

REPORT OF THE COMMITTEE ON THE FUTURE
OF THE COLLEGE AND THE GRADUATE SCHOOL

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1. Preamble

Yale confronts a financial problem that has implications for educational policy. Though the actual budgetary deficit for 1971-72 was substantially less than originally projected, it remained at \$1.2 million despite the \$2.5 million that had earlier been saved from academic and nonacademic budgets. The projected deficit for 1972-73, apart from contingencies, is about \$2 million - and that despite the stringent economies which have already been made. Further, the accumulated deficit since fiscal 1967 will be about \$9.5 million by June, 1973. That accumulation permanently deprives Yale of annual income of over \$500,000 a year. Continuing deficits would further erode the endowment and further debilitate educational programs. Accordingly no one can disregard the intention of the Yale Corporation to eliminate the deficit of the University by 1975-76.

The debates in the Yale College faculty during the spring of 1972 about the proposals in the report of the Study Group on Yale College resulted in the resolution of May 4 instructing the Executive Committee of the Faculty of Arts and Sciences to appoint an ad hoc committee to "consider the future of Yale University as a whole . . . (and) to report to the faculty on possible ways in which Yale may achieve and maintain financial stability and excellence in scholarship and undergraduate and graduate teaching over the next generation."

This committee, made up of professors and students from Yale College and the Graduate School, herewith submits its report. Our deliberations of the summer, as the entire community realizes, have had to be revised continually in the light of new budgetary information.

In Section 4, below, the report will discuss projections we have made on the basis of available information and current University policies, as well as some assumptions we have made about Yale's income and expenses. Obviously if the large deficits which the projections indicate were in fact to materialize, the Corporation would have to instruct the officers to take further corrective action. We believe that the faculty should now express its own preferences about the ways in which to prevent intolerable deficits from arising.

The report is designed to inform the faculty about the probable consequences of several reasonable policies. As it proceeds, the report examines the impact, educational and financial, of decisions about the size of Yale College, about the level of tuition, about further reductions in the size of the faculty, about faculty fringe benefits and salaries, and about changes in the calendar. Decisions about any of these variables will have budgetary consequences, consequences that will either relieve or accentuate the need for adjusting other variables in an effort to produce new income or to effect new savings. The overall problem is one of interrelationships and of priorities.

In order to clarify the financial consequences of different devices to generate new income or to effect new savings by reducing current activities, the committee has attached to this report two exhibits. They reveal graphically the new income that would result from increasing the size of Yale College to 5000 students or to 5300 (Exhibit I) and the savings that would result by retarding the rate of increase of faculty salaries either to 4.5% annually or 3% annually (Exhibit II) - two matters discussed at length later in the report. The committee has also attached a Sensitivity Analysis

(Exhibit III) that discloses in non-graphic figures how the budget deficit would be affected by varying upwards or downwards certain of the assumptions on which this report is based, assumptions that will also be discussed later in the report. Last, the committee has attached Exhibit IV, a chart displaying the many possible patterns of attendance for undergraduates if the college were to adopt a trimester system, a proposal examined in the last part of this report. Those reading it should find the various exhibits useful in the context of the discussion of each of the major questions that the report considers.

2. Historical Context

Yale is not alone in its troubles. In the opening words of the recent report of the Carnegie Commission on Higher Education, "higher education in the United States has just completed its decade of greatest academic success. . . . Yet higher education in the early 1970s is experiencing its greatest financial crisis." The members of the Carnegie Commission cite at least three factors as responsible for this development: "The quantitative and qualitative growth of the 1960s;" "the inflation of costs per student;" and the leveling off of the "increase in income" on which colleges and universities have been relying until recently.

Each of those factors has been at work at Yale also, but not in exact proportions to the national averages. The University has added new programs, facilities, and appointments - developments which during the last decade have substantially improved the quality of education at Yale. In that time, at Yale as elsewhere, costs per students have risen drastically. So have the costs of the goods and services the

University buys. To cite only two examples, during 1970-71, the cost of fuel increased by \$750 thousand and the cost of electricity by \$600 thousand. As for income, Yale has been the beneficiary of continuing increases (e.g., in the Alumni Fund), but has suffered, as have other institutions, from sharp decreases in Federal and foundation research and training grants. What the Carnegie Report calls "stagflation" (stagnation and inflation at the same time) has affected not only Yale but also Yale's potential benefactors, with a resulting drop in certain kinds of support.

Neither the long-term planning nor the short-term financial management of the University has been as efficient or as alert as we wish had been possible. Further, for several years the tracking of income and expenses has been slow. That tracking can and must be improved. Improved forecasting and tracking will involve the cooperation of financial and educational officers, and may involve some additional management expenses. In the absence of regular and reliable information, educational officers cannot properly plan and staff the educational programs for which they are responsible.

3. Educational Presuppositions

No one would propose that Yale dismantle its library or laboratories as a means of balancing the budget. Even short of this, there are some solutions of the financial crisis that are completely unacceptable on educational grounds. Conversely, there are certain educational presuppositions that have guided us in our deliberations and have set the boundaries for our recommendations. These presuppositions bear repeating here, if only as a means of reaffirming our basic commitments.

The University must be a center of research and instruction. Its other

activities, which cost many millions of dollars a year, can be justified only because and insofar as they support that fundamental purpose. We believe that the character of Yale College as an academic entity depends in large part on the rest of the University. Above all, there is a mutual dependence between Yale College and the Graduate School of Arts and Sciences. Neither can be what it now is in our polity unless the other is strong, and no proposal for Yale College, even if it saves or makes money, is viable if it weakens the Graduate School. The importance of the several professional schools for Yale College must also be taken into account. The committee has tried to keep the needs of the graduate and professional schools in mind as it has examined questions which most directly affect Yale College itself.

With the members of the Study Group on Yale College we believe that there is a limit to the number of students Yale College can educate at any given time. The number of additional students who can be admitted when the two new residential colleges are ready will be about 500. That also happens to be the number who could still (albeit with some strain) be accommodated without necessitating additions to the physical plant and service facilities, for example libraries and laboratories, that would more than offset any growth in income.

Yet if the undergraduate enrollment of 1971-72 of 4800 students* were increased to 5300 students there would be no relief for the overcrowding in the residential colleges. The committee finds an undergraduate student body in residence

*There are now 4876 undergraduates in residence at Yale. The committee regrets the increase of 76 students whose presence has taxed existing facilities.

of approximately 5300 to be a maximum. A majority of the committee considers such an enrollment necessary to provide enough incremental tuition to bring the University budget close to balance. A minority - both undergraduate members, one current college master and one former college master - believes that Yale College can grow beyond 5000 students only at an unacceptable cost to the quality of instruction and of residential college life. The majority believes that the overcrowding can be reduced by converting some of the space in the colleges now used for faculty offices to residential space for undergraduates. Exhibit I reveals the different budgetary consequences that result from an enrollment of about 5300 undergraduates and an alternative enrollment of about 5000 undergraduates.

4. Assumptions for Financial Projection Through 1975-76

The members of the committee, like all planners, have had to proceed on the basis of certain financial assumptions, many of which in turn involve assumptions about policy. Those latter assumptions should not be interpreted as policy decisions. In this section and later, we will examine the implications of many of the assumptions as they relate to policy. But assumptions we must have in order to make any projections. Further, we recognize the uncertainties inherent in any projections. The projections merely extrapolate our assumptions, and the sensitivity analysis (Exhibit III) indicates the impact on those extrapolations of alterations, up or down, in those underlying assumptions.

The projections and the sensitivity analysis, moreover, indicate the possibility, even the need, for give and take. A loss of income resulting from holding

down the size of Yale College might be balanced by imposing a slower rate of growth in aggregate faculty salaries; the rate of salary increases, for its part, might grow faster if fringe benefits were reduced; a trimester would generate new income to compensate either for a higher rate of salary increases or for a smaller enrollment in the college. As we have said, all these and other variables are interrelated.

Insofar as matters of policy inhere in our assumptions, the actual decision about policy ordinarily will fall to the administration and Corporation, which may or may not elect to adopt our recommendations, implicit or explicit. Still, faculty discussion of those assumptions should help to enlighten the administration. In one instance, the discussion of the trimester, our proposal is properly the concern of the faculty, and in that case we will make a specific recommendation for the faculty's consideration. A discussion of our assumptions follows:

1. Tuition for all Yale students will rise by six per cent (about \$200) annually through 1975-76. The committee arrived at this conclusion after long deliberation. A steeper rise would provide more income, but only at the risk of altering substantially the social profile of the undergraduate body and of exacerbating the financial problems that graduate students already confront. Further, a steeper rate of increase would impair the competitive position of both the College and the Graduate School. A substantial part of a \$200 annual rate of increase is required merely to keep up with the probable pace of national inflation. Much of the increase therefore represents no change in real dollar costs. The \$200 rate, moreover, accords with the probable plans of our strongest academic competitors

and seems to insure the preservation of a representative student body. The committee also assumes that financial aid from Yale funds will continue as a constant proportion of tuition and fees for Yale College and of tuition for the Graduate School. We assume further that charges for room and board will move upward at the rate of inflation so as to meet rising costs.

2. Investments of the endowment through 1975-76 will average in yield and capital gain a return of 8.5% annually. The application of the University Equation to that return will result in the annual availability of about 5% for expenditure by the University, and in an annual accumulation of about 3.5% to the endowment.
3. Gifts to the endowment, which will generate income that can be used for programs already in existence, will average in their yield to the University \$400 thousand a year.

The annual contribution of the Alumni Fund to the University's operating budget will probably rise to \$3.7 million in 1972-73 and probably will thereafter increase annually at the rate of 4%.

4. The amount of indirect cost recovery on grants and contracts will increase annually at about 5%. That figure arises from a related assumption that there will be no changes in the real level of activity under grants and contracts.
5. The weighted average of increased University costs will rise annually at a rate of about 5%. That weighted average takes into account differential rates of inflation for goods the University purchases, salaries the

University pays to faculty and professionals, and salaries and wages the University pays to its other employees.

The committee is admittedly uneasy about the implications inherent in assumptions 2 and 3 for they do not permit a growth of total endowment equivalent to the projected rate of inflation for university costs. Though obviously the endowment will grow, it will shrink in constant dollars at the rate of more than 1% annually if the assumptions in 2, 3 and 5 prove valid over the next several years. Those assumptions, therefore, presume that in that period the University is in effect borrowing against the future to meet current needs. The committee believes that over the short-run such borrowing is necessary. Over the long-run, however, the University cannot afford, as the committee sees it, to allow an annual 1% depletion of its permanent resources.

The projections made on the foregoing assumptions show growing deficits through 1975-76. The major contributing reason for growing deficits is that inflation affects the university more adversely than it affects other kinds of institutions. In a university, a far larger percentage of expenses must be assigned to wages and salaries than in most industry. Wages and salaries inflate faster than other costs. As a result, at Yale the inflationary rise in costs is about 5% a year, without any increase in service, when in the nation the inflationary rate is only about 3%. At Yale, in a year in which a saving is made, the deficit diminishes, but inflation brings the deficit back to and beyond its temporarily reduced level, as the saw-toothed profiles of the deficit projections reveal (Exhibits I & II). The only long-term solution to this problem is to find new sources of income.

5. Prospects for New Income

A critical source of additional income lies in the tuition accruing from an increased undergraduate student body, made possible by the two new residential colleges, of either 5000 or 5300. As Exhibit I demonstrates, if the new colleges were open and operating and the enrollment were at 5300 in 1975-76, the deficit for that year would be only \$2.4 million (including contingencies) instead of almost \$4.2 million (including contingencies). That improvement accounts for the view of the majority of the committee that the new residential colleges should be used to expand the size of the undergraduate body. An enrollment of 5000 would reduce the deficit in 1975-76 only to \$3.6 million.

Beyond that essential source of new income, the committee has examined two other important areas - computer operations and public monies.

A subcommittee of this committee undertook an examination of computer operations at Yale, both those operations relating to research and instruction and those relating to administrative data processing. The combined cost of these operations, after subtracting income from research contracts and external users, is roughly \$1.5 million annually. Of that total cost, \$300 thousand arises from research and instruction operations and \$1.2 million from the Administrative Data Systems operation. (These are figures for the fiscal year 1971-72; because of new equipment installed last summer the figures may change slightly for this fiscal year, but we do not foresee any substantial change.)

The committee thinks the most practicable way to cut back computer costs is through an active campaign to increase the amount of computer use supported by

non-University funds. That goal could be realized by seeking external non-profit organizations as additional users of the computers, and by modifying the rate structure to attract more of the contract-supported work carried out by Yale scholars which at present is utilizing off-campus facilities. Although now the distribution of jobs on the IBM 360/67 and the IBM 370/155 is in a state of flux, there appears to be sufficient time still available on these computers for additional non-University supported use that would generate between \$250 thousand and \$300 thousand in 1972-73. By 1975-76, that amount could be larger.

The subcommittee also suggests that additional time might be made available for outside contractors if there were a rigorous review of the Administrative Data System operation. The committee urges the administration to move rapidly toward the implementation of these recommendations.

The education act of 1972 includes a number of authorizations, but no appropriations, for higher education. If full appropriations were voted by the Congress in 1975-76 (in the committee's judgment an unlikely eventuality), Yale might expect some \$2.8 million annually. The committee believes that other developments will probably offset whatever appropriations Congress may in fact make. For one example, Social Security legislation enacted during the last session of Congress imposes a new expense of about \$400 thousand annually on Yale. Since the committee doubts that the education act will be fully funded by 1975-76, it concludes that the net contribution of the public sector to Yale University will not significantly exceed current levels.

6. Non-academic Savings

We believe there are major savings to be made in the non-academic units of the University. Some of these savings should occur because the operating units of the University are now subject to the same kind of budgetary scrutiny as the academic departments. The committee has received one arbitrary estimate that \$500 thousand could have been cut from the operating budget of 1971-72.

For its part, the committee has found it very difficult to obtain precise figures about any savings already effected or proposed in the various operational units of the University. Yet budget figures indicate that the operational units have yet to be pared in the degree that has applied to the teaching faculty.* What we are asking for is greater efficiency. However, we realize that efficient management of the University's operations does depend upon competent managers, who will command necessarily sizeable salaries. Such managers, those now here and those still to be recruited, may devise ways in which to reduce the number of personnel now engaged in operations. It may well develop that greater efficiency will take the form of improved services both in the internal accounting and billing procedures of the University and in work on buildings and grounds. Such improvements would relieve faculty, especially deans, chairmen and masters and their staffs, of much of the busy work that now weighs upon them. That relief in turn would release useful energies for instruction and other educational purposes. The entire problem is one to which this committee has been unable, in spite of continuing efforts, to attach defensible dollar figures.

*See Appendix to be distributed separately.

The committee does believe that a more precise and prudential management of the University's affairs would prevent rising costs in various perquisites which the faculty now enjoys. As things now stand, the faculty receives hidden subsidies which mount with rising costs. The cost of those subsidies is borne by users and non-users alike. Certain changes in the control of perquisites would leave open to the individual faculty member a freedom of choice about which services he or she wishes to buy.

As a case study, the committee has examined the University telephone system. If all faculty telephones (excluding those in administrative and departmental offices) were provided with Centrex-only service - that is, if all those telephones had no connection outside the University system - the resulting annual saving would be substantial. Estimates have run as high as \$190 thousand for the whole University (probably less than half of that for the Arts and Sciences.) Though it would be excessive to propose that all faculty telephones be changed, since some of them require outside service for Yale business, the committee assumes that some savings could and would be realized. The committee recognizes that the responsible officials are now experimenting with a new system for handling long-distance calls in the hope that it will reduce costs. There may be opportunities for further reductions through the elimination of some phones or of some equipment attached to phones, or through changes in the existing procedures for billings and repairs. But the problem has proved sufficiently complicated to require several reviews within recent years. Those reviews have yet to suggest a policy that will lead to significant savings. The committee believes that the administration should give further consideration to confining free phone service to a Centrex-only basis, with larger service available only

at the expense of the user. Beyond that, the committee is left with the conviction that the administration should conduct a rigorous review of the whole telephone problem with the objective of achieving substantial and continuing economies.

By and large, the committee's conviction about the need for vigorous review applies to a large range of operational matters. The committee believes that fees and charges should be sufficient to cover the costs of services. For one example, the committee has ascertained that current parking charges cover the costs of running existing parking facilities (except for the cost of the shuttle bus, which we endorse as an important service). The committee suggests that the administration continue to increase parking charges on a sliding scale so as to attempt to cover rising costs as they occur.

In another case, the committee recognizes that faculty fees for use of the gymnasium have tripled in the last four years, and that charges for other athletic facilities and for admission to athletic contests have also increased.

The committee suggests that the administration eliminate the deficit in the Faculty Club by scaling charges for dues and meals so as to meet all the expenses of the Club.

The committee endorses the recent change in fellows' perquisites at the colleges, whereby fellows must pay for the first fifteen meals taken at the college each term. That requirement may save in this year alone \$19,600, and will save more as the cost of food rises.

The committee recognizes that there are institutional values in these various perquisites. In some measure, those values may offset possible savings. A drastic

change in prices at the Faculty Club, for example, might well bring on its demise, with a negative effect on some members of the Yale community. We have nevertheless discussed perquisites in order to inform the faculty. We are convinced that there are genuine savings to be achieved through tighter management, albeit probably with some change in the nature or quality of services now enjoyed by the faculty, students, and other members of the Yale community.

7. Further Excisions

The committee is unhappily forced to contemplate the prospect of further reductions in the size of the faculty of Yale College and of the Graduate School. Any further reductions need to be weighed against the other questions discussed in this report. Still, if other developments do not effect savings or produce income sufficient to bring the budget into balance, then further excision of faculty will have to be made. Circumstances of financial stringency make imperative what should be obligatory even during prosperity - a ruthless criticism of existing educational patterns and practices, regardless of how cherished they may be as traditions. So also, whether under conditions of stringency or prosperity, a faculty should be suspicious of educational gimmicks. But the committee believes that there is much that Yale is not now doing that it ought to be doing, and that some of what we are now doing could be eliminated without affecting the academic excellence of the University.

The committee has explored with the Dean of the College and the Dean of the Graduate School the possibility of making excisions in the size of the faculty beyond those already planned for the academic years 1972-73 and 1973-74. The

committee concurs with the judgment of the two deans that at very great pain another several hundred thousand dollars can be saved at current salary levels by making further, highly selective reductions in the number of both tenured and nontenured faculty. Under no circumstances, in the opinion of the committee, can the College and the Graduate School afford further reductions across the board. Even selective reductions beyond several hundred thousand dollars would prevent various departments from functioning as effective units at both the graduate and the undergraduate levels.

With the help of the deans and of the provost, the committee has also explored the possibility of excisions in the professional schools. These are not our business as such, but to the extent that they draw funds from the general account of the University they affect the health of the College and Graduate School. The provost expects that within two or three years five of the professional schools will be at or near the point of self-sufficiency and will not be a significant drain on University funds. The circumstances now are less happy for four other professional schools: Music, Drama, Art and Architecture. But they are also the center of interest in the creative and performing arts on the Yale campus. They make a direct contribution to Yale College in the form of instruction and an indirect contribution to the University as a whole by making life on the campus and in the city more humane. While recognizing these contributions, the committee nevertheless strongly urges that these schools and, indeed, all professional schools not currently self-sufficient, carry their fair share of the burden by a reduction in their budgets proportional to those already taken or to be taken from the budgets of the College and the Graduate School.

8. Discussion of Fringe Benefits

Fringe benefits are obviously one form of compensation, but unlike salary, which an individual can dispose of as he pleases, some fringe benefits must in effect be consumed even if the faculty member affected would rather have cash. An argument could be made that all fringe benefits should be eliminated and converted into equivalent salary so as fully to expand the choice of each faculty member in the use of his income. Yet there is weighty contrary argument, for though fringe benefits are a form of compensation, they do not provide income subject to federal or state taxation. They have therefore a greater value after taxes than they would if they were received as direct salary instead of indirect compensation.

The committee has examined fringe benefits so as to be able to inform the faculty. Obviously any modification of fringe benefits has to be considered in more than merely financial terms. To retain the quality of its faculty, Yale must remain competitive, and the sharp reduction or elimination of fringe benefits would have a deleterious effect on the ability of the University to attract and retain a faculty of high quality. In conversations with their colleagues, the members of the committee have sensed that the faculty consider their fringe benefits as part of their contracts. Further, there is an almost universal reluctance to see fringe benefits reduced, even if maintaining them at current levels may force a lesser rate of growth in salaries. A discussion of fringe benefits follows.

1. Participants other than students in the University health program now enjoy a subsidy of about \$35 a month per family, at a total net cost to the University of almost \$900 thousand annually. There is a danger that the health program

may lose subscribers if the charge is raised too much, but we suggest consideration of an increase in charges to attempt to meet increased variable costs as they occur.

2. The subsidy for that portion of faculty group life insurance which the University provides now amounts to nearly \$100 thousand annually. Any reduction in the subsidy for life insurance and thus in the availability of that insurance at current levels will most adversely affect the older members of the faculty. On the other hand, younger members of the faculty receive a substantially lesser benefit. The committee suggests that in the interests of equity, the administration review the insurance program.
3. College scholarships to children of teaching faculty now cost the University about \$200 thousand a year, though the total program for eligible University employees costs \$580 thousand annually. The committee is most reluctant to see those scholarships eliminated or reduced, though one member of the committee suggested that the scholarships henceforth be based upon need. A reduction or elimination of the scholarships would most adversely affect faculty members in the middle age group who have children in college or about to go. That is precisely the age group which Yale needs to recruit and to retain in the face of outside offers. Further, the college scholarship benefit, as the foregoing figures indicate, accrues heavily to Yale employees who are not teaching faculty and whose needs the University must always take into account. Reluctant to contemplate any reduction in the scholarship program, the committee suggests that, despite inflation, the administration

should not now increase the size of the scholarships offered.

4. There may be a possibility of renegotiating Yale mortgages to faculty and staff, on which the University receives a lower interest rate than that which would have been charged by local banks when the mortgages were written. That difference in interest rates represents about \$54 thousand a year. The University is no longer writing new mortgages.

The foregoing suggestions are designed to prevent the cost of fringe benefits from rising rather than to realize significant savings. The single exception is the University's contributions to TIAA-CREF and to Social Security. Those contributions rise with increases in salary. They will need to be reviewed in connection with any changes the administration may propose about retirement policy, discussed below. But the preservation of existing fringe benefits at current levels necessitates contemplation of other savings and of further new income if the University's deficit is to be erased by 1975-76. That necessity leads us to the following discussion of faculty salaries, leaves, and retirement.

9. Faculty Salaries, Leaves, and Retirement

Earlier in the report, the committee noted its assumption that the average of Yale's expenses would rise annually at the rate of about 5%. That figure reflected still another assumption, that the annual rate of increase in aggregate faculty salaries would be 4.5%. In recent years that aggregate increase has been closer to 6%, but for several reasons the committee has taken the lower figure as the basis for calculation. First, retarding the rate of growth of the aggregate salary bill is one of the few economies

that have a continuing effect on deficits. Second, the committee believes it is the highest figure the University can comfortably sustain under current conditions of stringency. Third, it believes it is a figure high enough to permit Yale to remain competitive with institutions of high quality. Admittedly the competitiveness of a 4.5% rate will need checking with experience. Fourth, a rate of 4.5% may be low enough to permit the administration to sustain fringe benefits at current levels provided that new sources of income can be found. If it is not low enough for that purpose and if sufficient new sources of income cannot be found, then the annual rate of increase in aggregate faculty salaries might have to fall to 3%, which is the projected rate of national inflation. The budgetary consequences of a 3% rate as compared to a 4.5% rate are revealed in Exhibit II; the consequences of still other possibilities appear in Exhibit III.

A rate of 4.5% for the annual increase of aggregate faculty salaries is also close to, indeed almost identical with, the recommendation of the Carnegie Report for what will be realistic for institutions of higher learning during the 1970s. Further, that rate applies to the aggregate salary bill, and not necessarily to any individual faculty member.

Over the last decade, individual faculty members have enjoyed much of the increase in the salaries they received simply as a function of moving from lower to higher ranks, and from lower to higher salaries within rank. That development has, of course, been more important for junior and younger faculty than for senior and older faculty, but the average rate of increase in salary resulting from upward mobility (rather than from increases in the aggregate salary bill) has been about 1.5% annually. Accordingly, an increase of 4.5% annually in the University's aggregate

salary costs permits an increase close to 6% annually for those moving upwards on the academic ladder, whereas an increase of 3% annually in aggregate salary costs permits an increase close to 4.5% for those moving upwards. The impact of either the 3% or 4.5% aggregate rate will be more constraining for the most senior faculty, but there will still be room for some merit raises beyond the average figure, and senior faculty should realize that except for certain institutions of higher learning in the city of New York, Yale is without equal in the nation in its median salary for full professors. For several years at least, the committee believes, the University can rest on its generous accomplishments for its older faculty over the past quinquennium.

The foregoing analysis suggests the need to provide special rewards for junior faculty. The committee has explored the possible benefits of reducing the mandatory retirement age from 68 to 65. The initial expectation was that such a reduction might result both in considerable annual savings and in an improvement in the prospects of junior faculty for advancement to tenure. A detailed analysis, however, fails to confirm these expectations.* That analysis reveals that the number of tenure openings created by deaths, resignations, and early retirements of those on tenure is of the same order as the number created by mandatory retirements. Further, a reduction in the age of retirement from 68 to 65 results in a much larger reduction than might be expected in the annual annuity which the individual will receive. Even if it is assumed that no steps are taken to increase the probability of early retirement or to offset considerable

*Copies of a detailed analysis are available from the Office of the Dean of the Graduate School.

reduction in annual income from TIAA-CREF which would otherwise occur, the annual savings to be expected are only about \$165 thousand. If such steps were taken, those possible savings would probably disappear entirely.

Surprising as it may seem, reducing the mandatory retirement age by three years results in only a small increase in the number of tenure openings which would become available over the next 20 years. That increase would occur only during the three-year transition period to the new mandatory age when two cohorts were retiring each year. No increase would result in subsequent years until the individuals appointed to fill those additional positions themselves retired. The total number of additional tenure slots available during the three-year transition period would be less than 15. During the past five years, nearly half of those who have become full professors in the Faculty of Arts and Sciences have been appointed from outside. Of much greater potential importance in increasing the opportunity for promotion of younger faculty to tenure is the extent to which vacancies created by resignations, deaths, early or regular retirements may in the future be filled, without loss of quality, by appointments from within as compared with appointments from without.

The analysis of the consequences of a possible reduction in the mandatory retirement age leads the committee to suggest that the administration consider making it more attractive for faculty at 60 to teach half-time at half pay. One inducement might provide for a full University contribution to TIAA-CREF for those who go on a half-time contract. The possibility should be explored that the half-time contract would permit either half-time work throughout the year, or teaching for only one semester. In the latter case, the committee recognizes that the individual would be

less available for directing dissertations and for committee work, and might therefore be expected to carry a somewhat higher teaching load in the semester on duty. Yet the committee also recognizes that, just as there is a kind of apprenticeship for junior faculty, so there are good reasons for a period of gradual reduction in responsibility for at least some senior faculty. The committee also suggests that the possibility be explored of reducing to 62, or even to 60, the age of voluntary full retirement and that measures be considered to increase the attractiveness of this option. Although such a change is unlikely to result in important savings, the self-selection of such an option would appear on the average to be in the interests both of the individual and of the institution. The possibility of reducing the age at which voluntary half- or full-time retirement may occur and of increasing the attractiveness of these options merits the administration's fullest attention at this time in the history of the University.

The committee also suggests that Yale modify its existing leave system for senior faculty. Leave policy for non-tenured faculty should remain as it has been or should be improved. There is need, however, to reconsider the Triennial Leave of Absence. Past and pending excisions in the faculty have already made it difficult in the departments with heavy teaching responsibilities to meet the legitimate demands of undergraduates and graduate students. That difficulty will mount if the faculty elects to adopt the recommendations of the committee about a summer term, described below, which would repay faculty for summer teaching by relieving them of their fall or spring term duties. In order to preserve a sufficient number of faculty at Yale at any time to fulfill the educational expectations of able students, provision will have to be made either to reduce the number of TLAs or to find funds to replace those who are

on a term's leave. The committee recommends that the administration study the substitution for the TLA of a QLA, that is, a quadrennial one semester leave of absence with pay, or a leave every eighth instead of every sixth term. But the committee would prefer to preserve the TLA by finding new funds to replace faculty members on leave. That possibility will depend upon the ability of the administration and chairmen to encourage and induce faculty members to seek outside support for their terms off. That search will not be difficult for faculty in fields which the federal government is cultivating or on which foundations smile. For those engaged in fields of learning where government or foundation funds are less available, there will be a continuing need for University support for scholarship. Where outside support for scholarship is available, as in many cases it will be if only faculty are provoked to solicit it, the savings in salaries for those on subsidized leave can be used to meet the costs of salaries for alternative instruction.

10. Income and the Calendar

There are obvious uncertainties in the foregoing calculations. A lower or higher rate of national inflation will of course affect the dimension of the deficit, as would a lower or higher volume of giving, and as would other variables - as Exhibit III indicates. The committee's calculations have taken a middle road between optimism and pessimism. As Exhibits I and II show, even allowing for new tuition income from 200 or 500 more students, and for a retardation in the rate of growth of salaries there would still remain in 1975-76 a deficit. That deficit will be as follows: with 5000 undergraduates and a rate of increase of aggregate faculty

salaries of 4.5%, \$3.6 million; with 5300 and a rate of 4.5%, \$2.4 million; with 5000 and a rate of 3%, \$2.8 million; with 5300 and a rate of 3%, \$1.6 million. Each of the foregoing figures indicates a contingency budgeted at \$900,000 annually. Each of the foregoing deficit figures would of course be smaller were there to be extensive excisions and substantial non-academic savings. In the absence of new income the deficit will grow thereafter. This circumstance has persuaded the committee to recommend to the faculty a major change in the Yale calendar, a change designed to bring the budget into balance with a minimum of inconvenience to students and faculty alike.

The committee has considered a variety of calendars, each of which involves either an extension of the academic year or the creation of some kind of summer session. The increased income to be expected from each of these calendars varies, but every one of them would make a significant contribution. The committee recommends that the Faculty adopt one of the proposed calendars. They are listed in the order of the committee's own preference.

Should the Faculty vote to adopt a summer term, the committee recommends that the Faculty of Yale College instruct the dean to appoint an ad hoc committee to work out the details of a summer term and to report its findings by September, 1973. The committee so recommends because in the absence of such a committee report in September 1973 it would be impossible to move to a pilot summer program in the summer of 1974, a program that will help to expose and then resolve problems inherent in managing a summer term, and a full summer term by 1975. We therefore

MOVE:

"That the Faculty of Yale College instruct the Dean of Yale College and the

Dean of the Yale Graduate School of Arts and Sciences to appoint an ad hoc committee to report to the Yale College Faculty in September 1973 detailed plans for a pilot summer term for the summer of 1974 and a full summer term for the summer of 1975."

We hope to have that motion discussed and adopted before the end of Faculty discussion of this report.

In order to permit a pilot program in the summer of 1974, Yale College must have a new calendar effective in the fall of 1973 so as to provide the necessary period of time in the following summer for the proposals about to be described. That need will become more obvious as our discussion proceeds. For consideration before the faculty has completed its deliberations about this report the committee therefore also now MOVES:

"That the Yale College Faculty recommend that the corporation adopt, effective in September 1973, a calendar calling for the beginning of the fall term the day after Labor Day and the completion of the spring term before the end of April."

That calendar will be described in greater detail in Section 11 below.

The projections in Exhibits I and II show the need for a calendar change if the University budget is to be brought in balance in 1975-76. No member of the committee has arrived at that conclusion without much hesitation, and the members of the committee do not wholly agree about the educational advantages or disadvantages inherent in the several proposals that follow. The differences of income to be expected from the several options vary dramatically, but the committee has not based its ordering of them only on their relative profitability. More important factors in its ordering have been the committee's desire to make reversibility as easy as possible should a

new calendar later prove undesirable, to do minimum damage to the residential college system as it now exists, to provide maximum flexibility for students in selecting the terms in which they will or will not attend Yale, and to sustain a high level of instruction in the college.

The calendar change which would least affect Yale as we know it would be the initiation of a regular summer term at which attendance would be wholly voluntary. This calendar change would in many ways proceed on the same basis as that proposed in Section 11 below. But it poses uncertainties about enrollment and thus income, and about matching the needs of those enrolled to available faculty. The committee therefore questions the utility of a voluntary summer term as an experiment for a mandatory system. It has rejected a voluntary summer term as a reasonable solution to existing problems.

11. A Proposed Revision of the Calendar

In the committee's view, the most desirable and practicable new calendar will have three terms a year, each consisting of thirteen weeks of classes (one of which might be a reading period) and of one week for examinations. The committee envisages that calendar as follows: a fall term commencing in the first week of September and terminating about a week before Christmas; a two-week holiday ending about January 3-4; a spring term commencing January 3 or 4, including a one week break at the end of March and terminating about April 23; a two-week holiday with commencement at the end of the first week of May; a summer term beginning about May 10 and ending the first week in August, and then a total break in operations until the fall term

begins four weeks later. All undergraduates entering Yale in the fall of 1974 and thereafter (as well as those who entered earlier and so wished) would attend one summer term and, ordinarily, seven other terms patterned to fall within four calendar years, with considerable latitude for choice about which term the student would spend away from the University. (See Exhibit IV which shows the kinds of patterns from which a student might select.) This calendar would call upon the typical member of the faculty to teach perhaps every sixth or seventh summer, and would compensate him by giving him a spring or fall term off. A faculty member could combine a QLA with a compensatory term in order to arrange a full year's leave. Further costs, estimated at about one million dollars per summer, would involve costs for teaching assistants, for summer administrators, for maintenance personnel and for amenities.

The calendar would impose upon undergraduates the need, at one time during their Yale career, to attend at least three consecutive terms. That is admittedly a long pull, but the calendar does schedule regular breaks of 1, 2, and 4 weeks. The new calendar would compensate students by permitting an acceleration in their earning of the bachelor's degree as well as by providing them with greater flexibility in arranging leaves of absence.

The trimester would yield increased income. It would also utilize some of Yale's facilities throughout the year. With the increase of students normally in residences to 5300 or 5000, either 1515 or 1430 students would be in residence every summer, and would be paying tuition equivalent to that charged for either the fall or spring terms, with the percentage of student aid assumed in Section 4 above. Their bill for room charges might be less than in ordinary terms, for the college system

would not be functioning during summers. If every student were in residence a total of eight terms, Yale College could admit about either 1,515 or 1,430 new students annually and, consequently, would graduate more students every four years without increasing the number of students in residence at any one time. By 1975-76 the net increase in tuition income produced by this plan would be either about \$2.4 million annually with 5300 students in residence in the fall and spring, or about \$2.3 million annually with 5000 students in residence. Incremental instructional, administrative, and maintenance costs for a summer term, according to our rough estimate, would come to about one million dollars. Therefore the net gain in income to the University would be \$1.3 - \$1.4 million. If the budgetary crisis were to worsen, moreover, an increase in required summer enrollment would serve to mitigate it. Further, voluntary summer enrollments might well produce net income beyond that calculated, as might such special institutes or programs as the administration chose to create for groups other than Yale undergraduates.

The trimester scheme would obviate the need to use all the faculty or all the residential colleges during any one summer. Students could be housed either largely in the Old Campus (when and if it is refurbished) and in one or two colleges, or wholly in four or five colleges. The committee believes that the summer term could be made attractive, both intellectually and socially, without having to provide the regular services available in the residential colleges. That is also the belief of the student members of the committee who have expressed their views in student publications. Too, the committee considers the trimester less disruptive than other plans (although patently complicating) for the residential colleges. Finally, the trimester

is the most easily reversed of any calendar change.

Tentatively, the committee has concluded that successful summer term should include primarily two types of courses: skill courses or courses required for professional schools (languages, mathematics, pre-medical courses) many of which are now taken by Yale students at other summer schools; and courses of special attractiveness - some avowedly experimental, some conventional but different from those ordinarily offered in fall and spring, some standard courses of proved drawing power.

By combining attendance at Yale for one summer with extra credits (earned during term time or in an extra fall or spring term or by advanced placement), students who so desired could easily complete their baccalaureate education within three calendar years. For those who are faced with three to five years of professional education beyond college, or who wished to incorporate into their college career a full year away from study and yet to graduate within four years, attendance at Yale during one or two summer terms might prove welcome.

12. Two Other Options

Second in order of preference for some members of the committee would be a calendar consisting of four quarters, one of which would fall during the summer. Each undergraduate would be required to attend at least one summer quarter and to be away from the campus at least one fall, winter, or spring quarter. The quarters would consist of ten weeks each. Those who have studied or taught at institutions on the quarter system commend the flexibility in educational arrangements that the

\ system permits. Also in its favor is the much greater use it has in American education.

Still, the committee prefers the trimester to the quarter system for several reasons. With the quarter system the movement of students in and out of the University would be much more frequent and therefore more disruptive of the residential colleges. The quarter system would be harder to integrate with the calendars of the professional schools, unless of course they went to the quarter system themselves. The annual net income to be expected from the quarter system would be considerably less than from the trimester system, and the quarter system would obviously be more difficult to reverse.*

Among possible new calendars the committee also much prefers the trimester to the "strengthened semester." The case for the strengthened semester has been stated in the appendix to the Report of the Study Group on Yale College and in a memorandum distributed to the faculty in May of 1972. The committee senses, nevertheless, that Yale undergraduates and the Yale College Faculty were not satisfied with the proposal as it was presented in the spring. Perhaps their dissatisfactions will decrease when the plan is compared with the other options we have described.

The strengthened semester plan does have the educational and financial advantages set forth in earlier discussions of it. With 5300 students, it would produce over \$4 million incremental income. It might disturb life in the residential colleges less

*Net incremental income from the quarter system would be only about \$600 thousand for 5300 students. Were students required to attend two summer quarters, then net income would rise to about \$1.5 million.

than the quarter system. But the committee considers the educational pattern of the strengthened semester undesirable for students because of its length and crippling for some faculty scholarship. Further, the committee believes that the idea of the strengthened semester, that of paying four years tuition for a three year degree (even though the number of weeks of study would remain constant), could not be sold to students or their parents. Finally, the committee considers the strengthened semester incompatible with the needs of graduate education at Yale.

13. Implications for Further Consideration

The most obvious implication of this review of the University's deficit is the need for capital development. The suggestions and recommendations in this report call for sacrifices, but if those sacrifices are not to be in vain, it is necessary that additional income-producing endowment be found. Although we have not been charged with a review of development, we feel compelled to urge that capital be sought especially for the endowment of professorships now financed from general funds, for financial aid to undergraduates and graduate students, and for the preservation of a rate of salary increases at all ranks at a level fully competitive with that of other educational institutions of high quality. Further, the committee believes that the development office should begin at once to find new funds for existing and innovative programs for which there is a large probability of support. To facilitate that effort, the development office should take steps immediately to inform itself better about education and scholarship at Yale, and, if necessary, to mobilize faculty to assist development officers in informing donors. Faculty, for their part, should stand ready to help.

Such efforts must be taken before and during any major capital fund drive.

Any savings that this report may generate, new income that would result from the recommendations in the report, whatever new endowment a development program may raise, will not create a surfeit of money at Yale. The problem is not just to balance the budget in 1975-76. The problem is also, to that time and thereafter, to preserve the high quality of Yale students and faculty, to provide flexibility for creating desirable new programs, to raise new monies to replace government and foundation aid to graduate students, to permit the library to buy the books and periodicals and find the space to hold them in a fashion adequate for the scholarly activities of the Yale community, and in those and other ways to liquidate what President Brewster has called the "educational deficit."

A final implication made clear by our study is the need for much closer coordination and communication between the academic and the non-academic sides of the University. We applaud the appointment of academic representatives as regular members of the University Budget Committee. We urge the completion of plans to restore faculty membership to the Buildings and Grounds Committee. We recommend strongly that the Faculty as a whole be kept better informed than it has been about the finances of the University. Responsible academic decisions depend upon the availability of full financial information. The committee also recommends continuing consideration of the problems it has studied by appropriate committees of the Faculty and by the Commission on Priorities and Planning. The committee believes continuity in the discussion of and attention to these matters crucial to the educational mission of the University.

The committee assumes that with the submission of this report it has completed the task for which it was created.

John M. Blum, Chairman

William C. Brainard

Donald Crothers

Ruth S. Day

A. Bartlett Giamatti

Michael Meyer '74

Peter Parker

Jaroslav Pelikan, Vice Chairman

Susan Price, Gr. '74

G. Gaddis Smith

David Stewart '73

Robert Wyman

Data Underlying Solid Lines in Exhibits I and II

(\$ million)

| | 72/73 | 73/74 | 74/75 | 75/76 | 76/77 |
|----------------------|-------------|-------------|-------------|-------------|---|
| Tuition, etc. | 34.0 | 36.1 | 38.2 | 43.1 | 45.4 |
| Investment | 28.5 | 29.4 | 30.4 | 31.6 | 33.0 |
| Current Gifts | 4.8 | 5.3 | 5.3 | 5.5 | 5.7 |
| Overhead Recovery | 7.9 | 8.8 | 9.2 | 9.7 | 10.2 |
| Other Income | 6.1 | 6.4 | 6.7 | 7.0 | 7.3 |
| Total Income | 81.4 | 86.0 | 89.9 | 97.0 | 101.6 |
| Salaries & Wages | 47.0 | 49.2 | 51.8 | 54.5 | 57.4 |
| Benefits | 4.8 | 5.0 | 5.3 | 5.6 | 5.8 |
| Student Aid | 7.8 | 8.3 | 8.8 | 9.7 | 10.2 |
| Financial | 2.6 | 2.7 | 2.9 | 3.0 | 3.1 |
| Operations | 10.1 | 10.6 | 11.2 | 12.6 | 13.1 |
| Miscellaneous | 11.5 | 12.0 | 12.6 | 13.2 | 13.8 |
| Contingencies* | .9 | .9 | .9 | .9 | .9 |
| Total Expense | 84.7 | 88.7 | 93.4 | 99.4 | 104.4 |
| Deficit | - 3.3 | - 2.8 | - 3.5 | - 2.4 | - 2.7 |
| | | | | | (excludes direct costs of sponsored research) |

* "Contingencies" are allowances for unforeseen but unspecified increases in expenses or short falls in income. Part of the recent rises in fuel prices or social security payments would be examples. In the absence of any such developments, the contingency funds would not be spent.

Exhibit 1. Projected Deficits in millions of dollars

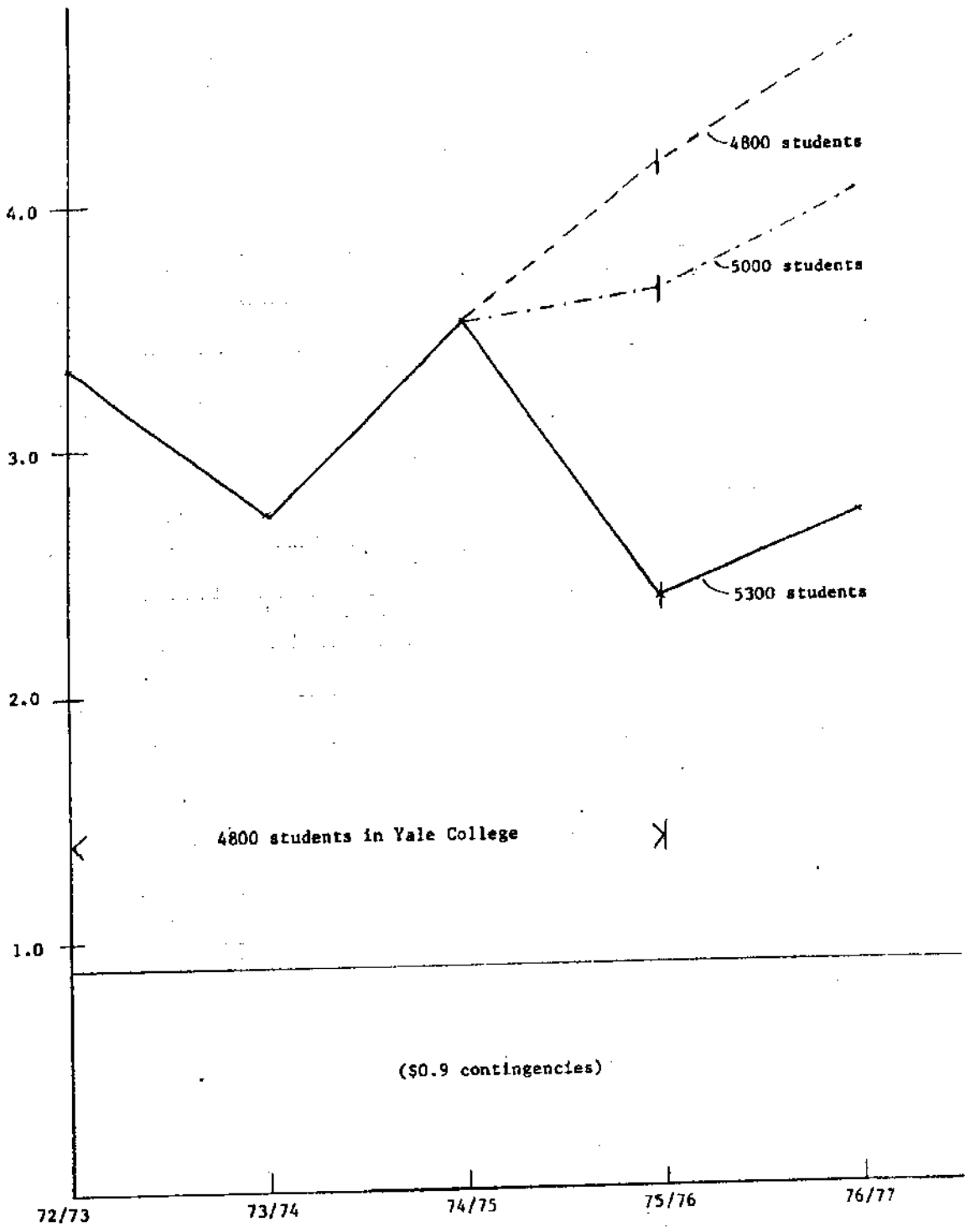


Exhibit II. Projected Deficits in millions of dollars

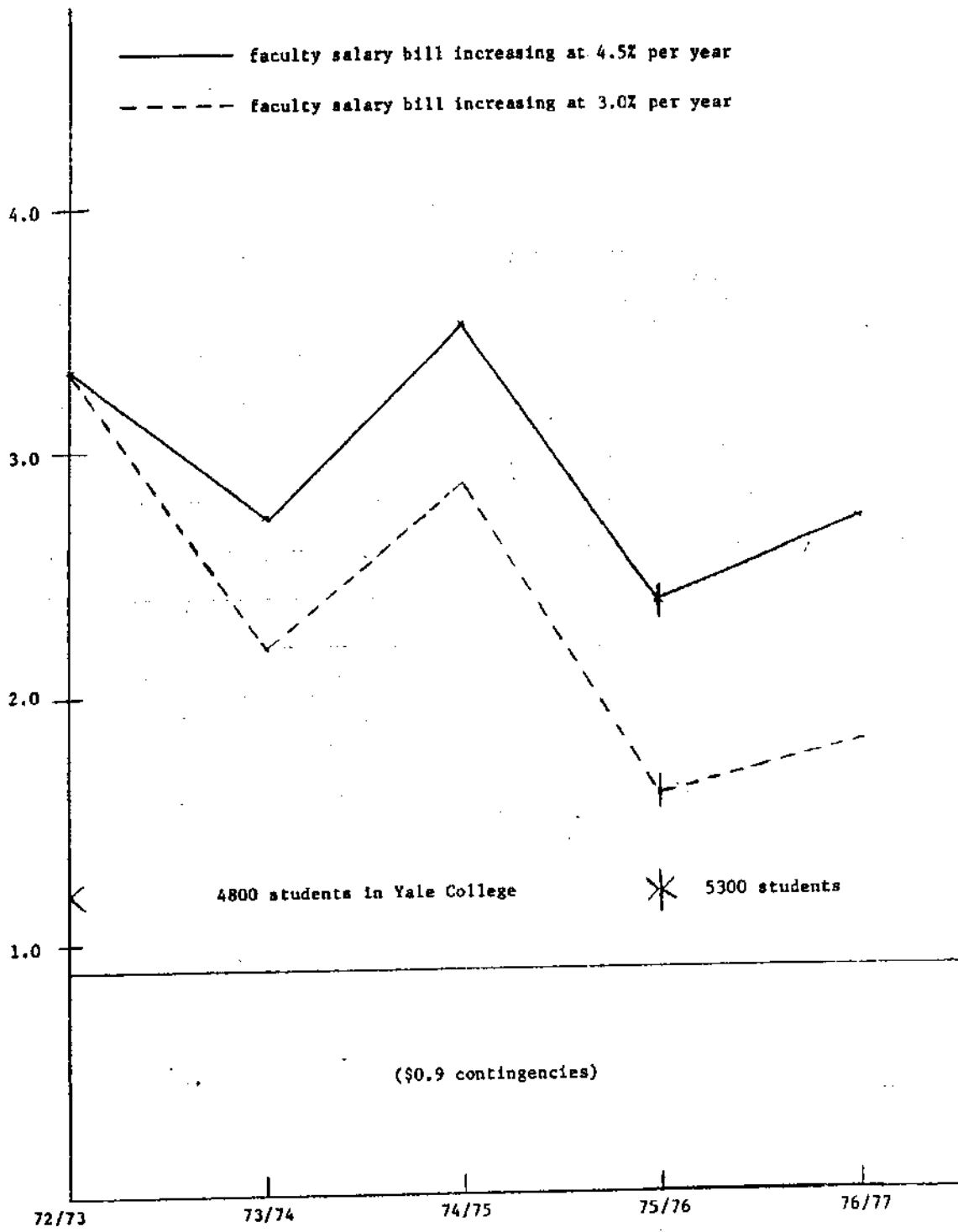


Exhibit III

Sensitivity Analysis

Deficit (\$millions; includes 0.9 in contingencies)

| | <u>72/73</u> | <u>73/74</u> | <u>74/75</u> | <u>75/76</u> | <u>76/77</u> |
|---|--------------|--------------|--------------|--------------|--------------|
| <u>Base line</u> | 3.33 | 2.75 | 3.52 | 4.15 | 4.62 |
| +200 students in 75/76 | 3.33 | 2.75 | 3.52 | 3.62 | 4.03 |
| +500 students in 75/76 | 3.33 | 2.75 | 3.52 | 2.38 | 2.71 |
| <u>Variations on base line (all rates are annual)</u> | | | | | |
| 1. inflation ¹ | | | | | |
| a) at 3.0% | | 2.61 | 3.30 | 3.84 | 4.22 |
| b) at 5.0% | | 2.86 | 3.74 | 4.46 | 5.03 |
| 2. investment | | | | | |
| a) return at 7.75% | | 2.75 | 3.59 | 4.32 | 4.94 |
| b) return at 9.25% | | 2.75 | 3.48 | 4.01 | 4.32 |
| c) gifts yield \$0.200/yr. | | 2.75 | 3.61 | 4.39 | 5.09 |
| d) gifts yield \$0.600/yr. | | 2.75 | 3.46 | 3.93 | 4.17 |
| 3. current gifts increasing | | | | | |
| a) at 0.0%/yr. | | 3.18 | 4.03 | 4.85 | 5.52 |
| b) at 8.0%/yr. | | 2.75 | 3.18 | 3.55 | 3.73 |
| 4. overhead recovery increasing | | | | | |
| a) at 0.0% | | 2.75 | 3.96 | 5.05 | 6.01 |
| b) at 9.0% | | 2.75 | 3.17 | 3.40 | 3.42 |
| 5. student aid - no increase | | 2.21 | 2.48 | 2.59 | 2.52 |
| 6. tuition increasing | | | | | |
| a) at 3% | | 3.31 | 4.71 | 5.99 | 7.18 |
| b) at 9% | | 2.17 | 2.28 | 2.13 | 1.71 |
| 7. salaries & wages | | | | | |
| a) faculty @ 3.0%, other @ 5.5% | | 2.43 | 2.84 | 3.09 | 3.15 |
| b) faculty @ 3.5%, other @ 5.0% | | 2.37 | 2.73 | 2.90 | 2.85 |
| c) faculty @ 3.5%, other @ 5.5% | | 2.46 | 2.96 | 3.27 | 3.39 |
| d) faculty @ 5.5%, other @ 5.5% | | 2.96 | 3.99 | 4.90 | 5.67 |
| e) faculty @ 5.5%, other @ 6.0% | | 3.05 | 4.22 | 5.27 | 6.21 |

Note. This table gives some idea of how sensitive the University's overall financial condition is to the particular assumptions underlying the projections used in the report. Each numbered item here varies one assumption as indicated, holding all other assumptions the same.

1. A rate of price inflation assumed, not for all goods and services which Yale buys (and sells), but only for those items for which a particular assumption is not specified (utilities, food, supplies, travel, etc.).

Exhibit IV

Two Illustrative Patterns of Student Residence
under a Trimester Plan with One Term of Required Summer Residence

| | Class Year | | | | Class Year | | | |
|-------|------------|-----|-----|-----|------------|-----|-----|-----|
| | (1) | (2) | (3) | (4) | (1) | (2) | (3) | (4) |
| Sept. | | | | | | | | |
| Oct. | | | | | | | | |
| Nov. | | | | | | | | |
| Dec. | | | | | | | | |
| Jan. | | | | | | | | |
| Feb. | | | | | | | | |
| Mar. | | | | | | | | |
| Apr. | | | | | | | | |
| May | | | | | | | | |
| June | | | | | | | | |
| July | | | | | | | | |
| Aug. | | | | | | | | |

Note: With one out of eight terms of summer residence, there are fifteen arrangements of a student's period in residence that are possible on the assumption that he spends the fall and spring terms of his freshman year and the spring term of his senior year in residence.

Appendix to the Report of
the Committee on the Future of the
College and the Graduate School

| | |
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I. Introduction

In attempting to recommend an optimal course for the future, the committee asked many questions about the past record. Among these questions, three seem to us to be of interest to the faculty as a whole.

1) What were the changes in income and expenditure patterns in the last few years that have put Yale in deficit? 2) Can any aspect of University expenditures be identified as particularly inefficient, or can any sources of University income be identified as particularly unproductive? In short can one lay "blame" for the "crisis" at any one doorstep? 3) Has the fraction of Yale resources devoted to its faculty and the educational process decreased in recent years?

We found it very difficult to answer these questions. University finances consist of tens of thousands of individual transactions. An accounting system handles these transactions in different ways for different purposes. A set of auditable records must be kept to guard against dishonesty and malfeasance. Such records are usually useless for the kind of questions we asked. For assessing budgeting and planning the individual transactions must be grouped in appropriate categories. Depending on the questions asked, the categories might be different. We found it often impossible to reaggregate statistics collected under one set of accounts into the categories we wished to have. The Provost's office was extremely helpful to us, but their problems with the statistics are not less than ours. The Treasurer's Office in the end provided us with most of the figures, but analysis of historical trends was evidently a new exercise for them also.

II. Historical

The accompanying tables give some impression of trends in Yale's income and expenditures over the last decade and in greater detail over the last five years. The numbers are budget figures rather than actual results (except for Table XII); actual income and expenditure are not generally available in the same categories as budget figures. The comparability even of the budgeted figures is made difficult by a major change in the system of accounts in 1965/66 and by occasional shifts in significant expenditure items from one category to another, such as arose, for example, when the telephone equipment budget was switched from departments and schools to business operations in 1970/71. Because of these problems, the numbers must be used cautiously. We know that the final expenditures may be substantially different from the budgeted levels. Nevertheless, the budget figures can be used to indicate long-run trends.

The past decade can be divided into two overall periods, 1963-70 and 1970 to the present. During the first period, Yale engaged in rapid expansion, and most expense items approximately doubled in this period. Direct educational expenditures rose somewhat more rapidly than other expenditures by the University. The developments reflected a rapid increase in faculty compensation, which was a nationwide phenomenon, in sharp contrast with the fifties in which faculty compensation did not grow rapidly. Further, during this period Yale improved its relative position in faculty salaries among universities. In addition, there was a substantial increase in the size of the faculty, and there was some increase in the direct support, e.g., secretarial help, made available to faculty members.

The doubling of expenditures between 1963 and 1969 was sustained by a rapid growth in income from endowment and other income except tuition and fees, which grew less than proportionally.

The situation turned radically in the year 1969/70. Since that time, direct educational expenditures have grown very slowly, while expenditures other than those on school and department budgets have risen by roughly fifty per cent. The significant rises in expenses since 1970 are \$0.6 million in education, \$2 million in health and benefits (largely attributable to debt service on the Yale Health Plan building) and \$6 million in "Other of Other" (Table II). Other of Other is expanded in Table III. The significant rises are utilities (\$2 million; mostly increased oil expenses since Yale was required to change to low sulphur fuel, and the price of low sulphur fuel rose tremendously) and insurance (\$0.6 million; rates rose after the political disquiet of the late sixties, but are now falling). Two apparent increases in expense are budgetary in nature rather than actual. The decline in the unfilled position credit (\$1.4 million) is due in part to overestimation in 1970/71, in part to budget cuts falling on those positions. Computing equipment charges (\$0.7 million) are internal and reflect accelerated amortization based on CPU usage. These 6 items are all the budget entries that increased by more than 1/2 million. Together they account for \$7.3 million of the expense rise. Other items together accounted for a \$1.9 million rise.

Since 1970 income has not kept pace with expenses. While income from term bills rose \$6.4 million (tuition rose and enrollment expanded with co-education) and overhead on grants increased (\$1.2 million) income from endowment, alumni and gifts fell by \$2 million. A large part of this loss can be attributed to the stagnation of the national economy, and the alumni were naturally more inclined to be generous in fair weather than in foul. Government support of higher education and research is decreasing, as is

reflected in the projected \$4.5 million decrease in sponsored activities. This is particularly and increasingly critical for fellowships in the Graduate School and for Area Studies.

In short the rapid expansion of expenditures in the sixties left the University vulnerable in the new decade when rapid inflation combined with economic stagnation reversed the financial picture. The policy decision of the sixties to expand Yale as rapidly as possible while money was available must be assessed with a view to whether it would have been better to build more slowly, or to cut back from a position of increased strength as we now must do.

III. Hypotheses

Many of the faculty have spoken to us heatedly about the cause of the crisis: "The telephone book is filled with non-faculty personnel," "It takes three maintenance men one hour to change a light bulb," "The sciences are sucking up the money," "The endowment has been mismanaged." We have attempted to ascertain the validity of these hypotheses and report below on the ones we received most commonly.

A.) Operations.

The Director of Operations (John Embersits) prepared for us a 7 year history of the increase in the expenditures of his department. A summary of that history is shown in Table XII. (This chart is based upon actual rather than budgeted figures. Expenses in Operations are shown net of cash income, which does not include student board fees or overhead charged by operations to other departments.) For each year the top bar is the increase in the University gross budget (in millions and percent) over the previous year. The University gross budget includes General Appropriations

(Yale) money and Grant and Contract (outside) money. The justification for using the gross budget as a base is that Operations has to maintain and heat research space as well as other types of space. (See "The Sciences" below for discussion of peripheral expenses of research.) For each year the lower bar is the increase in Operations expenses, which is further broken down into three components: expenses for 1) activities carried on by Operations in the previous year (the left-most sub-bar); 2) existing activities shifted under the expanding umbrella of operations; and 3) extraordinary items. Thus in 1967/68 Athletics grounds maintenance was separated from the Athletic department and attached to Operations. Other accretions (in order) are Employee Relations Office, parking, Personnel Office, Housing Office, and departmental telephone equipment expenses. Extraordinary items include food and housing expenses associated with coeducation, the fire in the A&A building, and large increases in utility costs. In every year Operations Expenses (based on preceding year's activities) grew at a lesser rate than the University Budget. The bottom bars average the yearly bars. It can be seen that Operations Expenses (not counting accretions in the year they were made) rise on the average 2.2% a year while the University Budget rose 9.8% a year.

In summary, a very good case can be made for the relative efficiency of Operations. It should be borne in mind that their budget appears to grow more slowly than the rest of the university's even in a time when Operations had to absorb an extraordinary inflationary rise. On the other hand we could not delve so deeply into the affairs of Operations that we are totally convinced of their case. Last year a faculty committee was appointed to study Operations, but its report was not of great use to us. None of this is to say there is no room for improvement in Operations. Many of us have seen examples of inefficiency. We could not evaluate the

extent of inefficiency nor the relative role of labor and management.

B.) The Sciences

Table v shows that over the period spanning the crisis (1968-1973) the Natural Sciences departmental budgets increased \$0.7 million, Humanities increased \$1.2 million and Social Sciences \$0.6 million. Certainly the science departmental budgets are not the cause of the crisis. There are many peripheral expenses of research, secretaries, research space, maintenance, purchasing, etc. These are supposed to be paid for, with no gain or loss, from overhead recoveries. In the past the expenses were certainly not totally recovered, but now they probably are. Overhead recovery is the fastest growing component of income. It has risen at a rate of about 16% a year since 1963. Overhead is negotiated between the University and the Government. The University, in the past few years, has made major efforts to identify and charge for, all real costs of research. The rate for indirect costs on government grants and contracts is now 66% of salaries and wages charged to them. Recoveries on private foundation grants are considerably less. In addition to overhead, grants bring in other money to University accounts: fringe benefit recoveries, faculty salaries (for example in physics and economics), graduate student tuition (for example in Biology and Chemistry), support for computer operations (for example in Social Sciences), etc.

In summary, while in the past sponsored research may have been a drain on the University Budget, that does not now seem to be the case.

C.) Endowment

Endowment management is an extremely complex issue which we were not qualified to evaluate. We could make a comparison to one other major

university (Harvard). Yale's endowment has remained at about 1/2 the size of Harvard's since 1948. Both have increased greatly, but the difference in dollars between Harvard's and Yale's endowment has greatly increased. According to a study made by the Provost, the most important difference has been a greater level of new gifts to Harvard's endowment over this period. A thorough review of Yale's endowment management would require comparison with many other universities as well.

D.) Faculty Share

We have considered a variety of other hypotheses which center on the possibility that the non-faculty activities of the University have grown disproportionately, and should be blamed for the financial crisis. Although, again, these are difficult questions to handle, we felt that any disproportionate increase, or lack of proportionate cut, in non-faculty expenses would show up as a decrease in the faculty share. We therefore asked the following question: Has the fraction of available resources allocated to the regular full-time Faculty decreased over the past years?

This question is not simple to answer from the budget figures. Faculty compensation appears under the expenditure category "Education", which is primarily a sum of the budgets of the academic departments (see Tables II and IV). However, since these budgets include administrative, clerical and technical personnel, "Education" is not an accurate index of Faculty compensation.

We therefore sought ways other than through the standard budget categories to assess the fraction of its resources the University is devoting to its teaching faculty. Table XIV shows total compensation (salary plus fringe benefits) provided to full-time Faculty according to the annual report made to the American Association of University Professors.*

*These figures include all full-time appointments at the level of professor, associate professor, assistant professor, instructor and lecturer, but exclude administrative, visiting, and adjunct appointments. The Schools of Medicine and Nursing are excluded.

We also needed to define the funds the University has available for its educational pursuits. This we took as the budgeted expenditures from general appropriations and endowment funds, less overhead income. (Overhead income is credited to general appropriations, but its purpose is to compensate the University for managing sponsored research activities. Income and expenditure for sponsored research balance and do not enter our considerations here). It could be argued that income and expenditures for student room and board should similarly be excluded, since this is another of the University's contractual services not directly related to education. However, we could not generate reliable figures for past years in this category, and it has been retained in the total of funds which might be characterized as "available for education".

As shown in the graph of figure XV, faculty compensation has averaged about 25% of the total "available for education". The changes with time have been irregular, but the general appearance is a gradual erosion of the fraction of resources devoted to full time Faculty. Measured in terms of the 1972/73 budget, the decrease from the peak in 1964/65 to the low point in 1972/73 is over \$3 million, a very substantial loss of faculty strength.

There are many complex reasons for the apparent erosion of faculty support, including the dramatic increase in the price of fuel and other necessities, and the relatively more rapid salary increases accorded to lower-paid University employees. We do not argue that the decreases shown in figure XV could have been entirely avoided, but neither should they go unnoticed. Furthermore, it would destroy the University if that erosion were to continue indefinitely, and the faculty must be prepared to act vigorously in the future to define its unique importance for the University.

IV. Conclusions

In summary our historical studies have been able to identify the period and categories of the financial reversal. Although we have not found any one or even several sources of waste, we have identified areas in which improvement seems possible. Yale should strive for the same excellence in its financial management, operations, and long term planning that it continually seeks in its faculty. We have not learned, from the history, any way rapidly and certainly to eliminate the deficit. As shown in the main report, the savings and new income projected do not close the gap. For solving the financial problem we find no viable alternative to a major increase in tuition income, resulting from a major calendar change.

We believe that it is essential that the Faculty be informed of the expenditures budget and financial priorities of the University. We recommend the following procedure to accomplish this end: The officers responsible for the budget should report yearly to the Priorities and Planning Commission on the expenditures budget, including expenses divided into particular categories which the Commission may find necessary for assessing priorities and historical trends. The Commission members should then report yearly to the Faculty at a meeting of the Yale College Faculty, and be prepared to discuss priorities and answer questions from the floor.

Robert Wyman
Donald Crothers

For the Committee on the Future of
the College and the Graduate School

TABLES

- I. 10 year comparison of income
- II 10 year comparison of expense
- III Detail of "other" in table II
Five year comparisons:
- IV By major function
- V Arts and Sciences
- VI Educational Support
- VII Student Aid
- VIII Health/benefits
- IX Operations
- X Administration
- XI General
- XII University Operations=Summary 1965-72 (chart)
- XIII Faculty Appointments in Arts and Sciences, 1962-73
- XIV Faculty Salaries & Fringe Benefits, 1962-73 (AAUP data)
- XV Full-time faculty compensation (AAUP) as a percent of budgeted expenses (graph)

TABLE I

Ten Year Comparison of Budgeted Income (Adjusted)
(\$millions)

| | 1972/73 | 1971/72 | 1970/71 | 1969/70 | 1968/69 | 1967/68 | 1966/67 | 1965/66 | 1964/65 | 1963/64 |
|---------------------------|----------|----------|---------|---------|---------|---------|----------|----------|----------|----------|
| Term Bills | \$ 33.7 | \$ 30.9 | \$ 27.3 | \$ 25.6 | \$ 22.3 | \$ 20.3 | \$ 20.4 | \$ 18.8 | \$ 18.3 | \$ 16.2 |
| Income from Endowment | 27.8 | 27.2 | 29.1 | 27.5 | 25.7 | 23.5 | 20.9 | 15.3 | 14.7 | 13.7 |
| Alumni Fund | 3.5 | 2.9 | 3.9 | 3.6 | 2.7 | 2.3 | 1.7 | 1.7 | 1.7 | 1.7 |
| Other Gifts | 1.0 | .7 | 1.3 | 1.7 | 1.5 | 1.2 | .9 | .8 | .8 | .6 |
| Indirect Expense Recovery | 7.6 | 6.6 | 6.4 | 4.9 | 4.2 | 3.8 | 3.5 | 3.0 | 2.7 | 2.2 |
| Other Income | 6.4 | 6.1 | 6.9 | 5.5 | 4.4 | 3.8 | 3.2 | 1.0 | 1.0 | .9 |
| Total Yale Sources | 80.0 | 74.4 | 74.9 | 68.8 | 60.8 | 54.9 | 50.6 | 40.6 | 39.2 | 35.3 |
| Sponsored Activities | 48.0 | 50.5 | 52.0 | 45.1 | 41.9 | 36.3 | 26.6 | 22.6 | 20.9 | 14.0 |
| Total Income | 128.0 | 124.9 | 126.9 | 113.9 | 102.7 | 91.2 | 77.2 | 63.2 | 60.1 | 49.3 |
| Expenses | 132.1 | 130.6 | 126.9 | 113.9 | 102.7 | 91.2 | 77.6 | 65.7 | 61.3 | 50.1 |
| Deficit (budgeted) | \$ (4.1) | \$ (5.7) | \$ -0- | \$ -0- | \$ -0- | \$ -0- | \$ (1.4) | \$ (2.5) | \$ (1.2) | \$ (1.8) |

TABLE II

Ten Year Comparison of Budgeted Expenditures
General Appropriations and Endowment Funds (Millions)

| | 1972/73 | 1971/72 | 1970/71 | 1969/70 | 1968/69 | 1967/68 | 1966/67 | 1965/66 | 1964/65 | 1963/64 |
|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Education | \$ 28.0 | \$ 26.9 | \$ 27.4 | \$ 26.4 | \$ 22.7 | \$ 20.4 | \$ 17.4 | \$ 15.7 | \$ 14.7 | \$ 13.2 |
| Student Aid | 7.5 | 7.1 | 7.0 | 6.2 | 5.5 | 5.0 | 5.0 | 3.9 | 3.7 | 3.0 |
| Health/Benefits | 8.9 | 8.7 | 6.9 | 6.5 | 5.8 | 4.4 | 3.9 | 3.4 | 3.2 | 3.1 |
| Other | 39.7 | 37.4 | 33.6 | 29.7 | 26.8 | 25.1 | 24.7 | 20.1 | 18.8 | 16.8 |
| G. A. and Funds | 84.1 | 80.1 | 74.9 | 68.8 | 60.8 | 54.9 | 51.0 | 43.1 | 40.4 | 36.1 |
| Outside Sources | 48.0 | 50.5 | 52.0 | 45.1 | 41.9 | 36.3 | 26.6 | 22.6 | 20.9 | 14.0 |
| Total | 132.1 | 130.6 | 126.9 | 113.9 | 102.7 | 91.2 | 77.6 | 65.7 | 61.3 | 50.1 |
| Education | | | | | | | | | | |
| F. A. S. | 19.5 | 19.0 | 19.4 | 19.0 | 16.0 | 14.6 | 12.2 | 10.7 | 10.0 | 9.0 |
| Medicine | 3.1 | 2.9 | 3.0 | 2.7 | 2.6 | 2.3 | 2.2 | 2.0 | 1.9 | 1.6 |
| Law | 2.2 | 2.0 | 1.9 | 1.8 | 1.6 | 1.4 | 1.1 | 1.1 | 1.1 | .9 |
| Art/Architecture | .7 | .7 | .8 | .8 | .7 | .7 | .6 | .6 | .5 | .5 |
| Divinity | .6 | .6 | .6 | .6 | .5 | .4 | .4 | .4 | .4 | .4 |
| Drama | .6 | .5 | .5 | .5 | .3 | .2 | .2 | .2 | .2 | .2 |
| Music | .6 | .5 | .5 | .4 | .4 | .3 | .3 | .3 | .2 | .2 |
| Forestry | .5 | .5 | .5 | .4 | .4 | .4 | .3 | .3 | .3 | .3 |
| Nursing | .2 | .2 | .2 | .2 | .2 | .1 | .1 | .1 | .1 | .1 |
| Total Education | 28.0 | 26.9 | 27.4 | 26.4 | 22.7 | 20.4 | 17.4 | 15.7 | 14.7 | 13.2 |
| Other | | | | | | | | | | |
| Library | 5.8 | 5.3 | 5.4 | 4.8 | 4.0 | 3.5 | 3.4 | 3.1 | 2.7 | 2.4 |
| Athletics | 1.5 | 1.5 | 1.5 | 1.4 | 1.3 | 1.3 | 1.2 | 1.1 | 1.1 | 1.1 |
| Dining Halls | 5.6 | 5.6 | 5.8 | 4.9 | 4.3 | 4.2 | 3.6 | 3.5 | 3.2 | 3.1 |
| *Other | 26.8 | 25.0 | 20.9 | 18.6 | 17.2 | 16.1 | 16.5 | 12.4 | 11.8 | 10.2 |
| Total Other | 39.7 | 37.4 | 33.6 | 29.7 | 26.8 | 25.1 | 24.7 | 20.1 | 18.3 | 16.8 |

* Note: This includes Property, Administration, Academic Services, General

TABLE III

Detail of Expenses Classified as "Other" in Table II

(Millions)

| | <u>1972/73</u> | <u>1971/72</u> | <u>1970/71</u> | <u>1969/70</u> | <u>1968/69</u> |
|--|----------------|----------------|----------------|----------------|----------------|
| Academic Services | \$ 5.2 | \$ 5.0 | \$ 5.0 | \$ 4.8 | \$ 4.4 |
| Operations | | | | | |
| Heating & Lighting | 5.4 | 4.7 | 3.4 | 3.3 | 3.1 |
| Physical Plant | 4.3 | 4.2 | 4.3 | 5.1 | 4.7 |
| Custodial | 2.6 | 2.5 | 2.7 | 2.4 | 2.2 |
| Grounds Maintenance | 1.0 | .9 | .9 | .8 | .8 |
| Communications | 1.2 | 1.3 | 1.1 | .4 | .4 |
| Parking | .2 | .2 | .1 | .1 | - |
| Administration (other) | <u>1.9</u> | <u>2.0</u> | <u>1.4</u> | <u>1.3</u> | <u>1.3</u> |
| Total Operations Excl. Dining Halls | 16.6 | 15.8 | 13.9 | 13.4 | 12.5 |
| Administration | 4.8 | 4.7 | 4.4 | 4.2 | 3.9 |
| General | | | | | |
| Unfilled Position Credit | (1.0) | (.8) | (2.4) | (1.9) | (1.9) |
| Contingencies | .9 | .8 | .5 | .2 | - |
| Property Insurance/Taxes | .9 | .8 | .3 | .3 | .3 |
| Computing Equipment | .7 | .4 | - | - | - |
| Debt Service-Library | .4 | .4 | .2 | - | - |
| Officers' Salaries | .3 | .3 | .3 | .3 | .2 |
| Other | <u>.6</u> | <u>.2</u> | <u>.3</u> | <u>(.9)</u> | <u>(.2)</u> |
| | 2.8 | 2.1 | (.8) | (2.0) | (1.6) |
| Interdepartmental Billings | (2.6) | (2.6) | (1.6) | (1.8) | (2.0) |
| Total Other | <u>\$26.8</u> | <u>\$25.0</u> | <u>\$20.9</u> | <u>\$18.6</u> | <u>\$17.2</u> |

Yale University
Comparison of Budget
(Millions)

TABLE IV

| | <u>72/73</u> | <u>71/72</u> | <u>70/71</u> | <u>69/70</u> | <u>68/69</u> |
|---------------------|--------------|--------------|--------------|--------------|--------------|
| Education | \$28.0 | \$26.9 | \$27.4 | \$26.4 | \$22.7 |
| Education Support | 12.5 | 11.8 | 11.9 | 11.0 | 9.7 |
| Student Aid | 7.5 | 7.1 | 7.0 | 6.2 | 5.5 |
| Health/Benefits | 8.9 | 8.7 | 6.9 | 6.5 | 5.8 |
| Operations | 22.2 | 21.4 | 19.7 | 18.3 | 16.8 |
| Administration | 4.8 | 4.7 | 4.4 | 4.2 | 3.9 |
| General | 2.8 | 2.1 | (.8) | (2.0) | (1.6) |
| Interdept. Billings | <u>(2.6)</u> | <u>(2.6)</u> | <u>(1.6)</u> | <u>(1.8)</u> | <u>(2.0)</u> |
| | \$84.1 | \$80.1 | \$74.9 | \$68.8 | \$60.8 |

Budget Office
8/21/72

TABLE V

Yale University
Comparison of Budget

Faculty of Arts and Sciences
(Millions)

| | <u>72/73</u> | <u>71/72</u> | <u>70/71</u> | <u>69/70</u> | <u>68/69</u> |
|-------------------------------|---------------|---------------|---------------|---------------|---------------|
| Natural Sciences | \$ 5.7 | \$ 5.7 | \$ 5.8 | \$ 5.8 | \$ 5.0 |
| Humanities | 5.5 | 5.4 | 5.4 | 5.2 | 4.3 |
| Social Sciences | 3.4 | 3.4 | 3.2 | 3.2 | 2.8 |
| (a) Residential Colleges | .7 | .4 | .4 | .4 | .3 |
| Other F.A.S. | <u>1.6</u> | <u>1.4</u> | <u>1.6</u> | <u>1.7</u> | <u>1.1</u> |
| F.A.S. | 16.9 | 16.3 | 16.4 | 16.3 | 13.5 |
| Yale College | 1.4 | 1.5 | 1.6 | 1.6 | 1.5 |
| Graduate School | .4 | .4 | .5 | .5 | .4 |
| Inst. Social Science | <u>.2</u> | <u>.1</u> | <u>.1</u> | <u>.0</u> | <u>.0</u> |
| Departmental Budgets | 18.9 | 18.3 | 18.6 | 18.4 | 15.4 |
| (b) Centrally Budgeted | <u>.6</u> | <u>.7</u> | <u>.8</u> | <u>.6</u> | <u>.6</u> |
| Total F.A.S. | <u>\$19.5</u> | <u>\$19.0</u> | <u>\$19.4</u> | <u>\$19.0</u> | <u>\$16.0</u> |
| Total University Budget | \$84.1 | \$80.1 | \$74.9 | \$68.8 | \$60.8 |
| % F.A.S. to University Budget | 23.2% | 23.7% | 25.9% | 27.6% | 26.3% |

Budget Office
8/21/72

Notes (a) 72/73 includes transfers to College budgets of approx. \$.24, in part from 'Centrally budgeted.'
(b) includes bursary wages, restricted funds not budgeted at the department level.

TABLE VI

Yale University
Comparison of Budget

Educational Support
(Millions)

| | <u>72/73</u> | <u>71/72</u> | <u>70/71</u> | <u>69/70</u> | <u>68/69</u> |
|-------------------|--------------|--------------|--------------|--------------|--------------|
| Library | \$ 5.8 | \$ 5.3 | \$ 5.4 | \$ 4.8 | \$ 4.0 |
| Athletics | 1.5 | 1.5 | 1.5 | 1.4 | 1.3 |
| Academic Services | <u>5.2</u> | <u>5.0</u> | <u>5.0</u> | <u>4.8</u> | <u>4.4</u> |
| | \$12.5 | \$11.8 | \$11.9 | \$11.0 | \$ 9.7 |

Note: About \$900,000 of the Expense of Athletics is recovered in the Income accounts.

Budget Office
8/21/72

TABLE VII

Yale University
Comparison of Budget

| | Student Aid (Millions) | | | | |
|----------------------|---------------------------|--------------|--------------|--------------|--------------|
| | <u>72/73</u> | <u>71/72</u> | <u>70/71</u> | <u>69/70</u> | <u>68/69</u> |
| Yale College | \$3.2 | \$3.1 | \$3.0 | \$2.4 | \$2.0 |
| Graduate School | 2.8 | 2.6 | 2.6 | 2.5 | 2.4 |
| Professional Schools | 1.4 | 1.3 | 1.3 | 1.2 | 1.0 |
| Prizes, etc. | <u>.1</u> | <u>.1</u> | <u>.1</u> | <u>.1</u> | <u>.1</u> |
| | \$7.5 | \$7.1 | \$7.0 | \$6.2 | \$5.5 |

Budget Office
8/21/72

TABLE VIII

Yale University
Comparison of Budget

| | Health/Benefits (Millions) | | | | |
|---------------------------------|-------------------------------|--------------|--------------|--------------|--------------|
| | <u>72/73</u> | <u>71/72</u> | <u>70/71</u> | <u>69/70</u> | <u>68/69</u> |
| Health Care | \$ 3.5 | \$ 3.3 | \$ 2.0 | \$ 1.9 | \$ 1.6 |
| Retirement Plans | 4.3 | 4.0 | 3.9 | 3.4 | 2.9 |
| (a) Statutory Benefits | 3.1 | 3.3 | 2.5 | 2.3 | 2.0 |
| Education Benefits | .6 | .5 | .3 | .3 | .3 |
| Group Life Insurance | <u>.3</u> | <u>.3</u> | <u>.1</u> | <u>.3</u> | <u>.1</u> |
| | 11.8 | 11.4 | 8.8 | 8.2 | 6.9 |
| Less Fringe Benefit Recovery | <u>(2.9)</u> | <u>(2.7)</u> | <u>(1.9)</u> | <u>(1.7)</u> | <u>(1.1)</u> |
| Net Benefits/Health | \$ 8.9 | \$ 8.7 | \$ 6.9 | \$ 6.5 | \$ 5.8 |

Budget Office
8/21/72

Notes (a) 71/72 actual expense of unemployment compensation was over-estimated.

TABLE IX

Yale University
Comparison of Budget

Operations Divisions
(Millions)

| | <u>72/73</u> | <u>71/72</u> | <u>70/71</u> | <u>69/70</u> | <u>68/69</u> |
|----------------------------|--------------|--------------|--------------|--------------|--------------|
| Dining Halls | \$ 5.6 | \$ 5.6 | \$ 5.8 | \$ 4.9 | \$ 4.3 |
| Heating & Lighting | 5.4 | 4.7 | 3.4 | 3.3 | 3.1 |
| Physical Plant | 4.3 | 4.2 | 4.3 | 5.1 | 4.7 |
| Custodial | 2.6 | 2.5 | 2.7 | 2.4 | 2.2 |
| Grounds Maintenance | 1.0 | .9 | .9 | .8 | .8 |
| (a) Communications | 1.2 | 1.3 | 1.1 | .4 | .4 |
| (b) Parking | .2 | .2 | .1 | .1 | .0 |
| (c) Administration (Other) | <u>1.9</u> | <u>2.0</u> | <u>1.4</u> | <u>1.3</u> | <u>1.3</u> |
| | \$22.2 | \$21.4 | \$19.7 | \$18.3 | \$16.8 |

Note: About \$7 million of the expenses of Operations is recovered in the Income accounts.

(a) 70/71 includes transfer of telephone equipment expense (centrex) from department budgets.

(b) deferred charge prior to 69/70.

(c) includes wage and other contingencies, transfers from budgets of Operations departments (above).

Budget Office
8/21/72

TABLE X

Yale University
Comparison of Budget

| | Administration (Millions) | | | | |
|------------------------|------------------------------|--------------|--------------|--------------|--------------|
| | <u>72/73</u> | <u>71/72</u> | <u>70/71</u> | <u>69/70</u> | <u>68/69</u> |
| President's Office | \$.4 | \$.4 | \$.4 | \$.4 | \$.4 |
| (a) Treasurer's Office | 2.6 | 2.6 | 2.3 | 2.1 | 1.9 |
| (b) Secretary's Office | .6 | .6 | .4 | .3 | .3 |
| Development Office | <u>1.2</u> | <u>1.1</u> | <u>1.3</u> | <u>1.4</u> | <u>1.3</u> |
| | \$4.8 | \$4.7 | \$4.4 | \$4.2 | \$3.9 |

Budget Office
8/21/72

- Notes (a) includes transfer in 71/72 of suppressed and confidential salaries from department budgets.
(b) includes transfer of part of Admissions Office, addition of Yale Council on Community Affairs (previously funded outside of the operating budget).

TABLE XI

Yale University
Comparison of Budget

| | General (Millions) | | | | |
|-------------------------------|-----------------------|---------------|----------------|----------------|----------------|
| | <u>72/73</u> | <u>71/72</u> | <u>70/71</u> | <u>69/70</u> | <u>68/69</u> |
| Unassigned Positions | \$(1.0) | \$(.8) | \$(2.4) | \$(1.9) | \$(1.9) |
| Contingencies | .9 | .8 | .5 | .2 | - |
| (a) Property Insurance, Taxes | .9 | .8 | .3 | .3 | .3 |
| (b) Computing Equipment | .7 | .4 | - | - | - |
| Debt Service Library | .4 | .4 | .2 | - | - |
| Technical Clerical Services | .2 | - | - | - | - |
| (c) E.M. & R. Management Fees | .2 | - | - | - | - |
| Officers' Salaries | .3 | .3 | .3 | .3 | .2 |
| Telephone | - | - | - | (.4) | (.4) |
| Other | <u>.2</u> | <u>.2</u> | <u>.3</u> | <u>(.5)</u> | <u>.2</u> |
| | <u>\$ 2.8</u> | <u>\$ 2.1</u> | <u>\$(.8)</u> | <u>\$(2.0)</u> | <u>\$(1.6)</u> |

Budget Office
8/21/72

Notes (a) includes payments of property taxes presently being contested in court.
(b) rise in expense due to accelerated amortization of equipment.
(c) previously netted out of investment income.

**UNIVERSITY OPERATIONS
SUMMARY 1965-1972
ANNUAL EXPENDITURE INCREASES**

LEGEND

G.U.E. - GROSS UNIVERSITY EXPENSE
O.E. - OPERATIONS EXPENSES
A.A.I. - AVERAGE ANNUAL INCREASES

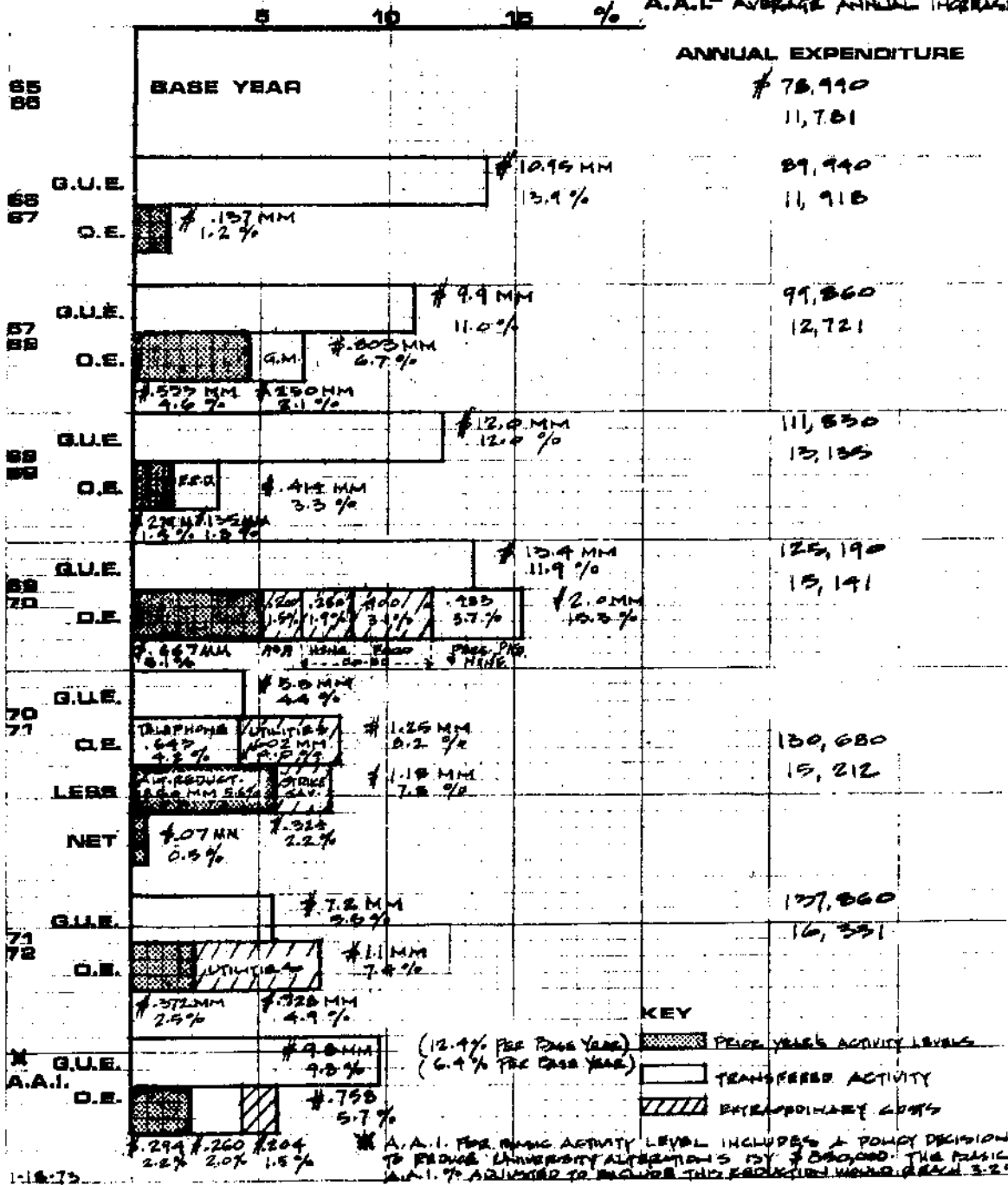


TABLE XIII

Faculty Appointments in Arts and Sciences, 1962-73*

| | 62-63 | 63-64 | 64-65 | 65-66 | 66-67 | 67-68 | 68-69 | 69-70 | 70-71 | 71-72 | 72-73 |
|---|-------|-------|-------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Professor | 184 | 204 | 226 | 238 | 248 | 261 | 280 | 292 | 296 | 297 | 297 |
| Adjunct | | | | | | | 1 | 1 | 2 | 2 | 4 |
| Associate (Tenure) Adjunct | 134 | 135 | 143 | 131 (83) | 132 (79) | 129 (67) | 124 (72) | 124 (71) | 136 (63) | 126 (50) | 125 (46) |
| Senior Lecturer | | | | | 2 | 2 | 3 | 3 | 4 | 4 | 4 |
| Assistant | 176 | 172 | 200 | 207 | 214 | 239 | 253 | 263 | 255 | 231 | 209 |
| Instructor | 79 | 71 | 61 | 53 | 51 | 51 | 40 | 39 | 34 | 25 | 28 |
| TOTAL | | | | | 647 | 682 | 701 | 723 | 728 | 686 | 667 |
| Exclude Adjunct & Sr. Lecturer (Tenure) | 573 | 582 | 630 | 629 (321) | 645 (327) | 680 (328) | 697 (352) | 718 (363) | 721 (359) | 679 (347) | 659 (343) |
| <u>Professors</u> Total on Ladder | .32 | .35 | .36 | .38 | .38 | .38 | .40 | .41 | .41 | .44 | .45 |
| <u>Tenure</u> Total on Ladder | | | | .51 | .51 | .48 | .51 | .51 | .50 | .51 | .52 |

*This table includes all those whose primary faculty appointment was in a department which in 1972-73 is in Arts and Sciences. In comparing the numbers given here with those in Table XIV, it should be kept in mind that:

- Table XIV includes all of the professional schools except Medicine and Nursing, whereas this table is limited to Arts and Sciences.
- Table XIV includes lecturers and excludes adjunct appointments, whereas the reverse is true for this table.
- Table XIV includes only full-time appointments, whereas a small number of part-time positions are also included here.
- Table XIV excludes those whose responsibilities are primarily administrative, whereas included here are many of the college masters, some of the college deans, and several who hold appointments such as provost, dean, director of an art gallery, library, or museum, etc.

Full-time Faculty Salaries and Fringe Benefits
(from AAUP reports; exclude Medicine and Nursing)

TABLE XIV

(Thousands)

| | 1972/73 | 1971/72 | 1970/71 | 1969/70 | 1968/69 | 1967/68 | 1966/67 | 1965/66 | 1964/65 | 1963/64 | 1962/63 | |
|-------------------------------|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|------------------------------|--------------|--------------|--|
| Salaries | \$14,201 | \$14,182 | \$14,499 | \$13,635 | \$11,914 | \$10,960 | \$10,290 | \$ 9,388 | \$ 9,013 | \$ 7,014 | \$ 6,558 | |
| Fringe Benefits | <u>2,229</u> | <u>2,494</u> | <u>2,226</u> | <u>2,049</u> | <u>1,860</u> | <u>1,500</u> | <u>1,451</u> | <u>1,386</u> | <u>1,233</u> | <u>955</u> | <u>903</u> | |
| Total | \$16,430 | \$16,676 | \$16,765 | \$15,684 | \$13,774 | \$12,460 | \$11,741 | \$10,774 | \$10,246 | \$ 7,969 | \$ 7,461 | |
| # of Faculty Reported | 766 | 784 | 824 | 806 | 791 | 791 | 784 | 754 | 753 | 645(b) | 625(b) | |
| <u>Fringes Included Above</u> | | | | | | | | | | | | |
| FICA | \$ 453 | \$ 367 | \$ 386 | \$ 301 | \$ 296 | \$ 231 | \$ 227 | \$ 1,103 | \$ 1,015 | \$ 797 | \$ 756 | |
| Retirement (TIAA-CREF) | 1,232 | 1,375 | 1,401 | 1,320 | 1,156 | 1,053 | 1,020 | | | | | |
| Medical Insurance | 234 | 211 | 118 | 109 | 114 | 52 | 40(c) | 113 | 82 | 33 | 24 | |
| Life Insurance | 104(a) | 201 | 184 | 177 | 112 | 110 | 96 | 101 | 74 | 50 | 60 | |
| Disability Income Insurance | 52 | 54 | 50 | 49 | 95 | - | - | - | - | - | - | |
| Workmen's Compensation | 15 | 14 | 14 | - | - | - | - | - | - | - | - | |
| Tuition for Fac Child | <u>138(a)</u> | <u>252</u> | <u>113</u> | <u>93</u> | <u>87</u> | <u>54</u> | <u>69</u> | <u>69</u> | <u>62</u> | <u>74</u> | <u>64</u> | |
| | \$ 2,229 | \$ 2,494 | \$ 2,266 | \$ 2,049 | \$ 1,860 | \$ 1,500 | \$ 1,452 | \$ 1,386 | \$ 1,233 | \$ 955 | \$ 903 | |
| FICA Rates | 5.5% on \$10,800 | 5.2% on \$9,000 | 5.2% on \$9,000 | 4.8% on \$7,800 | 4.8% on \$7,800 | 4.4% on \$6,600 | 4.4% on \$6,600 | \$240 on first \$6,600 | \$174 on first \$4,800 | | | |
| <u>Average Compensation</u> | | | | | | | | | | | | |
| Average Salary | \$18,539 | \$18,090 | \$17,595 | \$16,916 | \$15,062 | \$13,855 | \$13,124 | \$12,451 | \$11,970 | \$10,874 | \$10,492 | |
| Average Fringe Benefits | <u>2,910</u> | <u>3,181</u> | <u>2,750</u> | <u>2,542</u> | <u>2,352</u> | <u>1,896</u> | <u>1,852</u> | <u>1,818</u> | <u>1,637</u> | <u>1,480</u> | <u>1,444</u> | |
| Combined Average | \$21,449 | \$21,271 | \$20,345 | \$19,458 | \$17,414 | \$15,751 | \$14,976 | \$14,289 | \$13,607 | \$12,354 | \$11,936 | |

Notes: (a) Figures for life insurance and cash tuition benefits for 1972/73 reflect a change in method of allocating costs for these items between faculty and non-faculty, rather than any reduction of University contributions.

(b) Reports for 1962/63 and 1963/64 did not include faculty on leave of absence.

(c) Break in series.

TABLE XV

AAUP total compensation as a percent of budgeted expenses from General Appropriations and Endowment Funds, less actual overhead recovery

