they summarize in one number the behavior of a financial item over several previous years. From these numbers one can detect the inefficiency of a budget control system, for example, expense growth far above the CPI (especially when calculated per student). Likewise, partial control may be evident. Salaries may show careful budget control while other expenses may have been allowed to run wild. Certain income items may show neglect at a time when diligence is needed.

D. Quality Shifts.

What is the projected student/faculty ratio? Are administrative costs swamping instructional expenditures? Have policies forced library acquisitions (in volume not dollar terms) to fall? What is the projected cost of enrolling a student (e.g., has quality and reputation slipped such that the scholarship, recruiting and admissions cost per new enrollee has skyrocketed)?

III. Analysis

A. Growth Rate Analysis.

With Bryn Mawr College data, we have been able to outline some of the policy options necessary to bring expense and income growth rates into line. Single changes like the necessary yearly increase to tuition are easy to calculate by substitution. Simple algebra allows the graphing of two-variable options like the amount of increased tuition growth against necessary decreased faculty salary growth.

B. Asset Depletion.

Payout policies were tested by simple substitution to find the best rate to ensure the continued effectiveness of the endowment.

C. Control Indicators.

Bryn Mawr has shown good salary budget control and excellent attention to fund raising. The growth of a number of nonsalary expenses may be worth investigating according to the analysis.

D. Quality Shifts.

This analysis is incomplete.

IV. Conclusion

The workbooks for data gathering and analysis have two potentials. First, administrators may find problems and explore policy options. Second, they may become familiar enough with this style of analysis to begin to computerize the projections, aggregations and policy option exploration. Without this preliminary work, the computer approach can be too threatening and "Black Box." Doing the analysis by hand in a simplified form can make the transition to more sophisticated approaches much easier.

COSTING CONCEPTS, METHODOLOGIES, AND USES

David I. Carter
The University of Alabama System

This paper presents a brief discussion of costing concepts, methodologies, and uses and a review of a specific instance in which cost data was used to evaluate an institution's operations and determine its level of funding.

Value of Costing

Costing has been higher education's "moon shot." It is possible that higher education will spend a minimum of $10 million for costing in the current fiscal year. Higher education has probably spent more than $500 million for costing in the past 50 years.

But despite these expenditures, "costing" has yet to be made an effective administrative tool. Most of the work in the field of costing is on how to do it--and not on how to use the output of costing. Furthermore, in general, costing efforts produce average unit data for past periods. Such data are of value in looking at the future only if (a) they are normative and (b) the exact circumstances and conditions reoccur, neither of which is likely. But despite these stated shortcomings of costing, benefits have resulted:

- By doing costing, higher education has been obliged to look at the totality of its operations.
- By doing costing, institutions are led to understand the interrelationships among their various activities.

Concepts

Higher education institutions have a pattern of life, and this pattern of life is made up of streams of activity both in the cases of revenues and expenditures (see Exhibit 1). Furthermore, within these major streams are various minor currents. For example, within public institutions, state appropriations are generally received at the beginning and for certain intervals of the fiscal year, while tuition and fees are received at different times and intervals. Similarly, in the case of expenditures, salaries are paid at certain intervals while supplies and equipment are paid for at different intervals. It is the recognition of such variations and the interrelationships between them that allows for the most effective financial administration. The work currently being done by NACUBO on cost behavior recognizes this point and has the potential of being of great value to higher education institutions.

Comparable Data

The "comparability" side of costing is also being dealt with. Even when the proper kinds of cost data are in hand, it is necessary to have compatible information from institutions that are similar in nature to those being evaluated. That is to say, the effective use of cost data depends on (a) uniformly derived information and (b) similar types of activities (see Exhibit 2).

Cost Classifications

Cost data can be classified in six ways. The purpose at hand dictates the class or classes of data that should be used (see Exhibit 3). The cost classes are associated with the primary administrative functions: planning, execution, and evaluation (see Exhibit 4). There are "soft" and "hard" uses, characterized as being intuitive and direct, respectively. The accompanying exhibits reflect how cost data should be used. However, this use varies depending on politics, legislation, organizational structure, organizational level, management styles, etc.

As elusive as this general area may be, this is where the hard work in costing is needed and, indeed, costing will not become an effective management tool until real progress has been made here.

Use of Cost Data in Kentucky

The Council on Higher Education in Kentucky recently established a policy regarding the use of cost data. The policy provides that cost data will be used by the Council (1) to set tuition and fees, (2) for broad planning, and (3) to respond to various legislative requests. The policy further directs the staff to actively pursue the development of cost data which could be used to recommend budgets and to evaluate programs among Kentucky's eight institutions. Finally, the policy states that cost data should be used for the detailed distribution of funds and to control activities only at the institutional level.

In response to the Council's direction, the staff has for two years coordinated for all institutions a very detailed cost analysis generally following the approach established by NCHEMS's Information Exchange Project. However, since this approach produced primarily average historical costs, efforts are being undertaken to modify the study so that in the future it can deal with such matters as fixed and variable cost and incremental costs. The staff felt that this step was necessary if the data were to be an effective tool for budgeting and program evaluation.

Cost data has been used to evaluate and determine the funding of one of Kentucky's state universities. The approach used was to compare that institution with five of its sister institutions. The process consisted of first determining whether or not a selected

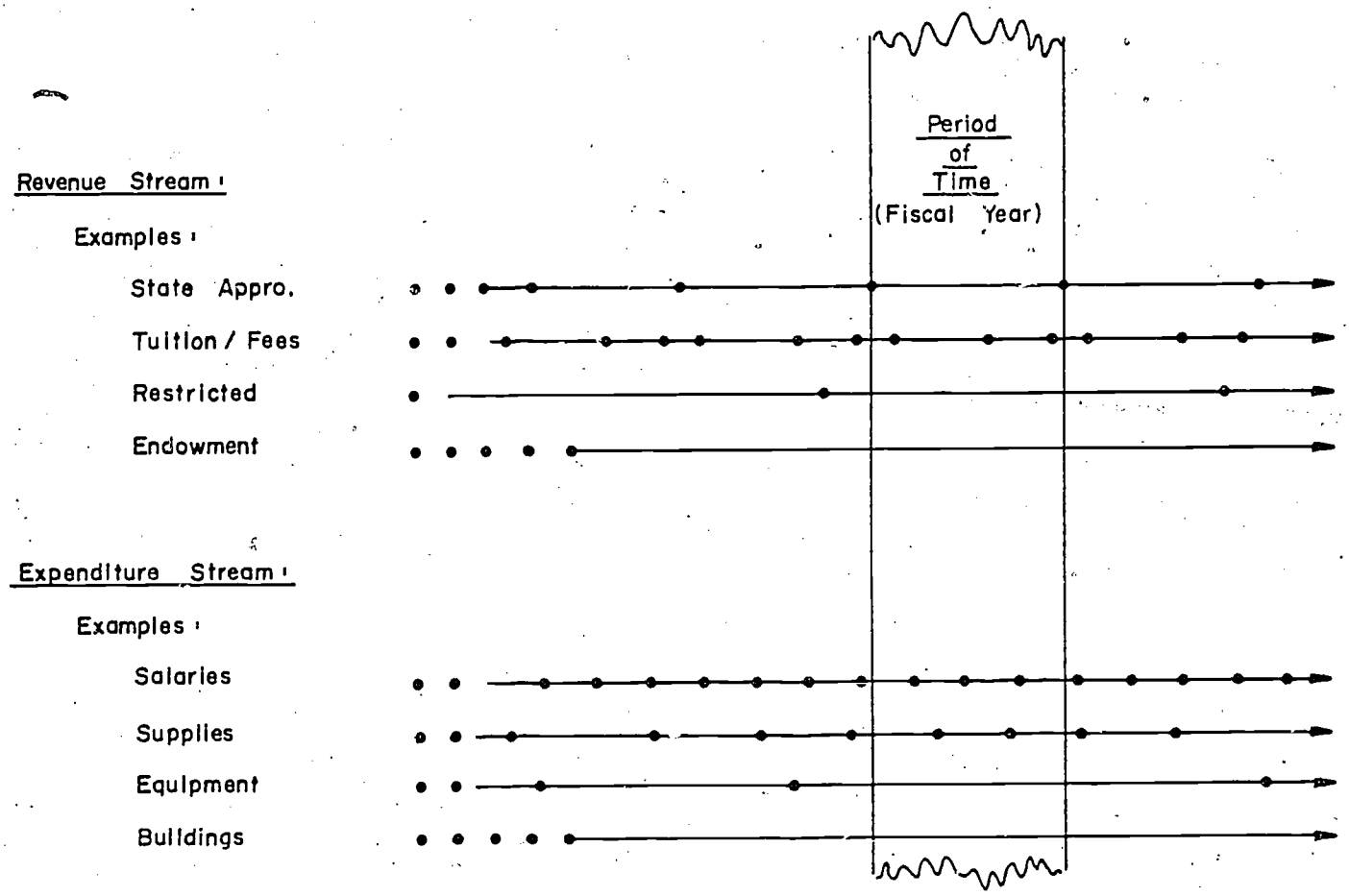
institution was comparable. This was done by looking at its size (enrollment, total expenditures, plant value, etc.) and by looking at the relative proportion of effort that it had in instruction, research, public service, etc. As a second step (see Exhibit 5), the total direct cost and state support per student-credit-hour, by academic discipline, by academic level was analyzed (see Exhibit 6). Third, the support cost per dollar of credit-hour instruction was reviewed (see Exhibit 7). The summarized findings of these various analyses are provided in Exhibit 8.

Exhibit 9 addresses the conditions contributing to instances of relatively high cost at the institution. It is highly inappropriate to conclude that an institution's cost is high or low based on one or two statistics, e.g., total expenditures per student or total state support per student. Such figures hide much more than they disclose. Referring to the above example, it can be seen that while total figures imply high cost, a detailed examination disclosed that costs were not high in all areas, and that in several areas in which they were high, such costs were justifiable. This examination also served the institution by pointing out where high costs were apparently not justifiable and suggesting areas for reducing these costs.

In conclusion, people that produce and use cost data must go this extra mile if the cost data are to be administratively effective.

Exhibit 1

What Is "Costing"?
(An Adjusted Time Photograph)



Presumption: The Institution is a "Going Concern".

Exhibit 2

COMPARABLE STATE GROUPS*

Group 1:	Hawaii Nevada	Group 8:	Illinois Indiana Ohio Pennsylvania
Group 2:	California New York	Group 9:	Connecticut Massachusetts New Jersey Rhode Island
Group 3:	Iowa Kansas Nebraska	Group 10:	Minnesota Vermont Wisconsin Wyoming
Group 4:	Georgia Texas Virginia	Group 11:	Delaware Maryland Michigan Washington
Group 5:	Louisiana New Mexico Utah	Group 12:	Alabama Arkansas Kentucky Mississippi North Carolina South Carolina
Group 6:	Arizona Colorado Florida		Tennessee
Group 7:	Idaho Montana South Dakota	Group 13:	Maine Missouri New Hampshire Oklahoma Oregon West Virginia

*Alaska and North Dakota did not group with any other state at the comparability level established.

STATE CHARACTERISTICS OF COMPARABILITY

SOCIAL CHARACTERISTICS

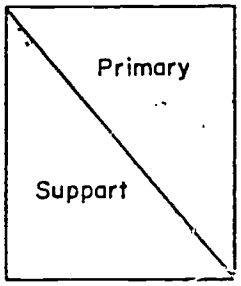
1. State Population
2. Percentage Increase in Population (10 year period)
3. Population per Square Mile
4. Per cent of Population Living in Urban Areas
5. Per cent of Population over 21

ECONOMIC CHARACTERISTICS

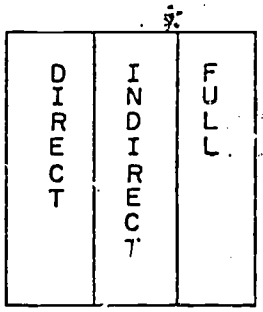
1. Per Capita Personal Income
2. Percentage Change in Per Capital Income (10 year period)
3. Personal Income
4. Percentage Change in Personal Income (10 year period)
5. Per cent of Population below Poverty Level
6. Unemployment Rate of Civilian Labor Force
7. Total Farm Income as per cent of Personal Income
8. Wages and Salaries in Manufacturing as per cent of Personal Income
9. General Revenue per $1,000 of Personal Income from State's own Sources
10. Per capital Revenue of State and Local Governments from State's own Sources
11. Per capital Tax Revenue of State and Local Government
12. Per capita General Expenditures

Exhibit 3

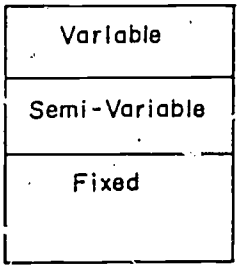
COST CLASSIFICATIONS



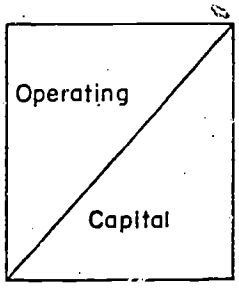
1. Activity



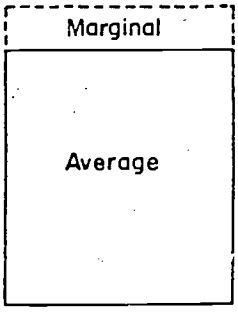
2. Traceability



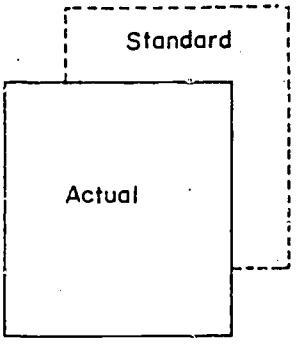
3. Variability



4. Longevity



5. Mathematical Methodology



6. Performance

APPROPRIATE CLASS DETERMINED BY USE

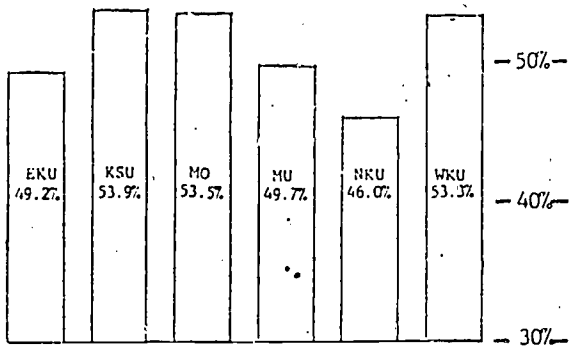
Exhibit 4

USES OF COST DATA

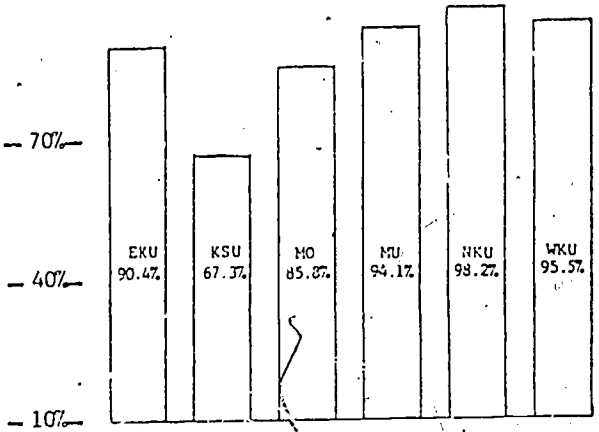
	Planning ("soft")			Execution ("hard")		Evaluation ("soft")
	Academic	Capital	Financial	Direction	Control	
1. Activity						
a. Primary	x		x	x	x	x
b. Support		x	x	x	x	x
c. Full			x			x
2. Traceability						
a. Direct	x	x	x	x	x	x
b. Indirect			x			x
c. Full			x			x
3. Variability						
a. Variable	x		x	x	x	x
b. Semi-variable	x		x		x	x
c. Fixed		x	x			x
4. Longevity						
a. Operating	x		x	x	x	x
b. Capital	x	x	x			
5. Mathematical Methodology						
a. Average	x		x			x
b. Marginal	x	x	x	x	x	x
6. Performance						
a. Actual				x	x	x
b. Standard	x	x	x	x	x	x

Exhibit 5

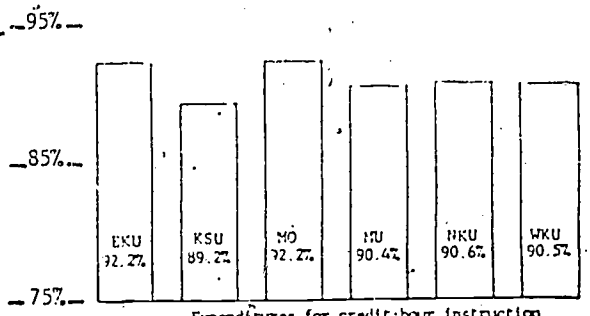
Percentage Relationships from the 1975/76 Cost Study



Instruction, Research and Public Service Expenditures as a percentage of Education and General "Operating" Expenditures



Instruction expenditures as a percentage of primary program expenditures



Expenditures for credit-hour instruction as a percentage of expenditures for total instruction

Exhibit 6

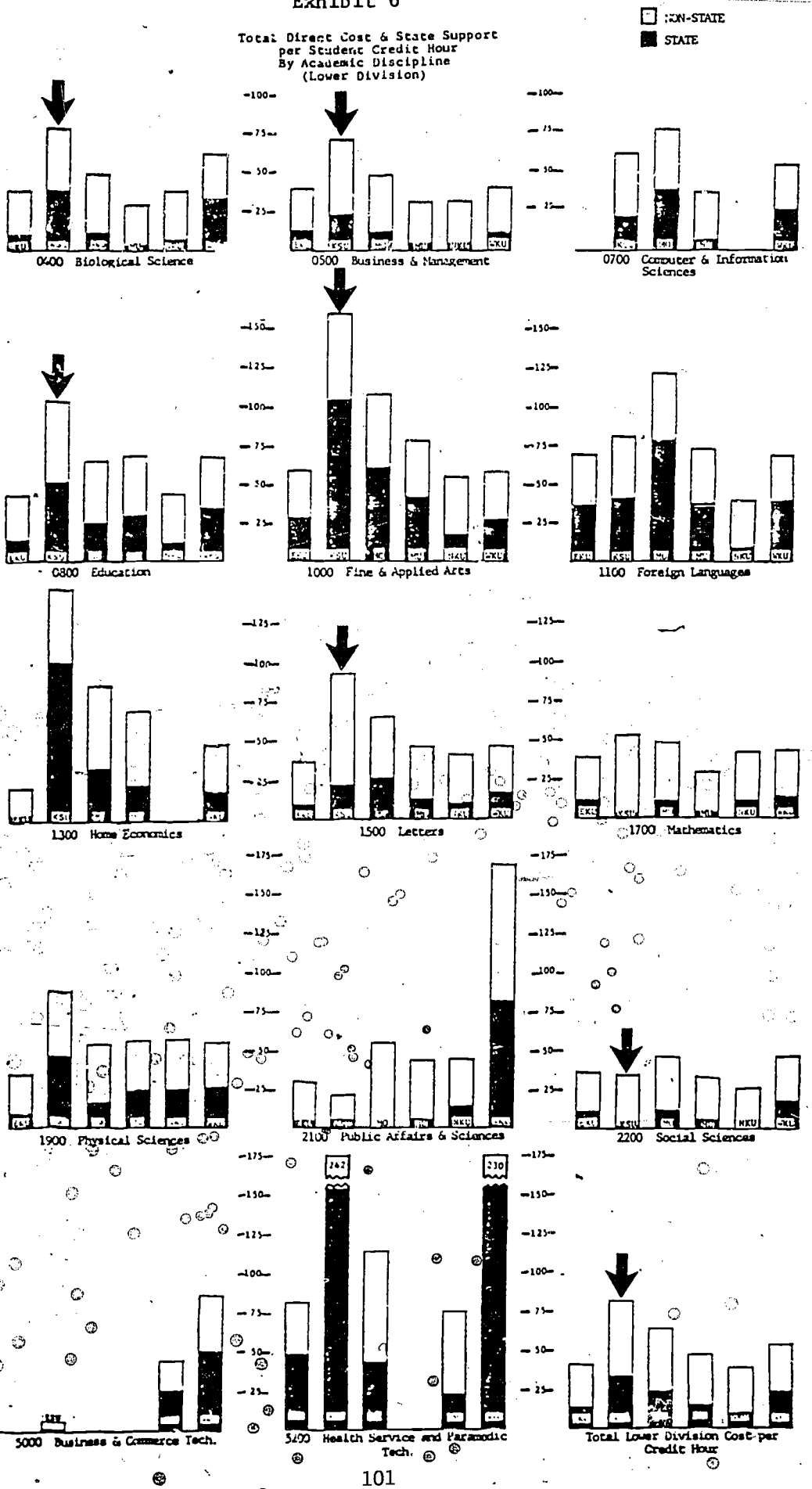

Total Direct Cost & State Support
per Student Credit Hour
By Academic Discipline
(Lower Division)
NON-STATE
STATE
0400 Biological Science
0500 Business & Management
0700 Computer & Information Sciences
0800 Education
1000 Fine & Applied Arts
1100 Foreign Languages
1300 Home Economics
1500 Letters
1700 Mathematics
1900 Physical Sciences
2100 Public Affairs & Sciences
2200 Social Sciences
5000 Business & Commerce Tech.
5200 Health Service and Paramedic Tech.
Total Lower Division Cost per Credit Hour

Exhibit 7

Support Costs Per Dollar
of
Credit Hour Instruction

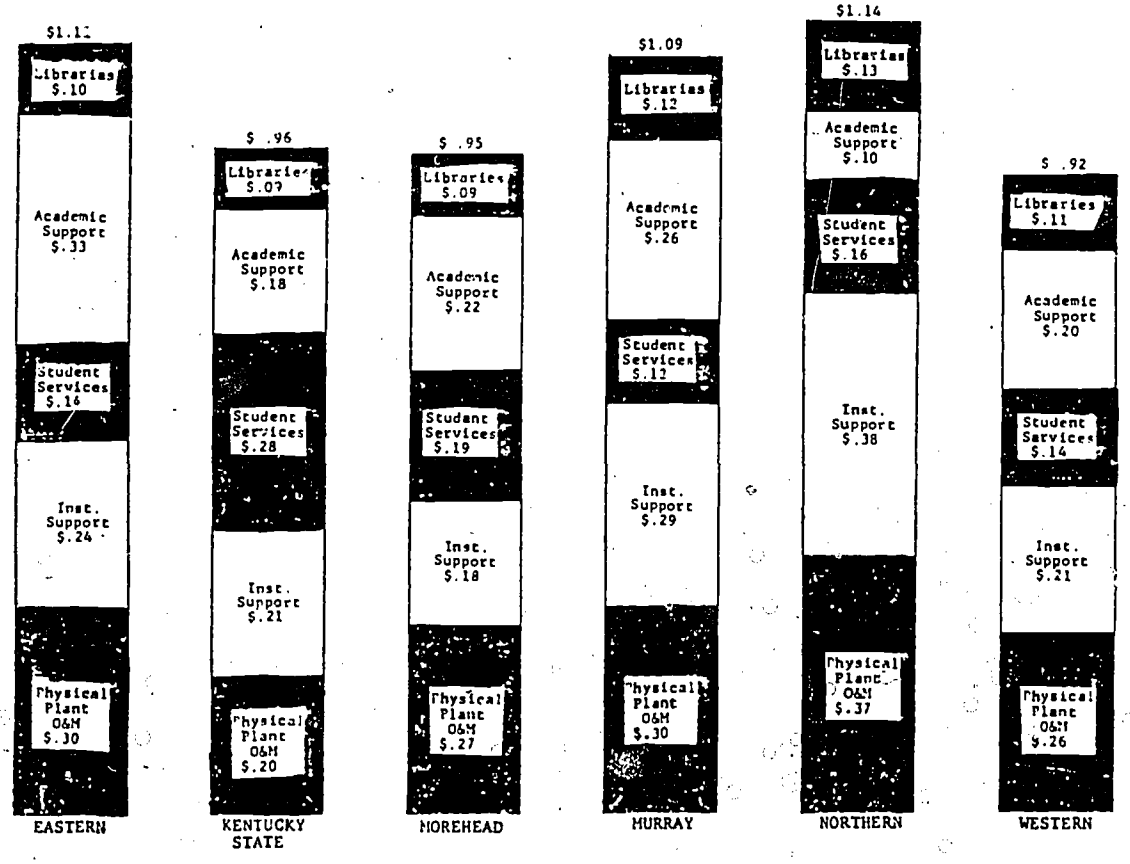


Exhibit 8

SUMMARIZED FINDINGS

		STATE	OTHER	TOTAL
I.	Direct Instructional Costs/SCH			
	A. Lower Division-Undergraduate			
	Biological	High	High	High
	Business & Management	High	High	High
	Education	High	High	High
	Fine & Applied Arts	High	High	High
	Letters	Medium	High	High
	Social Sciences	Low	Medium	Medium
	Total	High	High	High
	B. Upper Division-Undergraduate			
	Education	High	High	High
	Fine & Applied Arts	High	High	High
	Letters	Medium	High	High
	Public Affairs & Sciences	High	High	High
	Social Sciences	Medium	Medium	Medium
	Total	High	High	High
	C. Combined Disciplines/Levels	High	High	High
II.	Support Costs/FTE Student			
	A. Libraries			High
	B. Student Services			High
	C. Physical Plant O & M			Low
III.	Support Costs/$ of Credit Hour Instr.			
	A. Libraries			Low
	B. Academic Support			Low
	C. Student Services			High
	D. Institutional Support			Medium
	E. Physical Plant O & M			Low
IV.	Support versus Primary Programs			
	A. Libraries ÷ Instruction			Medium
	B. Student Services ÷ Instruction			High
	C. Academic Support ÷ Primary Programs			Low
	D. Institutional Support ÷ Primary Prog.			Medium
	E. Physical Plant O & M ÷ Primary Prog.			Low

		Instate	Out-of-State
V.	Tuition as % of Full Costs		
	A. Lower Division	Low	Low
	B. Upper Division	Low	Low
	C. Graduate	Low	Low

Exhibit 9

CONDITIONS CONTRIBUTING TO INSTANCES OF HIGH COST AT KSU

High Direct Unit Costs in Selected Disciplines

- Low Enrollment
- High Attrition of Lower Division Students (?)
- Proliferation of Student Majors (?)

High "Student Services" Costs/Student

- Student Services Administration
- Student Counseling
- Financial Aid Administration

High "Library" Costs/Student

- Low Enrollment

OTHER KEY POINTS

Expenditures for Instruction, Research and Public Service Compare Favorably With Other Regional Institutions

Expenditures for Support Programs As a Whole Compare Favorably With Other Regional Institutions

THE POTENTIAL OF A SHARED MODELING SYSTEM FOR MEASUREMENT OF COMPARATIVE FINANCIAL CONDITION [1/]

by Daniel A. Updegrove
EDUCOM

At least three related rationales can be identified for measuring the comparative financial condition of colleges and universities. The first is the natural curiosity among institutions competing for some of the same students, faculty, and resources, as each institution examines its inputs and outputs in an ongoing quest for better management and a competitive edge. The second is the need for criteria by which to measure the effects on educational institutions of current and proposed public policies. (The Lupton, Augenblick, and Heyison research published in Change (September 1976) was motivated by the deliberations of the Booher Commission in New Jersey.) Finally, several institutions have recently closed, and scores of others perceive themselves to be in a state of financial crisis. For these institutions, comparative measures might provide (1) objective criteria by which to measure the crisis and (2) patterns to ensure institutional survival.

A wide range of research is being brought to bear on this important subject, as documented in the ACE Financial Measures Project publications and in these conferences. Although progress has certainly been made since Earl Cheit's first warning of the "New Depression," it seems fair to conclude that most educational administrators do not believe that measures relevant to their institutions have been devised. This conclusion is not too surprising, since there is such a diverse range of colleges and universities, and since relatively few institutional planners and decision makers have been involved in the research to date.

Financial Planning Models

Until recently, similar criticisms could have been made about financial planning models for higher education. Models such as HELP/PLANTRAN and SEARCH, CAMPUS, and RRPM, were judged to be, respectively, too simple or too complex to be useful for a variety of institutions. These models were constructed primarily by outside consultants and agencies with little input by institutional decision makers, and they were by and large uniform and static, with little flexibility for individual variations and changes. Thus, despite the clear-cut need for a tool to monitor changes in external conditions and to examine alternative policies, the fixed planning models were found wanting.

1/ The research and development reported in this paper were supported by the Lilly Endowment.

A different modeling strategy, developed at Stanford, has achieved notable success for financial planning, and may hold promise for comparative financial health measurement as well. Massy, Hopkins, and Dickmeyer built a planning model of Stanford University (TRADES) which was tailored to Stanford, understood and amended by key decision makers, and interactive, that is, operated from a time-shared computer terminal. As such, it has informed Stanford financial policy for the last three years. 1/

EDUCOM, in turn, has taken the Stanford-specific content out of TRADES and produced a modeling system known as EFPM, for EDUCOM Financial Planning Model. With EFPM, each institution using the model provides as input data not only the values of key variables, but also the content of the variables, their names, their interrelationships, and their order in output reports. Thus, each institution builds a model from the ground up, subject only to a limit of 560 variables.

The EFPM Users Group

EFPM is already in use at Carnegie-Mellon, Colgate, Harvard, Oberlin, Purdue, Virginia, and Yale, and will be used shortly at Boston College, Brown, Butler, Cornell, Cuyahoga Community College, Louisville, Mills, New York University, Princeton, Rochester Institute of Technology, San Jose State, Smith, Stanford, and Wooster.

One reason for the rapid adoption and use of EFPM has been the delivery mechanism. Rather than send the program on tape to be run (or converted to run) on a local computer, EDUCOM makes EFPM available over a nationwide dial-in network on a central computer at Cornell University. Each user has instantaneous access to the most up-to-date version of the program (via local or short-distance telephone call to one of 200 cities in the U. S. and Canada hooked into the telephone access network).

Network delivery also facilitates the emerging Users Group. Individual users can send and receive on-line messages and "electronic mail." They can easily transmit data, submodel specifications, and results, either from terminal-to-terminal or via the high-speed printer and mailing service at Cornell. And, of course, they can communicate questions and suggestions to the EFPM staff. Could this combination of a flexible modeling language, highly motivated and trained model users, and a computer network be used to research and develop comparative health measures? We believe this can be done, and an informal poll of EFPM users supports this belief.

1/ W. F. Massy. "Reflections on the Application of a Decision Science Model to Higher Education." Decision Sciences, Vol. 9, April 1978, pp. 262-69; D. S. P. Hopkins and W. F. Massy. "Long-Range Budget Planning in Private Colleges and Universities." New Directions for Institutional Research, Vol. 13, Spring 1977, pp. 43-65; N. Dickmeyer, D. S. P. Hopkins, and W. F. Massy. "TRADES: A Model for Interactive Financial Planning." Business Officer, March 1978; W. F. Massy and D. S. P. Hopkins. Planning Models for Colleges and Universities. Palo Alto: Stanford University Press (in press).

Comparative Measures in Modeling

The starting point for comparative modeling is the identification of subsets of comparable institutions. Current EFPM sub-groups include major research universities (Cornell, Harvard, Princeton, Stanford, and Yale), and small selective private colleges (Colgate, Swarthmore, and Smith). The institutions within each sub-group would then have to agree on several quantitative health measures to be built into their financial models. Although definition and interpretation difficulties abound, some institutions are already making use of inter-institutional measures such as average faculty compensation and faculty compensation per student. 1/

The common measures could then be coded into the EFPM format and calculated in the course of forecast and tradeoff operations. The comparative measures should "track" with the assumptions and additional outputs of the model, and with each other. However, a set of suggested health measures might prove to be mutually inconsistent or unrelated to the health indicators previously used at the institutions. For any institution, however, subjecting a set of health indicators to a range of exogeneous and policy inputs in a model could be a useful way to test, calibrate, and refine the measures.

Assuming that the institutions find several of the measures valid, summary measures like base-year means and medians could be stored in on-line data files accessible to all EFPM users. Alternative forecasts for any institution could then show the institution's relative standing with respect to its peer group. Finally, the comparative measures, or even the comparative standings, could be used as constraints to define feasible forecasts; and as targets for feasibility searches and tradeoffs. Thus, one must ask, "What combinations of tuition growth and faculty salary growth would put our institution in the top half of the reference group?"

Comparative Modeling

In contrast to the micro-formulation proposed above, one could also consider more macro-questions about modeling at the institutions. These macro issues include the choice of primary planning variables, the level of aggregation of variables, and the specification of the model and its submodels (if any), in addition to such extra-model issues as the location of the modeling within the formal organization, the prime mover(s) behind the modeling effort, and the effects of the modeling-on-decision making. We already see a lively interest

1/ Two of several indices in a recent report by Swarthmore, comparing current position to a reference group that includes Amherst, Bryn Mawr, Colgate, Haverford, Oberlin, Pomona, Wellesley, Wesleyan, and Williams.

in these comparative questions among EFPM users. 1/ One of the advantages of allowing each modeler to start with a blank slate is that many original formulations are proposed; of course the corresponding advantage of using a common system is that the formulations are all comprehensible to other users. Although poorly understood at present, we believe that the study of comparative modeling will yield important insight into higher education finance and administration.

Substantive Postscript

One observation supported by both the Stanford and the EFPM research is that the primary planning variables are more likely to be growth rates than level variables. Therefore, we would expect important progress to be made by focusing on comparative analysis of change, rather than strictly on ratios and the like calculated for any given year. Indeed, one of the prime values of modeling is the recasting of financial problems from yearly budget "bailouts" to intermediate term equilibrium.

1/ These organizational and political issues surrounding modeling are one focus of an eighteen-month EDUCOM development and evaluation project recently funded by the Lilly Endowment.

GOVERNING BOARDS AND THE FINANCIAL CONDITION OF THEIR INSTITUTIONS

by

K. Scott Hughes
National Association of College And
University Business Officers

A college or university governing board is charged with the ultimate responsibility for maintaining the financial viability of the institution. This responsibility includes a number of competing and conflicting goals. These include such issues as:

- program improvement vs. inflationary pressures
- tuition stablization vs. faculty salary increases
- present student needs vs. future student requirements

These trusteeship responsibilities have been given to a group of lay persons who are mostly inexperienced in higher education administration and who meet as infrequently as twice a year.

Such a situation requires exceptional communication between the institution and its governing board. This presentation highlights how to best keep board members informed and give them the opportunity to direct the destiny of their institution. The material is contained in a monograph[1/], sponsored by the W. K. Kellogg Foundation and produced by the Association of Governing Boards (AGB) and the National Association of College and University Business Officers (NACUBO). The monograph is to be published in March 1979.

Financial Information for Governing Boards

One purpose of the monograph that NACUBO and AGB has produced is to suggest how financial information should be presented to the governing board. Instrumental to the presentation of such information is an efficient communication system, which ultimately depends on the relationship between the board and the institution. The key persons in this relationship are the chairperson of the governing board, chairperson of the finance committee (if there is one), and the president and the chief business officer of the institution. Close cooperation among these persons is essential for financial information to flow freely in both directions.

1/ Financial Responsibilities of Governing Boards of Colleges and Universities (Washington, D. C.: Association of Governing Boards of Universities and Colleges and National Association of Colleges and University Business Officers, 1979).

A clear statement of board organization and of how the board should function is important. The organization of the institution should also be clearly defined and the authority and responsibilities delegated to the president should be well documented. The officers of each major unit, usually vice-presidents, should have an understanding of their roles and responsibilities with regard to the board as a whole and to its committees.

How the board is organized is less important than having clearly defined responsibilities for board members and having a board that is dedicated to the academic and financial success of the institution. The board must rely on the president to initiate the management process, but because of its position, the board has the ability to provide the following:

1. Strong leadership. Since the board typically has ultimate responsibility for the financial well-being of the institution, it is in a position to encourage establishment of sound financial management systems.

2. Different perspectives. Governing board members have broad and diverse knowledge of many kinds of organizations; such knowledge affords valuable perspectives for colleges and universities.

3. Resources for the future. Because the board is insulated from routine operations, it can focus on the future of the institution. One of its primary responsibilities is to make decisions and to take actions that will protect and enhance the institution's resources for the use of future students.

This approach to overseeing the institution's affairs involves board responsibility at three levels of the management process:

1. Approving institutional mission, goals, and policies.
2. Reviewing institutional activity.
3. Evaluating institutional performance in meeting objectives.

To carry out these functions effectively, the governing board requires different kinds of information and should devote different amounts of time to each. Primary attention should be directed to reviewing and approving mission, goals, and policies. With clearly defined objectives, review and evaluation can focus on major problems, requiring less time.

Kinds of Financial Information

The way in which financial information is presented to the governing board depends on the purpose of the information and on what action the board is required to take. For example, such infor-

mation can range from a routine report on new gifts received to a complex presentation of the long-range plan, involving many participants, visual aids, and long discussion.

Financial information can be separated into three broad categories:

1. Routine and periodic financial reports. Communication for this purpose is generally in one direction: from the institution to the governing board. It may include reports on gifts received, new faculty appointments, and single purchases above a given dollar amount. The board is generally asked to ratify these matters, and little discussion is required.

2. Presentations requiring board discussion. Communication in this case involves active participation of both parties. The administration makes a presentation, with recommendations to the board, for eliciting the board's judgment and ultimately its approval. Such matters as policy formulation, long-range planning, budgeting, and the purchase and sale of real property require this type of exchange.

3. Background reports. The board should be given reports describing the environment in which the institution operates. Such reports are for information only, and no action is expected to be taken on them; their purpose is to provide background material for decisions to be made at subsequent board meetings. This kind of information addresses the need for the board to examine and understand change, and thus to help the institution adjust to changes in the environment. It does not focus on any particular function, such as budgeting, or on any operating unit. Rather, it is provided because the board should be kept informed of happenings that may affect the institution and thereby its finances. The information presented may indicate trends that would lead the board to ask for more details. A corollary purpose of this kind of information is to prevent the board from being surprised when events occur that require a change in plans or operations.

The governing board and the institution's officers have the combined responsibility of designing a communication system that groups financial information in a manner that meets the board's needs. This can be accomplished by jointly identifying those subjects requiring only routine reporting and those focusing on more complex issues requiring the judgment and approval of the board.

Cycle of Financial Reporting to the Board

Issues taken to the board in a logical sequence and related to previous and future issues will give the board a further awareness of the time span and frame of reference for the decisions at hand. For example, the planning and budgeting process is continuous. This means that the sequence for establishing the plan, adopting a budget, and continually reviewing performance in meeting objectives should be well defined, with a clear understanding of the specific issues to be brought to each board meeting.

The governing board and the institution's administrators should jointly develop a calendar of decision issues that lists items to be presented to the board. Such a calendar provides continuity and stability, but administrators must balance the routine with the dynamic. Not all issues to be presented fit neatly into a planning calendar; the board and administrators should establish a management approach that can respond in a timely manner to issues of immediacy. Even in urgent cases, care must be taken that the decision issue has been well defined and analyzed, with only well-considered recommendations presented.

Context for Financial Planning and Management

As part of the context in which financial decisions are made, governing boards often discuss such issues as the institution's financial strength and stability, a changing student clientele, collective bargaining, demands for accountability, and inflationary pressures. However, it is important that they understand how these issues interact in their effects on the institution and that they consider these effects as part of the planning and management process.

The following questions should be asked:

1. What is the institution's current overall condition, and is the institution moving in a desirable direction?

2. What factors in the external environment might affect the institution?

Both questions should be examined in their relation to the mission. The governing board should know the answers prior to the conducting the long-range planning and budgeting process. An annual report can be prepared which provides an up-to-date context for both planning and budgeting decisions, including (1) an assessment of the current overall condition of the institution and the direction in which it is moving, with particular emphasis on how the past year's operations affected that direction, and (2) a list of environmental factors expected to have (or that are now having) significant effects on the institution.

Overall Condition and Institutional Direction

Ideally, every college and university moves in a direction consonant with its mission. Each time the institution accepts a new class of freshmen, the kinds of students it accepts have a significant effect on what the institution is and where it is going for at least the next four years. (For example: Do the students require financial aid? Are they academically strong or weak?) The hiring of faculty members and the granting of tenure can affect the institution for many years into the future.

It has been argued that no one person or governing board actually changes an institution. Rather, the board and the president, with the participation of the faculty, lead the institution in the direction it should go as decisions regarding change are made. Perhaps the most obvious way to lead an institution is to decide where, and in what ways, changes are to be made in program and personnel. But even in a more or less steady state, decisions (not necessarily changes) are made every day that affect institutional direction. Colleges and universities inevitably change, and the direction of that change is a legitimate concern of the board.

To analyze overall condition and institutional direction, more than financial data is required. It is just as important to know that the "demand" for the institution's services remains strong (or, from the institution's perspective, that it has sufficient "drawing power") as it is to know that the balance sheet reflects a better financial condition each year. Some of the factors which may be used to analyze condition and direction of movement are drawing power, the learning environment, financial strength, and the outcomes of the educational process.

External Influences

In addition to considering overall condition and institutional direction, a second topic to be considered in establishing the context for planning and management relates to the effect of the external environment on the institution. Current environmental factors affecting colleges and universities include general economic conditions, increasing inflation, more demands for accountability, changing national and regional enrollment patterns, energy costs, collective bargaining, government regulations and reporting requirements, and a leveling of financial support.

Most governing boards are aware of these external factors, which should be understood in the context of opportunities as well as constraints. The external constraints on the institution's actions are obvious, such as legal requirements and limits of financial support available, but boards should not overlook the needs and opportunities within the environment that the institution can exploit.

For most colleges and universities, needs are met and opportunities are provided through three primary programs: instruction, research, and public service. Needs and opportunities can be viewed in a framework of those programs, namely, those related to instructional programs (which the institution currently provides or has the capability to develop), those related to research capabilities and interests of the faculty, and those related to public service programs the institution conducts.

With respect to external conditions, an institution may find that a changing student clientele may result in declining enrollments of traditional students while it also creates opportunities for providing instructional programs on weekends or at night to nontraditional students; for example, retraining, licensing, certification, and other nondegree activities are increasingly required in a complex society. And while the energy crisis has raised the institution's energy costs, it has also created new educational and research opportunities.

Environmental constraints affecting the institution's freedom of action are competitive, economic, and legal. Decisions concerning the institution's pricing strategy, that is, the relation between tuition and financial aid, may be constrained by both competitive forces, such as the tuition of comparable, nearby institutions, and by economic forces, such as faculty salaries. Therefore, as part of the context for decision making, the board should understand both the opportunities and constraints that are placed on those decisions by the environment.

While the governing board needs to be aware of competitive forces, it is also important that it recognize the opportunities that exist for interinstitutional cooperation, particularly to the extent that such cooperation results in the sharing of resources or the avoidance of program duplication. In an environment characterized by increasingly scarce resources, it is essential that cooperation be as important a guiding principle as competition.

Generating Financial Resources

Colleges and universities typically rely on a variety of sources for the financial support needed to carry out their programs. Students pay for the cost of tuition, room, and board; governmental agencies provide substantial subsidies and buy services; private sources make contributions and also buy services; the institution's own funds provide investment earnings; and the general public may pay for such services as patient care or for attending athletic events (see the accompanying table). Some revenue sources, such as the payment of tuition, can usually be used at the discretion of the institution, while others can be used only for purposes stated by the provider.

Financial Resources

Source	Type of Revenue	Received Through
Students	Tuition and fees	Charge to consumer
	Room and board payments	Charge to consumer
Governmental sources (federal, state, and local)	Appropriations	Subsidy
	Grants and contracts	Reimbursement for services
Private sources	Gifts, grants, and contracts	Contribution or reimbursement for services
Institutional sources	Investment earnings	Investment of working capital and permanent funds
Sales and services	Educational activities	Charge to consumer
	Auxiliary enterprise activities	Charge to consumer

This diversity of financial resources requires a cohesive financing strategy and the development of administrative policies for providing management control in fulfillment of the institution's mission. The governing board has responsibility for approving the financing strategy and administrative policies.

The various revenue sources and their amounts are affected in part by the institution's mission, its form of governance, and its administrative policies. For example, publicly supported research universities rely heavily on appropriations from state legislatures and on federal grants and contracts, while a small, independent college derives most of its revenues primarily from tuition, private giving, and endowment earnings. Each institution's governing board should understand the limits of its various revenue sources. In addition, the board should be aware of the flexibility and degree of management control associated with each source of revenue. For example, the setting of tuition is a sensitive and polical issue requiring much of the board's time.

Tuition and Fee Rates

The tuition rate is established in a political environment; this needs to be understood by the board. Students, parents, alumni, faculty, taxpayers, and legislators have a vested interest in the tuition level. The governing board and administrative officers have the responsibility to explain the need for a tuition

increase and to justify it in terms of academic program and economic considerations.

The board typically has the responsibility for approving tuition and fees, which are based on a combination of factors, including:

1. Balancing the budget. Tuition may depend on the amount needed to finance operating expenditures.

2. Historical precedence. Particularly in public institutions, there may be a political or historical basis for the relative tuition level. In this case, tuition for public institutions may be determined by the level of appropriations the legislature or other governmental body will provide.

3. Market conditions. A factor in determining the tuition rate is the amount charged by similar institutions. The governing board will want to be assured it is not underpricing or overpricing the tuition cost to students.

4. Relation to economic conditions. The annual increase in tuition may be tied to the rate of increase in personal disposable income or to an index measuring inflation. The rate of increase in tuition at independent institutions is generally related to the rate of increase in cost of instruction (salaries).

These factors impose the limits for increasing tuition. Public institutions may experience larger tuition increases if legislative pressures, tax reductions, and/or inflation reduce relative governmental appropriations, but all colleges and universities face the pressures of additional inflation, new programs, regulatory requirements, and limitations on other financial resources, which tend to increase tuition or reduce services.

This example of the factors influencing tuition setting is indicative of the decision process boards experience as well with other revenue sources.

Spending Financial Resources

The financial resources used by colleges and universities are intended to provide services to society. They are held in trust by the governing board and should be managed prudently and effectively in accordance with the institution's mission. This is a difficult responsibility because there is no single set of generally accepted guidelines for allocating these resources.

How financial resources are spent can be examined from several perspectives. Some of the more common classifications of expenditure are:

By function	By organization	By object
Instruction	College	Personnel compensation
Research	School	Supplies and expenses
Public service	Department	Capital expenditures
Academic support	President's office	Buildings
Student services	Vice presidents' offices	Equipment
Institutional support		Library resources
Operation and maintenance of plant		
Scholarships and fellowships		
Auxiliary enterprises		

In the planning and budgeting process, the functional classification of expenditures is used to identify and evaluate the institution's programs, while the organizational classification of expenditures is necessary for operational control and establishing budgetary authority. Classification by object of expenditure is useful for determining and establishing administrative policies, and is useful when the board discusses issues requiring policy formulation. All the issues (and any others that could be named) are related to the major object-of-expenditure categories listed above. For example, financial policy issues concerning faculty and staff generally involve at least the following: salaries, benefits, employee relations, equal opportunity and affirmative action, faculty effort, and conflict of interest.

With regard to policy issues involving salaries, governing boards should have an understanding of the issues affecting those expenditures. Salary policies can be complex due to the broad range of types of employees. This diverse range includes:

Faculty
- Tenured (and by rank)
- Nontenured (and by rank)
- Temporary or part-time
- Adjunct
- Teaching and research assistants

Staff
- Salaried full-time
- Hourly full-time
- Student
- Casual

The governing board should have an understanding of the trends of faculty and staff salary levels. Two trend indicators are the change in number of students in relation to number of faculty and the change in number of administrative/support staff in relation to the number of faculty. Significant variation indicates a change in operations, of which the board should be aware. Policies relating to salaries will help insure that salary levels are determined in a rational, well-documented manner and in accordance with existing legislative, union, and regulatory requirements. Salary policies should include procedures for reviewing performance and determining salary increases.

A related issue affecting the salaries is faculty tenure. Although tenure is normally considered in terms of academic issues, it also carries significant financial implications. The governing board should be aware that as the percentage of tenured faculty increases, the institution assumes increasing long-term financial and program commitments, diminished financial and employment flexibility, and higher faculty salary levels. Thus, the board should review and approve a tenure policy, which includes:

1. Terms of academic appointment.
2. Process of and criteria for granting tenure.
3. Criteria for notice of dismissal.

Another area of concern to the governing board is competitiveness of the institution's salaries. Through the exchange of salary information with peer institutions and the use of national, state, and regional wage and salary surveys, the board should be kept informed of the institution's relative salary levels. Policy issues involving salaries are only one of the many expenditure issues that affect governing boards. The AGB/NACUBO monograph describes many of those issues and the role of the board.

Managing and Protecting Financial Capital

Financial reports of colleges and universities suffer from some of the same deficiencies as those of business entities. Balance sheet figures can never adequately measure the wealth of knowledge, experience, and potential inherent in faculties, student bodies, administrators, governing boards, and other supporters. Inflation and the never-ending pressures on educational institutions for "more" even call to question evaluations of such traditionally measurable assets as marketable securities and real estate. The board must be concerned with both adequacy and stability of the institution's capital base in maintaining and fulfilling the institution's mission.

Planning and Budgeting

So far we have discussed some of the management issues affecting the revenues, expenditures, and financial resources of the institution. These issues should be systematically addressed through the establishment of policies and the implementation of a sound planning and budgeting process. An active and committed governing board, interested in understanding the issues facing the institution, is a valuable asset to the planning and budgeting process.

The worth of planning and budgeting is that it provides the focus for directing the accumulation and use of resources in a way intended to be most beneficial to the institution's mission. When the board can assure itself that planning and budgeting are major undertakings of the administration and that they actually serve as the context for future decisions, then there is good reason to believe the institution is being well managed.

In addition to seeing that the institution and the board have been organized to emphasize planning and budgeting, the board has other opportunities for contributing to the planning and budgeting process. One of these is to examine the context in which the plans and budgets are being developed. Two natural issues as mentioned before, are the institution's mission and its environmental conditions.

Reviewing the Institution's Mission

At the beginning of each planning cycle, the board should be asked to review and assess the institution's mission in order to reconfirm that the institution's mission continues to be based on a societal need and that the need will continue. The board should verify that the institution's activities have been consonant with the mission and that there are no major weaknesses. The board, as overseer, assumes the ultimate responsibility for either keeping the institution moving in the direction of its mission or going through the complex process of reappraising the adequacy of the mission as it currently exists.

Evaluating the Impact of Environmental Conditions

The environmental factors described previously are of critical importance to the board; they provide a background for creating the plans and budgets. During the early stages of each planning cycle the board, with the administration, should have the opportunity to decide how such factors as national enrollment trends, inflation, energy, and federal government priorities are expected to affect the institution. Especially for public institutions, the actions (and anticipated actions) of state and local governing authorities

need to be well understood and their effect measured. If the board understands these influences, it can knowledgeably examine and ultimately approve the plans and budgets. In many respects, these resulting documents will be reactions to the anticipated effects of the external conditions.

Planning the Institution's Programs

Up to this point in the process, the board has been shown to have a useful role in providing leadership for planning and budgeting, based on an understanding of the context in which plans and budgets are created. In the next stage of the process, the board has the opportunity to directly influence the course of the institution. This substantive role involves at least three issues:

1. Evaluating competing program goals. Governing boards should anticipate that there will always exist a healthy competition among program priorities. The planning process provides the occasion to evaluate existing programs --academic as well as support--to determine their effectiveness and whether they should be continued. Programs should be periodically examined in detail, possibly through the establishment of self-study groups involving faculty, students, administrators, and trustees. The self-study analysis would evaluate the academic strength, content, and resources used for the program and compare it with similar programs in other institutions. The board should actively encourage a systematic analysis of existing programs.

2. Reviewing proposals for new programs. During the planning and budgeting process, the governing board has the responsibility to review proposals for new programs. These proposals may include new departments, research centers, and degree programs that will commit the institution to the expenditure of substantial resources. The board should evaluate the merit of such proposals in relation to the institution's mission. It should also critically examine the long-term financial obligations inherent in these proposals, which may include additional facilities, tenured faculty, and administrative and support costs. The board should examine the feasibility of any proposed increase in tuition, activity fees, appropriations, and sponsored project revenues designated to pay for the cost of the new programs.

3. Balancing the future against the present. The governing board assumes the difficult task of balancing current and future needs. Such decisions as (1) spending accumulated reserves to balance the budget, (2) increasing tuition, (3) implementing major renovation programs, and (4) deter-

mining the amount of unrestricted gifts to save involve judgment as to whether resources should be spent now or protected for future student generations. The decisions made in these areas will greatly depend on environmental factors. Related to this issue is the subject of financial viability; the planning process should be the occasion for evaluating the adequacy of such items as size of the endowment, condition of physical plant, and amount of working capital.

The board's program review, evaluation, and decisions depend on the development of effective and well-documented "decision packages" prepared by the administration. The introduction to the AGB/NACUBO monograph describes several principles and techniques for improving presentations at this important and difficult stage of the planning and budgeting process.

At the time the governing board is examining the program aspects of the institution's plans and budgets, it also needs to understand the financing strategy. This can be defined as the plan that identifies the revenue sources available and describes how they are combined to finance the programs.

Planning the Funding Strategy

The financial management issues addressed by governing boards vary, depending on the funding strategy employed for the type of institution. The various revenue sources are affected differently by such factors as enrollment patterns, political climate, economic conditions, and governmental priorities. For example, a public, two-year institution depends heavily on the changing political, social, and economic factors of the local community. A private university is concerned with a different set of factors such as general economic conditions, tuition, donor relations, financial aid requirements, federal education and research priorities, and its continuing ability to recruit a desired student body.

Since environmental factors affect the revenue process differently, it is possible that one type of institution, because of its funding sources, can be in relatively stable financial condition while another will be adversely affected.

There are other factors of which governing boards should be aware when discussing the funding strategy of their institutions. These factors affect the flexibility, stability, and control of revenues and include:

1. "Hard" and "soft" money. A distinction should be made between revenues that are recurring ("hard") such as tuition and appropriations and those that are nonrecurring ("soft") such as those received from grants and contracts.

If an institution relies heavily on soft money to fund its long-term commitments such as tenured faculty, it has a relatively risky funding strategy. Board members should understand how stable the institution's funding is.

2. The interrelationships of revenues and expenditures. Relationships often exist among revenues, which make the amount of one source of revenue dependent on others. For example, gifts to endowment ultimately affect endowment income, and tuition levels often depend on the amount of public funds appropriated. A second relationship is the change in expenditures because of a change in revenues, such as when an increase in tuition causes an increase in the need for financial aid. A third relationship is the change in revenues because of a change in expenditures; this may be illustrated by the cost of housing and food services, which determine the price and ultimately the revenues that are received. On the expenditure side, the governing board should differentiate between one-time and continuing expenditures, such as buying a computer or constructing a building on the one hand and paying salaries of tenured faculty or maintaining a building on the other. The one-time expenditure can often be financed from reserves or from soft money. Continuing expenditures, however, should be an integral part of the operating budget, where they are subject to frequent control and evaluation.

Reporting to the Board

The AGB/NACUBO monograph identifies financial policy areas of concern to governing boards and suggests ways for the administration to transmit financial data to the board. Implementation of these ways requires considerable planning and effort on the part of the governing board and its administration. The monograph tries to assist in that process by describing a system of reporting that should be useful to a board in carrying out its responsibilities. The basic reporting system which should exist in every institution is composed of the following:

1. Overview
2. Long-range plan and budgets
3. Operating reports
4. Results of operations
5. External auditor's report

Using the Monograph for Self-Evaluation

The monograph emphasizes "best practice" in defining the financial responsibilities of governing boards and the ways in which financial information may be presented. It is recognized

that the "best practice" approach may appear to be overwhelming. What is important, however, is to be assured that the board is carrying out its financial responsibilities in maintaining the institution's mission while incurring a prudent level of risk.

If it is assumed that the "best practices" described in the monograph may be of benefit to most colleges and universities, there should be some method by which the proposed concepts are examined, tested, and evaluated to determine their merit at a particular institution. This can be done.

A recommended method is for the chairperson of the board, the president, and the chief business officer to initially review the monograph and to determine its merit for the institution. In fact, the monograph could serve as a checklist to determine how effectively the institution is communicating with the board. Based on the initial observations, one or more of the following decisions might be made:

- No action is required because present policies and practices are satisfactory.
- Certain policies and/or practices should be altered immediately.
- Other issues will require further study.

For the issues requiring further study, the chairperson of the board and the president may wish to appoint a self-evaluation panel. This panel could be charged with comparing the institution's financial policies and information systems with those outlined in the monograph. The panel should have broad representation to insure a variety of participation in the evaluation process. Major variances should be noted and analyzed to determine if any policies and practices should be changed. The chief business officer can be helpful in evaluating current reporting practices and in suggesting to the panel possible areas for improvement.

There will be many instances where existing policies and practices will be superior to those contained in the monograph because they are tailored to the specific traditions, characteristics, and needs of the institution. Even for these institutions, the monograph should serve as a stimulus for improved governance.

ENDOWMENT MANAGEMENT: PROBLEMS AND PRACTICES

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It is encouraging that the topic of endowment management and performance assessment is included in the formal agenda of the "1978 Working Conference on the Financial Conditions of Colleges and Universities." Its inclusion reflects a growing awareness of the need to manage endowment resources more thoughtfully and carefully, to understand the pivotal role these resources will play in the future for many institutions, and to note the advances we have been able to make over the last decade as we continue to search for new ways to improve endowment management and practice.

As George Keane of the Common Fund has pointed out, the ability to assess and systematically improve endowment performance dates only from about 1968; thus, it remains in its initial, or evolutionary, state. But in this short time the money management industry has made significant strides in developing relatively sophisticated ways of examining practices and performances. Thanks to the support of the Ford Foundation, the Twentieth Century Fund, and the efforts of such groups as NACUBO (which provides an annual comparative performance report) and the Common Fund (which publishes numerous analyses), many of the practices used to manage pension and other corporate sector funds are now available to colleges and universities.

Accelerating Need

Fortunately, analytical tools have been made available at a propitious time. Now, more than ever before, good endowment management is absolutely essential because so many challenges to higher education institutions have arisen. For example:

- According to Richard Dober, a nationally recognized expert on campus and university facilities, more than 60 percent of the space on college and university campuses has been constructed since 1955. Experience indicates that the major mechanical systems in buildings should be replaced 20 to 25 years after a building is constructed. Repairs represent a major capital outlay that is required to protect investments already made. These expenditures, which are often underestimated, will probably be a major financial drain on most institutions. Furthermore, many repairs will be made during the 1980s, when the pool of traditional students, as well as the real dollar revenue raised per student headcount from tuition and state sources, will be declining. These circumstances will force an increased demand on other revenue sources.

- A study by the Academy for Educational Development on the admissions and recruitment practices of twenty-one private liberal arts colleges indicated that institutionally-funded student aid expenditures increased about 31 percent per matriculant between 1973/74 and 1976/77. If this trend continues, endowment funds will be viewed as one way to offset the impact of this increase on education expenditures.

- Although there is some debate on the actual level of inflation at colleges and universities, it is generally perceived as greater than that indicated by the Consumer Price Index. Today, nothing seems to indicate that inflation will slow markedly. Many knowledgeable observers have begun to question just how rapidly tuition can rise at all but the most elite institutions. In situations where tuition increases are limited, the endowment fund will be expected to close an ever increasing gap between the expenditure curve and revenue generated from normal operations.

- Under new tax laws, the alternatives available to a potential donor have changed dramatically and are much more complicated. Only the largest institutions rely on legal counsel to understand the benefits and potential liabilities that an institution encounters when it accepts gifts in the form of living trusts, unregistered stock, and the like. In many instances, an institution may be held liable, to a certain point in time, for the maintenance of the value of a gift. Such complex arrangements require that institutions and board of trustees thoroughly understand the concepts of endowment management.

These few examples, though not comprehensive, support the thesis that improved endowment management is important to a large number of institutions.

The Universe of Concerned Parties

How many institutions should be concerned about improving endowment fund management? In 1976, according to figures compiled by the Higher Education Information Survey, 506 institutions had endowments of $3 million or more. The total endowment holdings of these 506 institutions were approximately $14.6 billion. Admittedly, only thirty-one well-endowed institutions account for $7.72 billion, or 52.8 percent, of the total. However, the other 475 institutions controlled endowments worth nearly $7 billion--a significant resource by almost any standard. Exhibit 1 shows this distribution by institutional type and size of endowment, and illustrates why a significant number of institutions must improve their understanding of endowment management in order to improve performance and planning for the future.

Exhibit 1

DISTRIBUTION OF ENDOWMENT
By Institutional Type and Size of Endowment
(As of December 31, 1976)

Endowment Range (000s)	Institutional Type: Independent Non-profit	Independent Catholic	Independent Other Religious Affiliation	Public	TOTAL Number Institutions	TOTAL ENDOWMENT In Range (000s)
3,000 - 5,000	39	10	53	27	129	504,667
5,001 - 10,000	63	13	46	28	150	1,047,220
10,001 - 15,000	29	6	19	10	64	794,745
15,001 - 20,000	17	1	9	7	34	595,630
20,001 - 25,000	15	—	4	6	25	557,034
25,001 - 50,000	31	3	7	8	49	1,657,539
50,001 - 75,000	8	—	2	5	15	961,495
75,001 - 100,000	7	—	—	2	9	772,523
100,001 - 150,000	7	1	—	4	12	1,377,441
150,001 - 200,000	5	—	1	—	6	1,002,385
200,001 - 250,000	2	—	—	—	2	487,063
250,001 - 500,000	7	—	—	1	8	2,587,592
Over 500	2	—	1	—	3	2,266,841
TOTAL	232 (45.8%)	34 (6.7%)	142 (28.1%)	98 (19.4%)	506	14,612,175

Sources: Higher Education General Information System,
1976 Educational Directory, NCES, 1976/77

Some Illustrative Problems

Over the last three years, I have visited approximately sixty colleges or universities, where endowment management has been discussed. The subject is most often brought up because presidents, chief financial officers, and other top-level administrators question whether the level of service now being provided can be maintained through tuition payments, state support, and Federal support. Almost without exception, top executives expect that increased financial contributions can be obtained through the endowment and through current or future gifts.

These expectations often go hand in hand with consistent, but imprecise, feelings that current endowment fund managers do not generate as much revenue from an endowment as they might. Furthermore, many presidents are uncertain of the roles that they themselves, their chief financial officer, the investment or finance committee of the board of trustees, and the full board of trustees, should play.

This prevailing uneasiness accompanies a lack of understanding about the basic concepts of endowment management and performance measurement. The following examples illustrate some existing generic problems.

- One president proudly stated that his endowment fund had substantially outperformed the Standard and Poor 500 for the preceding reporting period. Quoting from a report prepared by the chief financial officer, he listed a number of comparative figures. In examining these figures, we found that his statements reflected the combined performance of the equity portion (63 percent) of the endowment and the fixed income portion (37 percent). The Standard and Poor 500 is a yardstick only for the equity portion. In examining just this share of the institution's endowment, we found that it significantly trailed the Standard and Poor 500.

- In another case, a president expressed his concern that his endowment's equity performance trailed the Standard and Poor 500 just under 3 percent. He felt that although this was not good, it was not cause for grave concern either. Further discussion revealed that the 3 percent figure he was using did not consider either the spending plan or the rate of inflation. In reality, what he had believed to be 3 percent was an erosion, in real dollar value, of almost 15.5 percent.

- At a third institution, the president believed that with the stock market rebounding, he could increase his spending plan to 9 percent while maintaining his percentage of the endowment in fixed income holdings at 15 percent of the total endowment. He felt this pattern would enable him to increase current fund

revenues while maintaining the value of the portfolio. This perception is at odds with many experts, who believe that a 5-5.5 percent spending plan is possible, without value erosion, only if 30-40 percent is held in fixed income instruments.

These examples illustrate why it is so important to help institutional leaders gain a better understanding of endowment management and endowment performance.

Basic First Steps

It seems to me that a number of fundamental first steps must be taken to realize the gains we all hope for. I would argue that, above all, institutional executives and boards of trustees must accept a number of basic responsibilities to ensure that the endowment fund contributes to a stable financial condition.

1. The executives and the board of trustees must define the basic spending plan for the institution. This spending plan should consider the types and magnitude of expenditures that can be expected in the future and should determine what can reasonably be expected from the endowment without erosion in real dollar value.

2. Based on the assessment, the board must select a set of strategies that can be translated into policy for the money managers. These strategies and policies should consider:

   - the debt/equity ratios of the endowment; and

   - the basic equity management strategies (e.g., income growth or glamour growth) that should be involved. These should be selected so that some cyclical hedging is possible. Exhibit A lists eight strategies identified by one large firm.

3. A careful review of the performance of the current manager(s) should be made. The review should consider:

   - long-term (at least five years) performance;

   - maintenance of "style," translated by the quality, price/earning ratios, and yields of the money manager's holdings compared with acceptable groups; and,

   - the changes in style over the last twelve months.

This assessment should be sensitive to the following facts:

- Approximately 85 percent of all managers fail to beat the averages.
- Those managers who identify a style and strategy and stick with it enjoy much better long-term track records than do those who alter strategies and try to "time the market."
- Rarely can a manager perform equally well when using several equity strategies and when managing both equities and fixed income holdings.

Although the assessment is completed, candid discussions should be held with the current manager(s) to evaluate performance and to ensure that the manager(s) understand(s) the policies and expected results.

4. Although it is much more expensive to switch managers than to provide guidance to improve performance, it may be necessary to make a change if the current manager performs poorly (when, for example, performance is evaluated against legitimate yardsticks over the longer term); or if the current manager shows inconsistency in style/strategy analysis; or if the manager does not believe he can follow the policies set by the board of trustees.

   If change is necessary, a number of managers should be invited to make presentations and a new manager should be selected on the basis of his long-term performance. Two factors should be kept in mind:

   - The initial screening should be made without consideration of personalities and according to quantitative criteria. A good manager can help an institution, but it is important to remember that he will be hired primarily to fulfill board policy. A manager must understand that performance alone will determine whether or not he will be retained.
   - It is futile to select a manager solely because he has been ranked "Number One" at a given point in time. Good managers will consistently outperform the averages--the key basic measure--but there is no guarantee that a manager top-ranked this year will assume that same position the following year.

5. The executives of the institution and an appropriate committee of the board must accept the responsibility for monitoring performance. This is a difficult but essential function and it requires more than just the ability to assess yield ratios. It requires:

   - consideration of the degree to which the manager is able to maintain his style (since this, presumably, determines his selection and retention);
   - evaluation of long-term performance against accepted measures, and emphasis on quality and price/earning ratios, as well as yield;
   - consideration of anticipated new money to be added to the endowment and assessment of how this may impact on strategy and policy;
   - consideration of the industry groups being held, given that twenty-four of the twenty-six industry groups have beaten the Standard and Poor 500 since 1970;
   - assessment of the degree to which monies are fully invested for the benefit of the fund at all times;
   - analysis of the degree of economic and industrial concentration to prevent a negative shift in the market from impacting on all holdings simultaneously; and,
   - consideration of the following aspects of those companies being held in the portfolio:

     Expansion of profit margins.

     Long-term dividend and earnings growth.

     Good internal growth rates (retained earnings, plus inventories, plus new capital).

     Good long-term coverage of current dividends.

     Good short-term earnings growth (this year over last year).

     Good sales growth.

     Sales growth at a rate faster than the average for industry groups.

A good manager can and will provide such analysis quarterly.

The acceptance of the responsibilities I have noted above and the careful implementation of resulting decisions represent key first steps in improving endowment performance. An intelligent approach to endowment management and performance assessment will enhance the financial condition of colleges and universities.

Conclusion

Many new tools and resources are available to colleges and universities. A significant number of these resources can be obtained without commiting real dollars--that is, through the use of commission dollars routinely paid out to support an endowment. Our challenge is to help institutions recognize that they can systematically strengthen their endowments and improve performance by focusing their attention on the value of quality endowment management.

Exhibit 2

EIGHT STRATEGIES AND THEIR PARAMETERS[1/]

1. GLAMOUR GROWTH

- Accelerating earnings for two successive quarters or rising earnings for both the current quarter and year verus comparable prior periods.
- The compound rate of earnings growth over the past five years is in excess of 10 percent per annum, and the company's sales have increased over the five-year period.
- Market capitalization over $100 million.
- Company has paid some dividend in eight of the last ten years.

2. QUALITY GROWTH

- Accelerating earnings for two successive quarters or rising earnings for both the current quarter and year versus comparable prior periods.
- The compound rate of earnings growth over the past five years is in excess of 10 percent per annum, and the company's sales have increased over the five-year period.
- Market capitalization over $100 million.
- Future price movements are expected to be more stable than the market as a whole.
- Companies earning a progressively rising return on new investments, based on the median return for four successive three-year periods.

Exhibit 2 continued

3. SECONDARY GROWTH

- Accelerating earnings for two successive quarters or rising earnings for both the current quarter and year versus comparable prior periods.
- Market capitalization over $100 million.
- The compound rate of earnings growth over the past five years is in excess of 10 percent per annum, with sales increasing over the five-year period, and a relatively low price earnings ratio, given the growth rate.
- Current price/earnings ratio over its historical (36-month) relationship with the market.

4. THINLY CAPITALIZED

- Accelerating earnings for two successive quarters or rising earnings for both the current quarter and year versus comparable prior periods.
- The compound rate of earnings growth over the past five years is in excess of 10 percent per annum, with sales increasing over the five-year period.
- Current price/earnings ratio over historical (36-month) relationship with the market.
- Companies do not have market capitalization of more than $100 million.

5. WELL PROTECTED INCOME

- Companies have paid some dividend in eight of the past ten years.
- Companies have earned enough in eight of the last ten years to cover their current dividends.
- Companies earn a progressively rising return on new capital investment, based on the median return for four successive three-year periods.
- Market capitalization in excess of $100 million.

Exhibit 2 continued

6. INCOME WITH GROWTH

- The compound rate of earnings growth over the past five years is in excess of 10 percent per annum, and the company's sales have increased over the five-year period.
- Companies have paid some dividend in eight of the last ten years.
- Market capitalization in excess of $100 million.
- Companies earn a progressively rising return on new capital investment, based on the median return for four successive three-year periods.

7. VOLATILE

- Future price movements are expected to be more volatile than the market as a whole.
- Market capitalization in excess of $100 million.

8. TURNAROUND POTENTIAL

- Accelerating earnings for two successive quarters.
- Current price/earnings ratio under historical (36-month) relationship with the market.
- Market capitalization in excess of $100 million.

ENDOWMENT OBJECTIVES FOR HIGHER EDUCATION

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In the aggregate, college and university endowment funds amount to about 16 billion dollars, but endowments are highly concentrated and the biggest 31 endowments account for over half of the total. In this paper a clear distinction is drawn between the position of the individual institution and the aggregate position of higher education with respect to endowment fund and financial condition. Almost all of the careful work that has been done on endowment funds has concerned evaluation, planning and decision making at the individual institutions. 1/ The financial condition of higher education in general can perhaps best be estimated by working from the analysis of individual institutions.

Endowment and the Individual Institution

Expected Role of Endowment

For any particular college or university there are several possible objectives with respect to the role of endowment. The one that seems most acceptable is the maintenance of purchasing power. That is, the endowment fund is expected to generate a flow of spending that will purchase a constant set of goods and services over future years. This objective seems to achieve "neutrality" among generations, in that it offers to supply the same benefits to succeeding generations of students (and faculty) over future years.

For some institutions, however, a quite different objective may be appropriate. One possibility is the maintenance of a constant proportion of current funds expenditures. This would mean that endowment spending might be expected to expand as the institution expands, to carry its share of new programs, for example, and the expenses of improvements in quality. Another objective, perhaps particularly appropriate to small private colleges struggling to co-exist with state supported institutions, is carrying the "inflation gap" after the institution has done its best to increase other sources of revenue, such as grants and tuition. The expectation here would be that the college will be unable to raise tuition as rapidly as costs rise, and that endowment would be expected not only to hold its own with inflation but to make up the deficiency in the rate of increase in tuition. Finally, for a number of institutions it may be appropriate to count on endowment to provide the funds to improve quality, expand programs and generally enhance the attractiveness of the institution, all in addition to keeping pace with inflation.

1/ Much of the literature is referred to in the Background paper by J. Peter Williamson in Funds for the Future, published by the Twentieth Century Fund in 1975.

Basic Economic Relationships

If we assume that the role of the endowment is to maintain the purchasing power of spending from endowments, then we can start with the following basic equation:

Spending from Endowment	+ Growth to Keep Up with Expected Inflation	=	Expected Investment Performance of Endowment	+ Expected Gift Additions to Endowment

The equation is set out in terms of expectations, to suggest that it is a tool for policy making. As the trustees of an institution look forward, they should be able to satisfy themselves that on the basis of reasonable expectations the equality expressed in this equation will be met. The right hand side of the equation includes the two sources of increase in endowment funds, gift additions and investment performance. The left side shows the two uses of the increase, current spending and growth in the endowment principal to maintain the purchasing power of the spending.

The institution generally has some control over the level of gift additions to endowment. Private institutions with successful development activities may be able to count on annual gift additions of 2% of the value of the endowment. Investment performance is very hard to forecast, but there is a substantial literature on this, some of it directed to endowment fund planning,1/ and 11% is probably not a bad number to use, allowing for the fact that on average educational endowment funds are invested about 60% in common stocks, 30% in bonds, and 10% in other assets. The inflation rate that must be met is not the inflation rate in the general economy, but the inflation rate appropriate to the particular institution. Over the long run, it appears that educational inflation is 1 1/2% to 2% a year higher than the general rate of inflation in the economy. This has to do with lack of productivity improvements in higher education. Spending is under the direct control of the trustees of the college or university.

Some boards exercise this control through establishing a spending rate, like 5% of the value of the endowment. Other boards simply spend the income (dividends, interest, etc.) from the endowment, and control the level of spending through the way in which the endowment is invested. There is some literature on the establishment of spending policy.2/ If

1/ Examples are Richard M. Ennis and J. Peter Williamson, Spending Policy for Educational Endowments (New York: The Common Fund, 1976) and J. Peter Williamson, Performance Measurement and Investment Objectives for Educational Endowment Funds (New York: The Common Fund, 1972).

2/ See Spending Policy.

the board of an institution can anticipate 2% in gift additions, and 11% in investment performance, and if it budgets spending at 5%, then 8% remains to meet expected inflation. This is probably not a bad current estimate of long run inflation in higher education.

Probably a first step in using the equation above is to determine whether it is in fact possible for a particular institution to meet the conditions of the equation. To go back to the example above, if the institution is currently spending 8%, rather than 5%, of the value of its endowment and is simply unable to reduce the current level of spending, then it may appear that there is no way to keep up with inflation. If it is possible to meet the terms of the basic equation, then the board of trustees must decide how to do this, and this will involve a combination of development efforts, investment management, and spending policy. The decision will involve consideration of risks, a topic beyond the scope of this paper.1/

Endowment Needs

It is quite likely that an institution will conclude that it simply cannot meet the terms of the basic equation without an increase in endowment. The question then is how much additional endowment is needed. For example, if spending is currently 8% of the endowment value, anticipated inflation is also 8%, expected investment performance is 11% and expected additions are 2%, then expected uses amount to 16% while expected sources amount to only 13%. Assuming it is not reasonable to expect that the 2% gift additions rate can be increased, the endowment fund itself needs to be increased by 60%. With this increase, the current level of spending would become 5% of the endowment value and the terms of the equation would be met.

This analysis is extremely simplified. It assumes that there will be no increase in regular annual gift additions to endowment and that the 60% addition will all come in one year. The process of estimating the endowment needed becomes more complicated as the forecast of gift additions becomes more complicated, and as the process of raising endowment is extended over several years. A few institutions, such as Yale University, have gone through a detailed analysis of this sort to establish the endowment needs.

Financial Condition

On the basis of the preceding discussion, one might follow two general approaches to establish the financial condition of the endowment as a part of the financial condition of the institution. We could show the probable financial consequences, over future years, of continuing current investment policy. The results of this analysis would probably

1/ Risk is dealt with in Spending Policy.

take the form of a projected stream of purchasing power spending from the endowment, or a projected spending figure as a percent of probable current funds expenditures.

The second approach would be to construct a "surplus" or "deficit" measure, using the methodology described under subheading Endowment Needs, and estimating the amount of endowment needed to meet the objectives of the institution.

Endowment and Higher Education Generally

It is harder to describe the expected role of endowment and appropriate endowment objectives for higher education in the aggregate than it is to do so for a single college or university. It may make sense to sub-divide the aggregate of higher education into classes of institutions, among which the role of endowment will differ substantially.

But if we can take the maintenance of purchasing power as the primary objective in endowment management, then we can go through the sort of analysis that has been described above for individual institutions to arrive at a measure of financial condition for institutions in the aggregate. As in the case of the single institution, we can either try to project the level of spending from endowment in a way that can be comprehended, or we can try to come up with a dollar surplus or deficit for endowments in the aggregate. Probably the latter would be more comprehensible to those concerned with the financial condition of higher education.

ANALYSIS USING FIXED/VARIABLE COSTS - A PROGRESS REPORT

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Peat, Marwick, Mitchell & Co.

It has been a year and a half since the National Association of College and University Business Officers (NACUBO) and Peat, Marwick, Mitchell and Co. collaborated to produce the NACUBO Professional File paper, Cost Behavior Analysis for Planning in Higher Education.[1] Since that time, much has occurred in the use of fixed and variable costing concepts in higher education. NACUBO and the National Center for Higher Education Management Systems (NCHEMS) have received funding from private and public sources to carry on further research to determine how fixed and variable costing concepts should be used by post-secondary institutions for internal management purposes and by governmental agencies in allocating tax levy resources. Carl Adams, et al under the aegis of the American Council on Education published the results of their important research entitled A Study of Cost Analysis in Higher Education.[2] In May of this year, NACUBO and NCHEMS convened an advisory group of those in higher education who have given considerable attention to costing and the use of fixed and variable costs to obtain their advice and counsel in formulating a plan research over the next 3 to 5 years.

All these activities by NACUBO, NCHEMS, and others are intended to provide institutions and governmental agencies with the capacity to deal with expected changes in the higher education economy in the 1980's. It seems likely that interest in the use of cost information will intensify in the future as institutions make difficult resource allocation decisions based on these changes.

Since publishing Cost Behavior Analysis for Planning, Peat, Marwick, Mitchell and Co. has found that these concepts have held up well when applied to the actual college and university resource allocation problems of our clients. Certain preliminary observations and conclusions from these experiences, however, may be of interest to other researchers.

Dual Components Of Cost Behavior Analysis

Cost behavior analysis, which focuses on planning for the future, has two separate yet related activities. First is the process of defining

1/ Robinson, Daniel D., Ray, Howard W., and Turk, Frederick J., Cost Behavior Analysis for Planning in Higher Education, NACUBO Professional File, National Association of College and University Business Officers, Volume 9, No. 5, May 1977.

2/ Adams, Carl R., Hankins, Russel L., Schroeder, Roger G., A Study of Cost Analysis in Higher Education, American Council on Education, Washington, D.C., 1978.

alternative courses of action that should be considered and determining the cost of each alternative at an assumed most likely level of volume. Second is the process of applying fixed and variable costing concepts to each alternative to determine the potential cost behavior within a relevant range of service. The latter activity involves performing a sensitivity analysis of costs at different levels of volume of service.

This dual approach has proved useful as a rational costing method which can be used to analyze institutional options. More importantly, the method has produced results which seem to be more easily grasped by academicians, administrators, and board members.

In our experience, the most complex aspects of the planning process involve identifying program plans which describe in sufficient detail the various alternatives under consideration. It seems that most people have a natural difficulty in defining alternative futures. The crux of the resource allocation/planning process is not preparing cost projections but defining what might be done with enough specificity that effective cost projections can be prepared.

Strategic Versus Operational Planning

We make a distinction between strategic and operational planning. Strategic planning is performed by top level administrators and results in policy guidelines or parameters that serve to guide operational planning. Operational planning is developed from the bottom up. It involves schools, divisions and departments identifying their program and financial needs within the guidelines established by top level administrators in the strategic planning process.

We have found that cost behavior concepts can be used effectively in both strategic and operational planning. The application of these practices has been applied most frequently by our clients in strategic planning. In the strategic planning process, long-range financial projections are typically broad based. For instance, with one institution we worked with the president, other senior administrative officers, and the governing board to examine the question of whether the college should maintain a coordinate relationship with another institution, merge or become totally independent. With another institution, we are examining with top level administrators and the governing board the future implication of various proposed combinations, additions, and elimination of programs. For example, we are using cost behavior analysis techniques to examine the financial consequences of adding an accounting program and nursing program.

Level of Aggregation

One area which requires further research has to do with the level of aggregation of cost information that needs to be developed. Is it necessary, for instance, to have detailed cost projections by department or is more summary cost information all that is required? Generally,

our experience over the last year indicates that top level management and governing boards are almost exclusively interested in summary information reflecting broad based issues which may affect the entire future of the institution. Thus all the effort we expended in developing a detailed cost projection base by academic department was of relatively little use in the decision process. On occasion, however, specific sub-issues would arise, such as the institutional policy regarding student aid over the next five years. These sub-issues required a special cost analysis effort at greater detail. In such cases, the results of the detailed cost analysis were included as part of the institution-wide financial plan. In our judgment, one should avoid attempting to project costs in great detail when more aggregated cost information is often all that is required to achieve a reasonable projection of cost behavior. This proposal of course requires more research to determine its validity.

Variables

A corollary issue has to do with the number of variables which are considered in projecting cost. Clearly, there are many variables (referred to as environmental and decision factors in the paper) which affect the behavior of cost. We have concluded that it is best to keep the projection process "simple" by using only selected key variables which produce reasonable cost projections. Identifying the key variables that should be considered in different segments of a college or university still requires intensive research.

Computer Simulation Modeling in Planning

In making institution-wide cost projections, we used a computerized simulation model developed years ago by PMM&Co. This model is called SEARCH which is an acronym standing for System for the Evaluation of Alternative Resource Commitments in Higher Education. SEARCH is a heuristic model, i.e., it permits the user to go through a trial and error process to determine the right mix of resources that are necessary to achieve institutional missions, goals, and objectives.

We have found that the complexity inherent in most institutions, even when a high level of aggregation of cost determination is selected, requires an automated capability to calculate the cost implications of a wide variety of alternatives at various levels of volume. The use of a model, however, cannot substitute for an effective planning process. It is clear that models are only a tool whose value diminishes substantially if there is no effective top management or governing board direction to assure implementation of plans.

NONPROFIT ACCOUNTING PRINCIPLES AND THEIR IMPACT ON FUTURE FINANCIAL REPORTING 1/

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This paper deals with two major topics which are currently being considered by the accounting profession as well as by preparers and users of nonprofit organization financial reports. These are (1) the American Institute of Certified Public Accountants' (AICPA) Statement of Position entitled Accounting Principles and Reporting Practices for Certain Nonprofit Organizations and (2) the Research Report prepared by Robert N. Anthony for the Financial Accounting Standards Board (FASB) entitled Financial Accounting in Nonbusiness Organizations; and the related FASB Discussion Memorandum which contains an analysis of issues related to producing a document entitled "Conceptual Framework for Financial Accounting and Reporting: Objectives of Financial Accounting by Nonbusiness Organizations."

First let me talk about the AICPA Statement of Position because the future of this document is contingent upon future action of the FASB.

I. AICPA Statement of Position - Accounting Principles and Reporting Practices for Certain Nonprofit Organizations

The Accounting Standards Executive Committee of the American Institute of Certified Public Accountants approved at its meeting in September 1978 a Statement of Position which proposes accounting principles and reporting practices for nonprofit organizations not covered by previously issued audit guides. The statement is the culmination of almost three years of research and debate and is addressed to the Financial Accounting Standards Board which has the ultimate authority to establish principles (or rules) for the accounting profession.

The Statement of Position represents the latest thinking of the accounting profession on the topic of nonprofit accounting and, consequently, is the most authoritative pronouncement on the subject yet issued. The accounting principles and reporting practices prescribed therein will serve as the basis for future development of nonprofit accounting concepts and standards. As such, the Statement will currently have an indirect but pronounced influence on college and university financial reporting, and will, in the future, as a prototype of a consistent set of nonprofit accounting principles and practices applicable to all nonprofit organizations, have a direct and profound influence on college and university financial reporting.

1/ This version is condensed from a more lengthy paper.

Prior to issuance of the Statement of Position, only four types of nonprofit organizations--hospitals, colleges and universities, voluntary health and welfare organizations, and state and local governmental units--had formal guidance in the preparation of financial reports. The financial reporting requirements of these industries are articulated in four industry audit guides issued by the AICPA. If a nonprofit organization was not covered by an industry audit guide, it had little direction in preparing financial statements, and could, in fact, prepare them in almost any manner it deemed appropriate. To further complicate matters, a large body of conflicting concepts and principles pertinent to nonprofit accounting had developed over the years. The lack of a consistent set of principles to apply in preparing financial statements of nonprofit organizations (not covered by industry audit guides) rendered financial interpretation of an organization's financial condition, by those not intimately connected with it's operation, hazardous.

Accounting Principles

The Statement of Position recommends accounting principles to be applied in the preparation of financial reports by nonprofit entities covered by it. The major accounting principles addressed in the Statement of interest to college business officers include:

Accrual Basis Accounting

Perhaps the most important accounting principle defined in the Statement is the requirement that nonprofit organizations report on the accrual basis of accounting if they wish to describe their statements as being prepared in conformity with generally accepted accounting principles. This requirement is for public reporting only and bookkeeping may be conducted on either a cash or accrual basis depending on the capability and needs of the organization.

In many respects this is not a new requirement, since accountants must now state when reporting on financial statements whether or not accrual or some other basis of accounting is used, and if some other basis is used, that the statements are not intended to conform with generally accepted accounting principles.

Fund Accounting

The Statement of Position deemphasizes the importance of fund accounting in the preparation of financial statements. While acknowledging that fund accounting may be helpful in achieving a proper segregation of various types of restricted resources, the Statement does not require the use of fund accounting for organizations that wish to prepare their financial statements in conformity with generally accepted accounting principles. Instead it places emphasis on the proper segregation of unrestricted resources from resources which possess externally imposed restrictions. This recommendation will tend to reduce the number of individual funds reported upon, and will significantly lessen the confusion to readers of financial

statements who, heretofore, have often had to contend with financial information on numerous individual, unaggregated funds.

Current Restricted Gifts

In the past, the accounting treatment for current restricted gifts has ranged from recording them as revenue and support at the time received to recording them as revenue only when the particular restrictions were met and the particular resources expended. Each of these extremes is deemed unacceptable in the Statement, which requires current restricted funds to be recorded as deferred income on the balance sheet only until the time that the organization meets donor restrictions. Once the organization has incurred an expense for the purpose specified by the donor, revenue should be recorded to the extent of the expense. Any remaining amounts would continue to be deferred until such time as the organization incurs further expenses which meet the terms of the restriction.

Note that income is deferred only so long as donor restrictions are not met. It is not necessary that the actual restricted funds be expended to satisfy the restriction, but only that the restriction be satisfied by whatever funds an organization chooses to expend. This is important because it denies an organization the capacity to conceal restricted contributions from being reported as support by using funds from unrestricted sources to satisfy donor restrictions.

Pledges

Pledges which are legally enforceable should be recorded as assets on the balance sheet less an appropriate allowance for that portion of the pledges which may not be collected. Most organizations can estimate the amount of pledge dollars which will ultimately be received; it follows, therefore, that these amounts are assets and should be recorded as receivables.

Donated and Contributed Services

It is often virtually impossible to place a fair monetary value on donated or contributed services. The Statement of Position recognizes the difficulty inherent in evaluating donated services and specifies that such amounts should not be recorded as contributions and expenses unless certain narrowly defined criteria are satisfied. These deal principally with circumstances such as whether an employee/employer relationship exists and whether there is the ability to determine value.

Carrying Amount of Investments

Marketable securities have long been carried by nonprofit organizations at purchased cost (or fair market value at the date of receipt in the case of donated securities).

The Statement of Position specifies that marketable equity securities and marketable debt securities which are not expected

to be held to maturity may be carried at either the lower of cost or market value, or at market value.

In those circumstances where there is the ability and intention to hold marketable debt securities to maturity, an organization may report them at either amortized cost, market value, or the lower of amortized cost or market value. Other types of investments which are not readily marketable, such as real estate, and oil and gas interests, may also be carried in the aggregate at either the lower of cost or fair value, or at fair value.

Expenses Reported on a Functional Basis

Organizations which receive a significant amount of support in the form of contributions from the general public should report expenses on a functional or programmatic basis. Supporting services should be reported separately from program services, and would normally include management and general expenses, as well as fund-raising expenses.

Capitalization of Fixed Assets

The Statement provides that fixed assets must be capitalized; capitalization should be based on cost for purchased assets and on fair market value for donated assets. This is a controversial principle because many nonprofit organizations do not capitalize fixed assets and may lack appropriate historical cost data. The Statement of Position, anticipating this difficulty, provides that if historical cost is not obtainable, other reasonable bases of measurement may be used, such as current appraisal value. Fixed asset capitalization has long been recognized as a generally accepted accounting principle and no logical argument to exclude fixed assets from the balance sheet exists.

Depreciation

Once fixed assets are capitalized, those which are exhaustible, that is, which deteriorate and diminish in value, must be depreciated by allocating their cost over their estimated useful life. However, fixed assets that are not exhaustible such as landmarks, monuments, cathedrals, and historical treasures need not be depreciated. Houses of worship are also excluded from the depreciation requirement.

Primary Financial Statements

The Statement of Position requires nonprofit organizations to prepare three primary financial statements which are similar to those required by profit-oriented organizations. These are:

- A Balance Sheet;
- A Statement of Activity; and
- A Statement of Changes in Financial Position.

Nonprofit organizations were not required to prepare a Statement of Changes in Financial Position prior to issuance of the Statement of Position.

Balance Sheet

The Balance Sheet should clearly disclose the aggregate amount of assets and liabilities of an organization. Assets and liabilities of different funds may be commingled provided that the fund balance section of the Balance Sheet clearly shows separate balances for restricted funds and unrestricted funds. Plant funds may be reported in either a separate fund or combined with unrestricted or restricted funds, whichever is appropriate.

Statement of Activity

The Statement of Activity should include all support, revenue, expenses, and capital additions for the period being reported upon. Two "excess" captions are required in organizations where financial activities include capital, i.e., nonexpendable additions. The first caption identifies the excess (deficiency) of revenue and support over expenses before capital additions and the second caption identifies the excess (deficiency) of revenue and support over expenses after capital additions. The intent of two subtotals is to clearly show the results from operating activities as distinct from the results from capital activities.

Transfers between funds should appear in the changes in fund balance section of the Statement of Activity, directly after the caption "fund balance, beginning of the period." Interfund transfers should not appear above this line--that is, should not be reflected in either excess caption--because they are internal shifts of resources between funds and do not constitute revenue, expenses, or capital additions. Finally, the Statement of Activity should show a reconciliation between the beginning and ending fund balances--that is, it should report an end-of-year balance for all funds, which reflects both the activity for the period and transfers between funds.

Statement of Changes in Financial Position

A Statement of Changes in Financial Position is now a primary financial statement for nonprofit organizations. It summarizes resources made available to an organization during a period and uses made of these resources during the period. Generally, this

statement reconciles changes in working capital but it could, for smaller organizations, merely present changes in cash.

Total-All-Funds Column and Comparative Statements

If fund accounting is followed, presentation of a total-all-funds column is recommended, but not required. Presentation of comparative financial statements is also recommended, but not required.

II. FASB Research Report - Financial Accounting in Nonbusiness Organizations by Robert N. Anthony and the FASB Discussion Memorandum - Conceptual Framework for Financial Accounting and Reporting: Objectives of Financial Reporting by Non Business Organizations.

During the last few years there has been a growing concern over failures in accountability by nonprofit organizations in view of the highly publicized New York City financial crisis, high costs at colleges and universities and in the medical field, and allegations of mismanagement of governmental and philanthropic organizations.

Because of this concern there was a call for the FASB to get involved in accounting principles for nonprofit organizations. The Structure Committee of the Financial Accounting Foundation said that the FASB must deal with municipal accounting, while others said that the conceptual framework study currently in process should be expanded by the FASB to include all nonbusiness organizations, nonprofit and governmental.

FASB Research Report

In view of the nature of the undertaking and because the FASB had many items already on its agenda, Professor Robert N. Anthony of Harvard University was commissioned in August 1977 to explore the objectives and concepts underlying financial reporting for organizations other than business enterprises.

The report issued in May 1978, identifies sixteen issues in nonprofit accounting and gives arguments on either side of each issue, with no attempt to reach definitive conclusions on any one issue.

Five broad topics are covered in the Research Report. They deal with the following subjects:

- Review of the current state of financial accounting and reporting by nonbusiness organizations;
- Identification of the users of external financial statements of nonbusiness organizations and their information needs;
- Relationship of user needs to information supplied by different types of financial statements;

- Examination of certain specific financial accounting and reporting areas of nonbusiness organizations that are controversial and not uniformly treated in existing accounting documents, such as pensions and depreciation; and

- Establishment of the appropriate boundaries for accounting concepts for nonbusiness organizations, including the question of whether separate accounting concepts are needed for business and nonbusiness organizations and whether separate concepts may be needed for governmental and nonprofit organizations.

FASB Discussion Memorandum[1/]

In June 1978, the FASB Released a Discussion Memorandum which addressed issues raised by Dr. Anthony entitled, "Conceptual Framework for Financial Accounting and Reporting: Objectives of Financial Reporting by Nonbusiness Organizations."

The purpose of the Discussion Memorandum was to (1) focus attention on specific issues upon which the FASB wanted public comment, (2) identify significant issues discussed in the Research Report and (3) amplify certain aspects of these issues.

The Future Effect of Current Developments on Nonprofit Accounting and Reporting

It is clear that nonprofit accounting and reporting will benefit from the Statement of Position and the establishment of a conceptual framework which will include nonbusiness organizations. The question is: When will such benefits be evident?

In January 1979, distribution of the Statement of Position will commence and preparers as well as users of financial statements will have a document which specifies appropriate nonprofit accounting principles and contains suggested financial statement formats. This will have a beneficial effect and will improve the financial reporting by those who choose to adopt it. However, because the Statement of Position does not contain an effective date, it need not be adopted and many organizations will delay until such time as the FASB takes action, probably not before 1983 or 1984. In the meantime, some of the confusion that has existed in the past will persist.

Ultimately, the FASB will establish a conceptual framework for both business and nonbusiness organizations. Based on what I have heard, I believe it will be a single framework, containing concepts applicable to both business and nonbusiness organizations. It is conceivable that a separate set of concepts may be developed for governmental entities. If this is the case, a conceptual framework for governmental entities will probably be established prior to one for

1/ Copies of the Discussion Memorandum as well as the Research Report, can be obtained from the FASB Publication Department, High Ridge Park, Stamford, Connecticut 06905.

other nonbusiness organizations, given the current level of demand for such a document in the governmental arena. Consequently, standard-setting for nonprofit organizations will be delayed. This is why I have used the year 1983 or 1984 as being the earliest time which the nonprofit community will have financial accounting standards prescribed by the FASB.

I expect that any future standard-setting will lean toward (1) capitalization of fixed assets, (2) depreciation accounting, (3) inclusion in the set of required financial statements of an activity statement which clearly distinguishes between operating and capital flows, and (4) an excess caption showing whether or not revenue and support exceed expenses. There undoubtedly will be many other developments.

Many of the current trends in nonprofit accounting suggest principles and practices that differ from those expressed in existing guides, and future pronouncements may embody these new recommendations. Some may agree and some may disagree with individual recommendations. If you are one who has strong views in either direction, you should make your position known.

EFFECTS OF DEFERRED MAINTENANCE ON FINANCIAL PLANNING

by

Daniel J. Altobello
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In Alice of Wonderland the King of Hearts advises: "Begin at the beginning, and go on till you come to the end: then stop." Perhaps any discussion of deferred maintenance and its effects on financial planning must begin with a definition of the term "deferred maintenance."

In a recent study of Jesuit schools I advanced the following definition, with which most institutions agreed: "Items of maintenance and repair which cannot be corrected within 12 months of the date the item was noted. A delay occasioned by the lack of funds." From that definition one might conclude that deferred maintenance is really neglected maintenance and that these remarks might more properly be titled "effects of neglected maintenance on financial planning."

Why should deferred maintenance be a problem for the financial planning of institutions? Let me offer just a few reasons.

First, higher education faces a decline in the applicant pool. Thus, at the very time when our major source of funds is declining, we may also be experiencing major financial problems that require increased resources.

Second, almost everyone, particularly the federal government, feels that the physical plant of American colleges and universities has already been built and, because of declining applicant pools, needs no further attention. It is assumed that the federal grant and loan programs of the 1950s and 1960s solved the space problems of higher education for good!

Third, the economy as a whole--and higher education in particular--is entering another period of increased inflation and rising costs.

Fourth, he plant constructed on our campuses with the readily available federal funds of the late 1950s and early 1960s will soon be from 20 to 25 years old. Several components of these facilities are rapidly deteriorating and, if major funds are not committed to their refurbishment, will soon reach the end of their useful life.

Fifth, higher education must compete more vigorously with ther sectors for the declining applicant pool. Quite frankly, the deteriorating physical plant can have only a negative effect on recruiting ability.

Finally--and most important, I think--our failure to take into account the existence of a major maintenance backlog, whether called deferred or neglected, may be masking the financial distress of our institutions. On the surface, we may seem to be operating our institutions in a prudent manner at breakeven, but if in actuality the plant is deteriorating to the point of becoming useless, one must question the prudence and even the reality of these breakeven operations.

In a recent study of the 28 Jesuit colleges and universities, I reached several major conclusions.

For one thing, judging from research findings I have read, the Jesuit schools were doing about as well as other institutions in maintaining physical plant parity, with approximately 13 percent of their educational and general budgets committed to physical plant. According to William Jellema's From Red to Black, a study of 574 institutions, the average of the educational and general budget expended on plant in the base year 1969 was 12 percent.

In addition, I looked at the major components of physical plant budgeting to determine if there were changes within the physical plant budget that might demonstrate some concern for the deferred maintenance buildup and some proof that it is happening. In short, were priorities shifting, and at what costs?

As was immediately clear, none of the institutions could respond completely to my detailed questionnaire, which followed exactly the Association of Physical Plant Administrators (APPA) chart of accounts. Because neither the Jesuit institutions nor the institutions studied by William Bowman of the University of California, Berkeley, are using this chart completely, it is impossible to compare institutions on several items of plant expense. My study of the Jesuit schools did, however, show that in 1973 approximately one-fourth of the physical plant budget was committed to the purchase of utilities and to utility plant maintenance; by 1978, that proportion had risen to about one-third of the physical plant budget, an increase of one-third.

To take into account possible changes in the amount of space heated and cooled, I undertook a further analysis of the mean cost of utilities per square foot. In 1973 that cost was 43.96¢; by

1978, that cost had risen to 93.82¢, a gross increase of 113 percent, and a compounded annual increase of 16.2 percent. From these figures, two inescapable conclusions can be drawn: (1) Physical plant is being treated about as well today as it was before, but it is being asked to do different things for the money; and (2) the physical plant budget is being asked to fund the rising cost of utilities, obviously by not doing other things that were previously accomplished.

Although the data I collected did not yield specific conclusions about deferred maintenance, they did suggest the following points:

1. The definition of "deferred maintenance" earlier is reasonably accurate.

2. Only 7 institutions out of 28 had formal deferred maintenance programs about which they reported. The deferred maintenance ranged from a low of $57,000 at one institution in 1973 to a high of $9 million at another institution in 1978.

3. Even those institutions which did not have a formal program indicated that they had just now begun pulling together the information which would make possible a successful study at some future date. Deferred maintenance is an increasing problem, and growing awareness of it is important.

In a separate study of selected institutions, Richard W. Anderson, of APPA, found that between 1970 and 1977 the proportion of the college budget to plant grew from 10.5 percent to 12.3 percent. At the same time the commitment of utilities as a percentage of the plant budget grew from 20 percent to 26 percent, while the proportion budgeted for major repairs and renovations decreased from 8.5 percent to 4.0 percent (a 50 percent decrease).

Some general conclusions can be drawn from my study and from those of Bowman and Anderson. Physical plant is staying even with respect to its share of the college budget, but it is absorbing the utility cost increase, probably at the expense of proper maintenance and repair of facilities.

If higher education had a deferred maintenance problem in 1973, this problem is much worse in 1978. What can we expect after 1978, as even more funds shift into utility costs? Unless we attend to it quickly, the problem is apt to get worse as buildings constructed in the early 1960s reach the end of their useful life.

Our concern is: "Does our failure to take deferred maintenance into account give a false impression of the financial health of our higher education institutions?" Does it hide a major illness within the fabric of our institutions which, if carefully evaluated, would increase our alarm and concern over the financial plight of the higher education enterprise? Indeed, I think it does.

Three changes need to be made. First, more study must be devoted to this topic. Second, general awareness of the problem must be increased. Third, the federal government must be encouraged to continue the Higher Education Facilities Act and to continue the college housing program, so that facilities may be refurbished periodically.

Another area in the analysis of financial condition which might be considered in the conference's deliberations and discussions is that of depreciation and depreciation methods in accounting, as well as funding depreciation to reinvest in the plant.

In reviewing the agenda, I noted great numbers of very interesting problems. I think the deferred maintenance issue may in the very near term become one of the most perplexing ones.

PERSPECTIVES ON FEDERAL POLICY TOWARDS HIGHER EDUCATION

Joseph Froomkin
Educational Policy Research Center for Higher Education

I would like to mention some of the possible issues which ought to be highlighted during the forthcoming debate which will take place prior to the reauthorization of the Higher Education Act. I discuss these issues at much greater length in a pamphlet called Needed: A New Federal Policy for Higher Education,[1] and a technical report, Reauthorization of the Higher Education Act.[2]

The debate surrounding the reauthorization may be livelier than the Administration expects. It is no longer safe to assume that the support for increased funding for higher education will be unanimous. Skeptics are likely to cite that (1) the number of young persons eligible to enroll in higher education will decline by nearly one-fifth in the next few years, (2) the economy can no longer absorb painlessly the products of the higher education establishment, (3) exposure to higher education does not produce happiness, and (4) there must be cheaper ways of acquiring knowledge anyhow. Populists will cite statistics from the Survey of Income and Education to the effect that over 40 percent of all students come from families with incomes exceeding $35,000 a year, and that subsidies to higher education are thus transfer payments to the wealthy.

Those concerned about the health of higher education may thus be called upon to propose some radical new policies to counteract the effects of declining enrollments, a serious decline in the number of new openings for faculty, and the popularity of economy measures.

The three proposals which I would like to share with you today deal with these three topics.

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[1]Joseph Froomkin, Needed: A New Federal Policy for Higher Education, Institute for Educational Leadership, The George Washington University, Washington, D. C., no date.

[2]Joseph Froomkin, The Reauthorization of the Higher Education Act, Educational Policy Research Center for Higher Education, Washington, D. C., July 1978.

New Patterns of Support for Part-Time Students

We have proposed elsewhere (Needed: A New Federal Policy for Higher Education) that incentives be introduced for employers to share three jobs among four undergraduate students. This arrangement would allow an increasing number of part-time students to attend school two-thirds of the time and complete their degrees in a reasonable time. The need for a subsidy to students would thus be lessened and, more important, so would the students' forgone earnings, an important part of the cost of attending college. If such a program were introduced, it would have to be supplemented by merit scholarships for full-time study for outstanding high school graduates and would also have to make provisions for transferring the most successful scholars out of the part-time program.

The principal advantage of this proposal is that it reduces the financial penalty currently paid by ill-prepared students when they are encouraged by present aid policy to enroll full-time and forgo the lion's share of their potential earnings. These students have little prospect of graduating and benefiting economically from their studies. Under the proposed arrangements, most of them would be earning while learning. While it is of course possible that some of the weakest, poorest, and most ill-prepared students would drop out even sooner if they were forced to work and study at the same time, this has never been proved, and unless some pilot programs are started soon, it will remain moot.

Increasing the Number of New Faculty Openings

Unless something is done, the intake of tenured professors will come to a grinding halt in the five years 1982-87. Even after that date, we shall have very few tenured positions opening up in colleges and universities. It is suggested that the federal government start a program to offer university employment to some of the more promising products of our graduate schools.

This initiative would take the form of a competition to designate 30 outstanding departments in, say, some 20 disciplines in sciences as well as the humanities, and would provide funds to offer each member of the tenured faculty a full sabbatical year after three full years of instruction. The replacement for that faculty member would then be paid from government funds.

This plan is superior to proposals for establishing special research institutes to give work to underemployed persons with doctorates, because the additional hires, under this proposal, would be assured of working in stimulating milieus. It can be

expected that departments which are certain of their continued pre-eminence and confident of being refunded after the original period will offer permanent positions to the most promising of the additional hires.

A less radical solution which might achieve the same result would be to designate some 15 or 20 universities as worthy of special federal attention. The designation of national universities has been suggested by both the Ford and Carnegie Foundations. These selected universities would be eligible for additional funding to maintain their leadership capabilities.

The trouble with this proposal is that it assumes that the patterns of the last 20 years will repeat themselves. In the past, overage or unproductive professors moved to peripheral institutions to avoid the scorn of their colleagues, making space for more promising and younger scholars. In the future, however, such lateral moves will be fo nd far between. As a result, the faculties at the proposed national universities might end up consisting predominantly of older ex-scholars. The leadership in a number of disciplines would then pass to younger, now less well-established departments. It may be dangerous, or very expensive, to lock oneself into the present institutional pecking order.

On the other hand, this pecking order is perhaps no longer relevant. Thus, Breneman, in his studies of graduate education for the National Academy of Sciences, documented the fact that doctoral graduates in the sciences from less prestigious institutions found jobs that were just as good as those of graduates from the top-ranking institutions. The hypothesis can be advanced that the ranking of institutions in the marketpalce is more up-to-date than the ranking by fellow academics. The choice of outstanding institutions or departments to support would not be an easy one.

Cost Control for Higher Education

People tell me the President is very interested in a cost control program for higher education. To cut costs in higher education, it would be necessary to cut staff. The early 1980's may not be the best of times for advocating a further reduction in faculty openings. Reducing administrative overhead may have greater appeal, but enthusiasm for it must be moderated by the realization that many openings in teaching and research are due to promotions of faculty to administrative posts.

At one time, John Minter told me about some good ideas he was implementing in the Southwest for a number of sectarian colleges which had banded together, establishing one main and several branch campuses. That saved money. The University of Wisconsin has tried this approach on a large scale. The Ohio State System is talking about it. Those are really the best cost-cutting ideas I have heard and I do not see a federal role in this area. I think most people in higher education would feel that the federal government should keep away from the field of unit cost control.

Conclusions

Academia by the end of the next decade will be very different from what it is today. If it is to remain viable and financially healthy, new initiatives, approaches, and techniques will have to be tried. The salvation or preservation of higher education will come from within. It is unlikely that the federal government will play a role in either financing or showing the way for new arrangements in colleges and universities.

AGENDA FOR 1979

James Farmer
Systems Research, Inc.

There are at least three principal reasons to worry about the financial condition of higher education today.

First, inflation is having a more serious impact on education than it would on a less manpower-intensive industry. It may be impossible to achieve the productivity increases expected of the economy as a whole. In fact, as public goals of access and opportunity are achieved, the task of education becomes more difficult and more expensive.

Second, there is a public concern, expressed forcefully at the polls, about the amount of private resources absorbed by the government. Because many public programs are fixed entitlements, more vulnerable education appropriations may face a disproportionate threat. States and communities may not believe educational institutions important enough to provide the necessary support.

Third, demographic factors will cause the traditional market for higher education to decline. The public expects decreased enrollments, and with these decreased enrollments, decreased need for public support. Neither expectation may be valid.

Yet, higher education has traditionally had the support of elected representatives and public officials. They have expressed, in many ways, their special concern and have requested, from the higher education community and national and state educational agencies, a better understanding of the condition of education. The Department of Health, Education and Welfare has made a special effort to respond to these needs at all levels. The work of the National Center for Education Statistics has become especially important to public officials and, therefore, to the higher education community. A single publication, The Condition of Education, and the wealth of supporting data has become central to the discussion of the future of higher education. The Higher Education General Information Survey (HEGIS) has become the major resource for state agencies and state legislatures to better understand the financial condition of institutions in their states in a broad perspective of comparative institutions, state efforts, and national trends. Policy analysts, focusing on the key issues of the near future, virtually depend upon NCES sources for the statistics vital to their research. Other agencies, such as the U.S. Office of Education, Bureau of Labor, Census Bureau, Veterans Administration, Social Security Administration, and the Department of Agriculture have provided other sources of information with potential use for higher education policy.

One of the key uses of these data over the next few years will be to provide "financial indicators" to describe the condition of higher education, to alert public agencies to specific institutions or groups of institutions which may need special attention, and to give institutions the means to compare their condition to similar institutions. As often is the case, financial indicators may be asked to bear a burden that is at best uncomfortable and at worst intolerable.

Immediate Needs

Over the next few years the researchers, analysts and administrators responsible for development, use and interpretation of financial indicators will have special responsibilities. First, development will have to be accelerated. The National Center for Education Statistics has included financial indicators in its Project SAGE (Statistical Analysis Group in Education). Many states -- New York, Illinois, Connecticut, California, Colorado, Indiana -- are making special efforts to review the financial condition of higher education institutions; they are using financial indicators already and would usefully employ more sophisticated and valid ones if they were available.

Second, those who are best able to judge the validity and usefulness of financial indicators will have a special responsibility to make these evaluations available. The National Association of College and University Business Officers has begun a project for pilot testing. The State Higher Education Executive Officers should also take a major role in assessing the work which has been done either formally as an organization or informally as principal users.

Third, those in higher education who have the role of explaining the condition of higher education to the public and its representatives, and who have the role of advocate within the governments, will need a better understanding of the status of financial indicators, and for better or worse, the information which is available from current and near-term efforts.

In ordinary times the work on financial indicators would be challenging and interesting. But with current needs, efforts for 1979 must respond to the near-term requirements of agencies and institutions for a better understanding of financial conditions while continuing to meet the long-term requirements for improved management of higher education. The principle contributions of the Second Annual Conference on Measuring Financial Conditions of Colleges and Universities are to share the results of another year's efforts, to make judgments on the future tasks, and to advise those in responsible positions about what reasonable expectations from these efforts will be.

Appendix: Conference Agenda and Participants

Measuring Financial Conditions of Colleges and Universities
1978 Working Conference

October 19-20, 1978
Annapolis, Maryland

Thursday, October 19

Morning	Statement of Purpose	Carol Van Alstyne Marjorie Chandler James Farmer
	Improving the Conceptual Framework of Measuring Financial Conditions	Hans H. Jenny
	A Multivariate Approach to the Analysis of Financial Distress	Douglas Collier
	Use of HEGIS Data Panel:	Paul Mertins Paul Wing Douglas Collier
	Use of Audited Financial Reports for Institutional and Industry Trend Analysis	John Minter Cathy Conger
Afternoon	Interstate Comparisons of Financial Support for Higher Education: Data and Analysis Framework	D. Kent Halstead
	Comments on the Use of Statistical Techniques in Financial Analysis	A. Jackson Stenner
	Evaluation of Endowment Fund Performance as It Relates to Financial Conditions Panel:	George Keane Andrew Lupton Peter Williamson
	Financial Workbook: Bryn Mawr Case Study	Nathan Dickmeyer
	Computerized Financial Modeling	Nathan Dickmeyer Daniel Updegrove
Evening	Demonstration on Computerized Financial Planning Techniques	Daniel Updegrove

Friday, October 20

Morning	New Developments of Potential Application to Financial Analysis Analysis:	
	Efficient Surfaces	George Weathersby
	Fixed/Variable Costs	Frederic J. Turk
	Board Use of Financial Reports	K. Scott Hughes
	Cost Data as it Relates to Financial Analysis Panel:	David Carter George Baughman
Afternoon	Private/Public Differences in Interpreting Financial Analysis	Virginia Fadil
	New Developments in Nonprofit Accounting and Financial Reporting	William Warshauer
	Effects of Deferred Maintenance on Financial Planning	Daniel Altobello
	Perspectives on Federal Policy Toward Higher Education	Joseph Froomkin
	Next Steps	Carol Van Alstyne

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PARTICIPANTS

Daniel J. Altobello, Vice President for Administrative Services, Georgetown University

Robert H. Atwell, Vice President, American Council on Education

John Augenblick, Education Finance Economist, Education Commission of the States

George W. Baughman, Office of Special Projects, The Ohio State University

Norm Brandt, Survey Director, National Center for Education Statistics

George Brown, National Center for Education Statistics

Paul Brubaker, Senior Staff Analyst, Systems Research, Inc.

Roberta Cable, Sacred Heart University

David I. Carter, Director of Finance, Commonwealth of Kentucky Council on Higher Education

Marjorie Chandler, Division Director, Division of Multi-level Education Statistics, National Center for Education Statistics

Sharon L. Coldren, Assistant Director, Economics and Finance Unit, American Council on Education

Douglas Collier, Senior Staff Associate, National Center for Higher Education Management Systems

Cathy Conger, Financial Analyst, John Minter Associates

Bill Conger, Director, Social Services for the City of Boulder

Salvatore Corrallo, Director of Postsecondary Programs Division, Office of Planning and Budget Evaluation, U. S. Office of Education

Stephen Deal, Assistant Secretary for Management and Budget, Education Budget Office, U. S. Department of Health, Education, and Welfare

Kenneth M. Deitch, Senior Member of the Research Staff, The Sloan Commission on Government and Higher Education

Nathan Dickmeyer, Financial Planning Analyst, Economics and Finance Unit, American Council on Education

Phillip Dilloway, University of Bridgeport

Virginia Fadil, Director of Research, National Association of Independent Colleges and Universities

James Farmer, Chairman of the Board, Systems Research, Inc.

Martin Frankel, Mathematical Statistician, National Center for Education Statistics

Joseph Froomkin, President, Joseph Froomkin, Incorporated

D. Kent Halstead, Research Economist, National Institute of Education

K. Scott Hughes, Financial Analyst, National Association of College and University Business Officers

Robin Jenkins, Financial Management Intern, National Association of College and University Business Officers

Hans H. Jenny, Vice President for Finance and Business, College of Wooster

C. Thomas Johnson, Harris Bank

Edward D. Jordan, Director, Information Systems and Planning Office, The Catholic University of America

Steven Jung, American Institutes for Research

George F. Keane, Executive Director, The Common Fund

Ronald Kurtz, Student Loan Marketing Association

David Longanecker, Policy Analyst, Higher Education, Congressional Budget Office

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Jack Rodgers, U. S. Office of Education

Norman J. Rubin, Western Electric Foundation

A. P. Simon, General Accounting Office

Richard Sonnergren, Special Assistant to the Deputy Commissioner for Higher Education and Continuing Education, U. S. Office of Education

Dave Spence, Southern Regional Education Board

Jacob O. Stampen, Senior Research Associate for Policy Analysis, American Association of State Colleges and Universities

Jim Stedman, Education Analyst, Congressional Research Service

A. Jackson Stenner, President, NTS Research, Inc.

Richard D. Strathmeyer, Treasurer, American Council on Education

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Thomas D. Truitt, Management Consultant

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Carol Van Alstyne, Chief Economist and Director, Economics and Finance Unit, American Council on Education

William Warshauser, Price Waterhouse

George Weathersby, Commissioner of Higher Education, State of Indiana

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Robert Zemsky, Director of Planning Analysis, University of Pennsylvania