This is to certify that the

dissertation entitled

FACULTY EARLY RETIREMENT: RECENT HISTORY, CURRENT ISSUES,
INCENTIVE OPTIONS USED BY AAU INSTITUTIONS
STAFF PLANNING MODELS

presented by

JANICE DUTCHER SIMPSON

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Administration & Curriculum

Major professor

Date February 21, 1983

FACULTY EARLY RETIREMENT: RECENT HISTORY, CURRENT ISSUES, INCENTIVE OPTIONS USED BY AAU INSTITUTIONS, STAFF PLANNING MODELS

By

Janice Dutcher Simpson

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Administration and Curriculum

1983

ABSTRACT

FACULTY EARLY RETIREMENT: RECENT HISTORY, CURRENT ISSUES, INCENTIVE OPTIONS USED BY AAU INSTITUTIONS, STAFF PLANNING MODELS

By

Janice Dutcher Simpson

Current and long range projections of enrollment decline, inflation, and decreasing governmental support combined with the need to respond to changing educational demands are causing concern among institutions of higher education. The possible effects of the Amendment to the Age Discrimination in Employment Act along with the likelihood of abolishing mandatory retirement further magnify the problems of the coming decade. Within the context of these problems, early retirement incentive plans are an attractive option that can provide benefits to both institutions and individuals. This study presents university planners with an overall view of the use of incentive early retirement plans within AAU universities, the considerations that should be investigated before initiating such retirement plans, and the types of staffing models that can be used to assess the merits of various retirement options.

The history of the Age Discrimination in Employment Act is reviewed along with various studies on its probable effects at both the institutional and national levels. The current status of early retirement in AAU schools is discussed by type of plan, ranging from the widespread phased-retirement option to the concept of severance

pay, as used by a single university. The changes in numbers of plans of each type that have occurred over the past ten years within the AAU institutions are noted.

A number of models are available to help decision makers study faculty flow as well as the probable financial outcomes of early retirement incentive plans. Seven models were selected on the basis of the types of questions they were designed to answer and the mathematical concepts used; these models are then discussed as to the input data needed, the mathematical algorithm used, the output information produced, and the limitations of the model. These model descriptions were designed to introduce planners to the sophisticated tools that are now available and necessary for studying the complex issues surrounding the effects of early retirement.

The final section of the study presents a recommended approach to the task of deciding upon an early retirement plan and concludes with several suggestions for facilitating implementation of the selected plan.

For Bill and Brent

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

On February 5, 1905 Dr. William Osler of Johns Hopkins in a valedictory address asked"... is there change enough? Would not the loss of a professor bring stimulating benefits to a university?"[1] Now over seventy-five years later, administrators are again asking themselves this question. What are the issues that have made this question pertinent today? Clearly, the current concern for staffing flexibility is of recent origin, for one need only look back to the 1950's and 60's, a period of unprecedented growth in higher education, to see that such concerns were nonexistant. The general growth in all disciplines during this era, was sufficient to accomodate any shifts in student interests, developments in established fields, or the emergence of new disciplines. Thus, within the shelter afforded by a healthy economy the demands represented by increasing enrollments were met by corresponding increases in financial support for higher education and a spirit of expansion. Faculty mobility and the influx of new Ph.D.'s enabled institutions to meet everchanging student interests.

As institutions passed into the 1970's, the higher education enrollment growth slowed as a result of demographic factors and later a consequence of a faltering economy. The effects of the slackening enrollment were felt immediately as new Ph.D.'s began to experience trouble finding appropriate positions. As projected by Cartter the

demand for faculty declined to thirty-five percent of the graduate school output.[2] These symptons increased until Bureau of Labor Statistics projections indicated that more than two Ph.D.'s would be available for every position requiring a Ph.D.[3]

As the end of the 1970's approached, all the influences which had interacted to encourage the affluence of higher education in the preceeding decades, now acted together to accelerate a decline. The slowing economy combined with a smaller pool of college age students to further reduce enrollments in higher education. At the same time the support of higher education became an issue of lower priority. The reduction in faculty mobility and the new hiring constraints imposed by affirmative action requirements, brought about a high degree of staffing inflexibility. By 1980, most institutions were experiencing staffing problems as a result of the converging effects of demographics, inflation, recession, a heavily tenured, immobile faculty, affirmative action, and pressures to provide opportunities for young Ph.D.'s In short, the problem, as stated by William Slater, Vice President of TIAA-CREF, became one of "too many professors, too much tenure, too little money."[4]

Considering the situation in which most colleges and universities found themselves by the end of the 1970's, it is not surprising that the passage of the Amendment to the Age Discrimination Act (AADEA) in 1978 brought about a clamorous cry from higher education. This bill, which by 1982 allows faculty to postpone their retirement until age seventy, was viewed by some administrators as likely to cause a "number of adverse consequences: an older professorate, fewer openings for young Ph.D.'s, higher institutional expenditures for higher education."[5]

Now that faculty turnover has the potential to be reduced by faculty exercising their right to work longer, institutions may be forced to seek new ways to reduce their staff size or to hold salary budgets constant. At the same time, administrators may have to reallocate faculty positions within the institutions in such a way as to meet shifting student interests and establish new academic areas. Hans Jenny believes that if there is a significant aging of the faculty or a need to reduce personnel, an early retirement incentive program may be the answer.[6]

Is early retirement an answer? Is it "financially feasible, educationally desirable, professionally essential"?[7] Before, the advent of the AADEA, retirement at age sixty-five (or earlier) could simply be mandated. Now institutions are faced with the more difficult problem of encouraging such retirements through inducements. While many faculty members may not wish to continue working, economic conditions may compel them to do otherwise, an alternative that is now guaranteed by law. Since working longer can significantly improve one's financial situation, an employee will expect an adequate income before considering retirement before seventy. "Cessation of work is not accompanied by cessation of expense."[8]

Early retirement incentive plans are designed by use financial inducements to close the gap between a faculty member's full time employment income and his/her early retirement income. Since what financially benefits the employee simultaneously costs the university, the institution must find a balance that is attractive to the faculty and yet economically feasible. To broaden its attractiveness a retirement policy should be developed as a cooperative and not an antagonistic

endeavor. There is, at the start, much common ground, for few institutions would deny their faculty an adequate retirement income and likewise, few faculty members would expect to have their retirement life style elevated to an undeserved and unrealistic level at the expense of a financially pressed institution.

Research has shown that current institutional policies have a substantial impact on faculty retirement plans. In universities with retirement already set at seventy, the faculty is more likely to continue working past sixty-five than those in institutions that had earlier mandatory retirement ages; the implication here is that once seventy becomes the legal minimum mandatory age of retirement we can expect faculty to revise upward their dates of retirement.[9]

The Consortium of Financing Higher Education (COFHE) study in 1980 found that all schools with early retirement incentive plans in place experienced a lower mean age of retirement than those that didn't, regardless of the institution's compulsory retirement age.[10] This research implies early retirement incentive plans may be a viable option for institutions that wish to speed retirement within the structure of the AADEA. If the answer lies in the adoption of an early retirement incentive policy it is with the understanding that some additional expense may be involved if the faculty member needs to be replaced. University planners should be fully aware of such costs and be willing to pay for what they want, keeping in mind that one induced (early) retirement today means one less regular retirement tomorrow.

The research to date has focused primarily on sixty-five as the retirement age and some recent assessment of the possible effects of the AADEA. Further scholarly effort needs to be expended on various

techniques for determining an institution's current and future staffing pattern, collecting and describing incentive early retirement plans and explaining the different models that can be used to forecast the effects of the possible retirement plans. This is the type of information that has the most potential value to administrators and the current study will focus on information available to help solve his/her institution's problems.

STATEMENT OF PROBLEM

Institutions of higher education are now faced with the effects of the AADEA, which combine with declining enrollments, inflation, and reduced budgets to make the problem of faculty staffing all the more pressing. Response to the current staffing problem facing colleges and universities will vary considerably and is ultimately tied to the age distribution of each institution's faculty. Current age distribution may well mean few retirements for the near future, retirements that provide a sizeable fraction of the openings in higher education. Some institutions can weather the short range effects of the new amendment. For these institutions, the large proportion of tenured faculty that entered academic between 1950 and 1970 will provide a higher than normal retirement rate in the 1990's.[11] But for many institutions the prospects of fewer retirements during the next five to ten years will cause problems of such magnitude that a staffing policy of status quo is not viable.[12]

One of the more promising resolutions to this complex problem is the use of a well conceived early retirement plan. Although such a plan is not to be viewed as a remedy for all the current staffing problems besetting higher education nor even the only way to solve its staffing problems, nevertheless, it does seem to offer a more attractive potential than the other alternatives such as: setting tenure quotas, restricting promotions, lengthening probationary periods, and enlarging the temporary faculty group. Depending on how many open positions an institution can afford to fill, early retirement plans may permit some important staffing flexibility, possibly save money, increase the inflow

of new faculty, and assist faculty who wish to retire early.

Fortunately many administrators sense that the development of an effective incentive early retirement plan is a serious undertaking that will require considerable study and discussion. Most realize that proceeding on a trial and error basis could end in failure. However, merely sensing that the complexities of the issue require careful analysis is quite a different matter from knowing what is to be done in a step-by-step fashion.

Before establishing an early retirement incentive plan the university administration should assess their staffing needs, their current faculty age configuration, the amount they are willing to pay for turnover, and the short and long range effects that a given plan would have on the faculty age structure. In addition, care should be exercised to insure that no stigma is attached to a faculty member selecting an early retirement option. Since long range inflation rates are unknown, as are benefits from TIAA-CREF policies, possibility of changes in Social Security benefits and possible uncapping of retirement age, any plan judged appropriate now will probably not be appropriate at some later date. Clearly, an early retirement incentive plan should not only have a limited definite life span but be based upon thorough analysis of an institution's future situation as well as present needs.

Thus the problem that many administrators face today is that of dealing with these many technical and subjective issues related to the development and implementation of an incentive early retirement plan. How does one assess the need for such a plan? What options are feasible? How can one predict the likely effects of a contemplated early retirement plan? What models have already been developed to study problems related to faculty staffing?

PURPOSE OF STUDY

The purpose of the study is as follows: 1.) to outline recent federal legislation regarding retirement, the background and resulting difficulties caused by the legislation in combination with declining enrollment and escalating costs. 2.) To provide background information on early retirement incentives including phased retirement. 3.) To collect current information regarding retirement plans now in place in AAU institutions. 4.) To outline and critique the existing early retirement incentive options. 5.) To provide information for consideration in policy decisions concerning whether or not an institution should pursue an early retirement incentive plan and if so, what form it might take. 6.) To single out and describe specific models used to assess institutional staffing problems and the probably effects of the various early retirement options.

TERMS

The following terms will be used in the study and are defined to insure consistency in interpretation.

Actuarially reduced--An adjustment in the payment of the accrued pension to reflect the fact that the early retirement pension will be paid over a longer period of time.

Defined Benefit--A pension which is related to the employee's salary and length of service to the institution at the time of retirement. This plan is based on a percentage of salary of the last five years of employment times the number of years of service. It is not fully funded at the time of retirement.

Defined Contribution--A pension plan in which income is determined by the amount contributed by the employer and employee, the length of time over which contributions have been made, and the life expectancy of the retiree upon retirement.

Early Retirement--Retirement after several years of continuing service in one's basic employment, but prior to the mandatory or normal retirement age prevalent at a given institution or in a given employment or profession.

Early Retirement Incentive Plan--Any arrangement between an employer and employee designed to provide a tangible inducement in the form of monetary or an in-kind reward for early retirement.[13]

Faculty Flow--The movement of faculty, over time, through various categories such as age, rank, and tenure status or some combination thereof.

Mandatory Retirement Age--The age at which an institution requires it employees to retire.

Normal Age Retirement--The age to which everyone in an institution is free to work, it is considered the first age at which an employee can retire without it being considered early. Usually an extension is available for an employee to work beyond this age.

Phased Retirement--An administrative arrangement whereby a faculty member moves from full-time to part-time duties with a corresponding decrease in salary.

Retirement--Termination of one's primary full time career employment, not necessarily departure from the labor force.

Steady-State Staffing--A personnel policy that requires the total faculty size to be held constant.

Uncapping--The act of abolishing the mandatory retirement age.

Vested Benefit--The pension belongs to the employee, it is not given after retirement by the institution.

LIMITATIONS

Although many of the results and techniques discussed in this study may well generalize to any institution of higher education, the intent is to confine the investigation to the AAU institutions and restrict any generalizations to similar, large research-oriented institutions.

The study is limited by the responses from Robert Linnell's 1981 survey of AAU institutions and subsequent responses from follow-up requests for policy information from institutions with proposed and in-place formal early retirement incentive plans. It is also limited to those models developed to analyze university staffing patterns. As the AADEA has yet to show its effects, the implications of seventy as a retirement age norm in society is unknown and can only be estimated. It is not possible to know precisely who would retire early without any incentive plan and thus the effects of a plan can only be modeled by using standard statistical techniques.

DELIMITATIONS

The study is delimited to library research including an ERIC search, government documents, books, and periodicals available through the Michigan State University Library and interlibrary loan. The responses of the AAU schools in an unpublished 1981 survey done by Robert Linnell at the University of Southern California were used in conjunction with replies to a follow-up query sent to those institutions with early retirement options proposed and in-place, as a basis for an overview of the current situation with respect to early retirement inducements. Mimeographed internal documents were used as the basis for several models analyzed including the University of Southern California model and the Stanford model.

PROCEDURE

The 1972 Coolidge-Taylor survey of retirement plans in AAU institutions will be used to provide some historical background of early retirement plans. The unpublished, 1981 survey of current early retirement plans within the AAU institutions, as conducted by Robert Linnell, will be used as the point of departure for assessing the current situation vis-a-vis the major research universities. A follow-up letter will be sent to those instituions that have an early retirement incentive plan in operation or in some state of development requesting a copy of their plan and any other relevant documents. The additional documents, together with Linnell's survey responses, will be carefully categorized with respect to the type of retirement plans being used and the current stage of development they have reached. Further, the various early retirement plans will be compared and used to assemble a collection of all options and variations that have been devised. The final result of this segment of the study will be a compendium of all early retirement incentive options being considered or used by AAU universities.

The second major component of the study will be devoted to compiling a set of the different analytical models available to assess current and future staffing problems. Before deciding upon an early retirement incentive plan administrators should test the impact of such a plan upon their institution. This requires an analysis of the present staffing situation, as well as projection of various alternative policies. The staffing models analyzed have appeared in a diverse array of journals including those on higher education research, management science, operations research, and mathematics. The most difficult sources to locate and in the end, the most valuable, were the internal reports,and

studies conducted by AAU institutions. The exposition will be aimed at making making the models' underlying principles intuitively clear without excessive theoretical development. Sample outputs of the models will used to demonstrate their usefullness and the type of information that can be gained.

The concluding component of the study will pull together the key points from all the foregoing, then incorporate them into a recommended procedure for making a decision about adopting an early retirement incentive program and developing such a program for an institution. It is anticipated that this procedure would give an administrator a document which might be used for the selection, testing, and final implementation of an early retirement plan.

ORGANIZATION OF THE STUDY AND OVERVIEW OF SUBSEQUENT CHAPTERS

The study is in five chapters. Chapter I includes the introduction, the statement of the problem, the purpose of the study, definitions of terms, the limitations, and delimitations of the study, the procedure, and a statement of the organization of the study.

Chapter II includes a brief historical development of retirement in higher education and a review of the literature related to early retirement after 1970. Emphasis is placed on the AADEA, its history and possible consequences.

Chapter III includes an analysis of various early retirement incentive plans proposed and in-place at AAU institutions identified by Robert Linnell's survey conducted in 1981.

Chapter IV contains the analysis of various analytical models used to assess institutional staffing problems and early retirement incentive options.

Chapter V contains a summary of the study followed by conclusions, a procedure for making an early retirement policy decision, and recommendations.

NOTES

[1] William Graebner, A History of Retirement (New Haven: Yale University Press, 1980), p. 3.

[2] Allan M. Cartter, Ph.D.'s and the Academic Labor Market (New York: McGraw Hill, 1976), p. 223.

[3] Elinor W. Abramson, "The Story Ahead for Ph.D.'s," Occupational Outlook Quarterly, Winter 1975, p. 13.

[4] Jack Magarell, "Colleges Weigh Early-Retirement Plans for Faculty Members," Chronicle of Higher Education, February 11, 1974, p. 9.

[5] Thomas M. Corwin and Paula R. Knepper, Finance and Employment Implications of Raising the Mandatory Retirement Age For Faculty (Washington, D.C.: American Council on Education, 1978), p. 18.

[6] Hans Jenny, Peggy Heim, Geoffrey C. Hughes, Another Challenge (New York: TIAA-CREF, 1979), p. 34.

[7] Hans Jenny, Early Retirement (New York: TIAA-CREF, 1974), p. 7.

[8] Cato the Elder, De Agri Cultura (2nd Century B.C.) n. pag.

[9] Carl Everett Ladd, Jr. and Seymour Martin Lipsett, "Many Would Postpone Retirement if Law Were Changed," Chronicle of Higher Education, November 17, 1977, p. 7.

[10] Consortium of Financing Higher Education, The Report of the COFHE Study on Faculty Retirement (Hanover, N.H.: n.p., 1980), p. 8.

[11] Report of the Faculty Ad Hoc Committee on Faculty Retirement (Princeton, N.J.: Princeton University, 1981), p. 8.

[12] Carl V. Patton, Academia in Transition (Cambridge, Mass.: Abt Books, 1979), p. 158.

[13] Jenny, Another Challenge, p. 34.

CHAPTER II

HISTORICAL DEVELOPMENT OF RETIREMENT ISSUES

The population of America is an aging one. Because of improved nutrition, health care, and working conditions the life expectancy at birth is now 73.8 years[1] and the number of people aged sixty-five and older in the United States has already reached the 25.5 million mark.[2] Today millions of people live long enough to retire from their primary occupations. Because of the central role played by one's occupation, particularly in America, the issue of retirement is rapidly becoming one of considerable concern. It has often been said that "Work is one of the most significant human activities. It gives people the opportunity to be productive and creative, brings personal and financial rewards, and provides a network of social contacts. Work equates with independence, accomplishment, prestige, and a defined position in society."[3] To quote Joseph Conrad, "A man is a worker. If he is not that, he is nothing."[4]

It is sometimes difficult to realize that retirement is a recent phenomena. Prior to the twentieth century, when there was a much shorter life expectancy, people tended to work until they died or until they were physically unable to continue working. Social security provided one of the first thrusts toward making retirement a financial possibility. Although social security was never intended to provide enough income on which to live, serving only as a hedge against poverty or as a supple-

ment to an employee's own resources, it stimulated thoughts about providing for the aged and accelerated the creation of retirement benefit programs instituted by business and industry, as well as government programs such as medicare.

ORIGINS OF FACULTY RETIREMENT PROGRAMS

Andrew Carnegie became aware of faculty members' difficult financial situation during his association with Cornell University as a member of the Board of Trustees. He realized that professors were often forced to work past their productive years simply because they couldn't afford to retire. Carnegie said, "I have reached the conclusion that the least rewarded of all professions is that of the teacher in our higher educational institutions."[5] Carnegie went on to say that since so few colleges provided pensions, "able men hesitate to adopt teaching as a profession and many older professors whose positions should be occupied by younger men could not afford to retire and thus younger men went looking for employment outside higher education."[6]

Andrew Carnegie, while fully aware of the pitfalls of retirement, believed one should retire and make room for younger men. He even applied the advice to himself, "My resolve was made in youth to retire before old age. From what I have seen around me I cannot doubt the wisdom of this course, although the change is great, even serious, and seldom brings the happiness expected."[7]

In 1905 Andrew Carnegie asked Henry S. Pritchett, the President of Massachusetts Institute of Technology, to develop an estimate of the funding necessary to support a pension system in major collegiate institutions that were under denominational control. State institutions were excluded in order to avoid the expected opposition from state

governments. The report indicated only forty to fifty institutions, would be eligible, which seemed like a manageable financial situation, and so Carnegie set up a fund for a new foundation to provide such a pension system with Pritchett as its head.[8] The Carnegie Foundation for the Advancement of Teaching (CFAT) was incorporated in 1906 by an act of Congress, with fifteen million dollars from Andrew Carnegie "to provide (free) retirement pensions for teachers of universities, colleges, and technical schools."[9] Almost immediately the ideas of Carnegie and Pritchett on the purpose of the foundation diverged. Carnegie believed that since teachers were underpaid, education suffered and that little improvement could be made as long as a lack of any pension system kept older professors from retiring and talented younger people from going into the profession. He proposed the fund be called the Carnegie Professional (or Education) Pension Fund, to emphasize that it was to be first and foremost a pension fund. On the other hand, Pritchett and the Board of Trustees expected the fund to serve a far wider purpose than did Carnegie. In a letter Pritchett noted that he wanted the Foundation to "count for a large influence in educational problems". Pritchett was more concerned with using pensions as a recruitment device than a retirement inducement. During the next decade he tried to use CFAT as a tool to reshape higher education and pushed the Foundation toward determination of policies. The influence that CFAT tried to wield disturbed many, including C.W.Eliot of Harvard and led to the National Education Association (NEA) declaring CFAT a threat to academic freedom in 1914.[10]

The idea of pension benefits was greeted with gratitude by professors who saw Carnegie as a kind benefactor. As a result, there

was much scrambling among institutions of higher education for acceptance into the pension system. Within a few years Carnegie added five million dollars to the fund in order to include public institutions and again, in 1917, he added another eleven million dollars to accomodate the increase in the number of professors eligible. Funds were still insufficient and it became apparent that the idea of a free pension system was becoming too costly for the Foundation and, as a result, Teachers Insurance and Annuity Association (TIAA) was organized in 1918 to administer a system of compulsory, contributory annuities. The Carnegie Foundation would underwrite administrative costs while employees and their colleges would join in contributing to a fully transferable individual annuity policy that would be wholly owned by staff members.[11]

The greatest contribution made to the pension philosophy by the Carnegie system was the concept of portability. This provided that a professor need spend no specific time in any particular institution to qualify for a pension. The concept of vesting in the individual a fully portable annuity enables free movement from one institution to another without forfeiting pension rights. Vesting has helped create an academic community unlimited by geographical area, public or private institution.[12]

By the end of the depression the financial need was such that the Carnegie Foundation had to contribute a further grant of seventeen million dollars to support TIAA. After World War II TIAA studied the historical status of common stock and bond investments and concluded that the use of variable annuity combined with fixed dollar annuity would provide better income in the changing economic conditions.[13] So in 1952 the College Retirement Equity Fund (CREF) was designed to permit

long term participation in common stock investments by using designated funds put aside for retirement. Upon retirement the funds accumulated in CREF are converted to a fixed number of units whose value rises and falls with the stock market. This means actual pension benefits are subject to continual change as the market value of the stocks CREF holds change. The actual level of the stock in the year of retirement does not affect the long term value of the annuity. Almost all CREF investments are in common stocks. In what follows, it is worth noting that during the past decade not even common stocks have kept pace with inflation.[14]

The CREF concept provides a balance for the TIAA investments in mortgages, bonds, and other fixed income securities. A CREF participant may at or after age sixty, use the value of his CREF accumulation to purchase a TIAA fixed dollar annuity. Since TIAA invests in such long term securities (fifteen to twenty years) there is little opportunity to take advantage of increasing interest rates but such investments have the compensation of a guaranteed rate of return. The current problem is that interest rates have been increasing over the past decade, causing the rate of inflation to exceed the rate of earnings on earlier investments by increasing amounts. Pension officials have suggested a mixture of TIAA and CREF contributions as the most prudent way to avoid both the sharp fluctuation of common stocks and erosion of the dollar value through inflation.[15]

The TIAA-CREF retirement plans constitute the coverage of the largest number of faculty members in American colleges and universities.

RETIREMENT AGE

"All we are dealing with is one of the shibboleths of our time. Somebody said sixty-five. They probably never should have said it."[16]

We must reach back to the nineteenth century and Bismark for the introduction of sixty-five as the now accepted retirement age. In the late 1880's he established a state supported old age pension plan as part of social reforms in Germany and determined sixty-five as the retirement age.[17]

In 1935, the adoption of social security set age sixty-five as the time when full benefits could be received from the United States government. By the time private pension plans had begun to be developed in large numbers, sixty-five was already accepted by both employers and employees as the normal retirement age. By the 1950's many organizations had declared sixty-five as the mandatory retirement age.[18]

As pension plans became an integral part of a worker's benefit package and a liveable wage could be counted on after retirement, the idea of early retirement began to evolve. Once an official retirement age is established, a person retires before that age only by choice or under pressure.

The selection of age sixty-five is relatively arbitrary; some employees produce as well or better at sixty-five than others many years their junior. Others are marginal workers at sixty-five and may have been for many years.[19]

HISTORY OF THE AMENDMENT TO THE AGE DISCRIMINATION IN EMPLOYMENT ACT

According to the Louis B. Harris poll of 1974, public opinion was against mandatory retirement based upon age.[20] The climate that fostered the new Amendment to the Age Discrimination in Employment Act (AADEA)

saw it as an extension of the human rights movement and as an anti-discriminatory law.

The history of the AADEA of 1978 goes back to Title VII of the Civil Rights Act of 1964 which required the Secretary of Labor to conduct a study of age discrimination in employment. This study ultimately led to the 1967 Age Discrimination in Employment Act (ADEA) which prohibits discrimination in employment of any person between the ages of forty and sixty-five. The 1967 Act also sought to promote the employment of older persons based upon their ability to perform; it prohibited arbitrary wage discrimination based upon age and helped employers and employees find solutions to problems related to the age impact on employment.[21] The 1978 Amendment to the ADEA then extended this protection from forty to seventy.

Laura B. Ford's comprehensive article on the Age Discrimination in Employment Act Amendment of 1978 (Public Law 95-256) describes it as an antidiscrimination law that prohibits discrimination on the basis of age with respect to compensation terms, conditions or provileges of employment, including job security, advancement, status, and benefits. Bills to eliminate mandatory retirement had been introduced as a matter of routine for years. In 1977 alone, seven different bills having one hundred sixty-seven sponsors were introduced in the House of Representatives to eliminate age-based employment discrimination and mandatory retirement.[22] In retrospect there seemed no new reasons for the sudden popularity of legislation for removing mandatory retirement. In fact, the law came as a surprise because there was a developing trend among employees in the opposite direction toward retiring before sixty-five. General concerns came immediately to the front--on the one hand, the

extension of one's working career is attractive because it allows employees to spend a few extra years in the work force when one's salary is near its peak and then have fewer years to spend as a retiree. Medical evidence indicates that mandatory retirement can have a detrimental effect on physical, emotional, psychological health, and even upon one's life span.[23] On the other hand, there was much concern about diminishing abilities and competencies with advancing age. The extension would have a negative impact on employment possibilities for younger workers and adverse effects on affirmative action programs. Higher salaries and pension contributions among senior employees would be costly to the employer. In addition, each added retiree puts demands upon the Social Security program and often on other governmental assistance programs.

Although, many individuals were inclining toward early retirement, legal legislation was moving slowly in the direction of removing mandatory retirement restrictions because of the increased population of older citizens with good health and energy and a growing awareness of an individual's right of self-determination, Ford's article notes two specific items that may have triggered action: in 1977 there were highly publicized concerns that the Social Security system was going bankrupt very soon and several court decisions had made it necessary to close "pension loopholes".[24]

On June 29, 1977, after only one day of hearings the House subcommittee on Employment Opportunities voted unanimously on a bill that would eliminate any fixed retirement age for federal employees, raise the age limit of ADEA's protection to seventy for state, local, and private employees, and close the "pension loophole" (section 4 (f) (2))

of the ADEA. In quick progression the full House Committee on Education and Labor approved the proposal with almost no changes. "Only nine weeks has passed between the opening of the hearings by the subcommittee ...and clearance of the bill for a floor vote by the Rules Committee; probably a record for nonemergency social legislation."[25]

As the new bill moved through the House Committee and on to the Senate no association or institution of higher education took a position against it, although they were aware of the proposals. On August 11, The American Council of Education's Office of Government Relations sent an informational memo to each of its one thousand three hundred seventy-five member institutions giving the status of the bill and the arguments for and against it as they would apply to higher education. As higher education geared up for the fall semester administrators sent messages to the Senate Labor subcommittee stating that this bill would cause serious problems to higher education. They also complained to higher education associations for not opposing the bill more actively. The associations had not done so because their basic political instincts made them believe it was useless to resist and would only lead to antagonism which would prove harmful to higher education in the future.[26]

The arguments which surfaced from various institutions included: inability to continue affirmative action efforts, additional financial pressures because of higher salaries and benefit costs for older employees, and difficulty of making frequent job evaluations. Congress noted that all of these arguments in some form had been made by representatives of the business world. Ford notes that higher education was really different in only two respects. One was a direct result of the large growth of colleges and universities in the late 1950's and 60's The group of faculty hired during this time, now tenured, would not be

of retirement age until the end of this century. When this fact is coupled with the decline in faculty mobility and the lack of faculty growth due to declining enrollments, the result is very little turnover until the 1990's. No other sector of the economy experiences such an acute situation. The second difference lies within the process of job evaluation. "The academic profession was unrivalled in the difficulties inherent in its job evaluation process."[27]

The presidents of various large research-oriented institutions looked for a committee member who would offer an amendment to exempt higher education from the bill. Even educators who did not favor a permanent exemption backed such a proposal in order to get the time they believed they needed for adjustment. At about this same time faculty members and administrators, who were against making an exemption for higher education, began to be heard.[28]

On September 23, the House passed HR 5383 overwhelmingly (359-4); this bill prohibited age discrimination in employment to age seventy with no exemptions. That same week the Carter administration announced its support for the bill. These two actions naturally caused much activity in the Senate Committee on Human Resources, where Senate bill (S1784) was being readied for a vote.[29]

On September 29, Senator John Chaffee agreed to offer an amendment to the Senate Human Resources Committee to exempt tenured faculty from the bill. The committee adopted two other exemptions at its meeting; business executives, and elementary and secondary teachers. The exemption of the elementary and secondary teachers was later withdrawn. When the vote came to the Senate floor almost all the arguments put forth by the higher education community were heard. At this time Senator Cranston

proposed an amendment to strike the Chafee amendment; in his argument he cited fourteen states and forty institutions that had either no set retirement age or a retirement age of seventy or older. The Cranston amendment was narrowly defeated and the bill, with the Chafee amendment, was passed. This action sent the bill to conference with the House of Representatives, which had passed the bill overwhelmingly with no exemptions. Such an action by the Senate irritated faculty members who were personally opposed to the exemption and they wrote letters of protest to Congress. At this point the American Association of University Professors (AAUP), American Federation of Teachers, and National Education Association all voiced their objections to faculty exemption from the proposed mandatory retirement law.[30]

The Senate conference committee proposed to the House committee a compromise that the faculty exemption would last only five years, while the business executive exemption would be permanent. This would allow institutions of higher education planning time, although it would not solve the demographic problem. The proposal was rejected and Congress recessed without having come to any agreement. "When Congress reconvened in late January, the retirement movement seemed to have lost its momentum." Apparently some university presidents who had actively opposed the amendment found that their action had caused a good deal of hostility among their faculty.[31]

The conference committee seemed likely to reach a compromise and institutions and associations began to discuss adjusting to the changes. The conference committee briefly discussed the idea of 'decoupling', a proposal that would separate the overall employment contract from tenure. Since this proposal was outside the authority of the committee it was

dropped with the idea it would be introduced on the floor at the time of vote on the bill. The idea never resurfaced.[32]

It was not until March 2 that the joint conference committee met in the second session of the ninety-fifth Congress. The committee resolved all its differences including the permanent exemption for business executives, except the faculty exemption. As pressure was exerted to report the bill out of committee, a delay in the age increase for tenured faculty until July 1, 1982 was finally agreed upon.[33]

> With the expected denunciations of all exemptions, the House passed the conference report of March 21, by a vote of 391-6. Two days later the Senate did likewise by a vote of 62-10, and on April 6, President Carter signed into law the Age Discrimination in Employment Act Amendment of 1978.[34]

A summary of the 1978 Amendment follows:

1. Upper age limit for AADEA protection raised from sixty-five to seventy.
2. Tenured college and university faculty are exempt until July 1, 1982.
3. Certain business executives may be mandatorily retired at sixty-five.
4. Changes were made to facilitate filling of individual age discrimination lawsuits against employers.
5. As of 6 April 1978 all mandatory retirement prior to sixty-five is prohibited except the above exemption.
6. As of 1 January 1979 mandatory retirement through age sixty-five is unlawful.
7. Mandatory retirement at any age for most federal civilian employees is prohibited.
8. Pension plans established by collective bargaining, in effect

before September 1977 and containing mandatory retirement at ages sixty-five to sixty-nine, may continue until contract expires or January 1, 1980 whichever comes first.[35]

Ira Michael Shephard a Washington, D.C. lawyer specializing in the practice of labor law representing management wrote a Compliance Guide to the 1978 Amendments to the Age Discrimination in Employment Act, to be used as a reference tool by college and university administrators in bringing their institutional practices into compliance. The Department of Labor was charged with issuing final regulations and enforcement until July 1, 1979 when this charge is assumed by the Equal Employment Opportunity Commission (EEOC). The role of the government in monitoring compliance and enforcing the provisions of the act is critical. The passage of a antidiscrimination law (such as the 1967 ADEA) is of little significance unless there is resolution to follow up with enforcement. Both the Department of Labor and EEOC had, by now, a decade of experience in enforcing the various affirmative action statutes and had established a reputation for strict interpretation and severe penalties for non-compliance. The inference to be drawn from the assignment of AADEA enforcement to the EEOC, was that age discrimination was to be regarded as seriously as sex or race discrimination.[36]

EFFECTS OF THE AMENDMENT TO THE AGE DISCRIMINATION IN EMPLOYMENT ACT

Violation of the AADEA can have expensive consequences to the offending institutions, such as, compensation of lost wages and re-instatement of employees.

Many years may pass before the courts establish a set of consistent guidelines. In the meantime, organizations may find it difficult to cope with all the competing demands of legislation and economics.

> The 1978 amendments are not so disturbing in and of themselves but represent one more addition to all the laws, executive orders, regulatory agency guidelines, consent decress, rules, regulations, and court rulings with all the ambiguity, ambivalance, and differing interpretations...[37]

The passage of the AADEA spawned many studies and surveys, that attempted to capture a feeling for both public opinion and anticipated effects. A New York Times-CBS poll found that fifty-eight percent of the labor force would work past sixty-five if they could.[38] Since such surveys deal with intentions that are greatly influenced by current economic and social events there is a 'best guess' quality in these projections, no matter how scientific the methodology.

As the probable passage of the AADEA was causing a hue and cry among institutions of higher education Carl Everett Ladd, Jr. and Seymour Martin Lipsett conducted a national faculty survey, the summary results of which were responsible for headlines in the Chronicle of Higher Education stating "Many Professors would Postpone Retirement if Law Were Changed". In the Ladd-Lipsett sample, fifty percent of the surveyed faculty believed they would still retire between sixty-four and sixty-six if the AADEA is passed and only fifteen percent considered it likely they would pursue full-time careers to their late sixties and seventies. The result of this and other surveys must be put in the proper perspective; they are projections based on behavior anticipated from an adult population conditioned to regard sixty-five as the proper retirement age. Although the above statistics imply that the bill would have only a modest impact it is apparent from another result of this same survey that current university policies have a large effect on how strongly the AADEA will influence retirement attitudes. Ladd and Lipsett broke their sample into two groups: universities with retirement at

sixty-five and universities with retirement at seventy. Professors at schools with retirement set at seventy were already (in advance of the AADEA) much more likely to plan on continuing their full time careers into their late sixties and seventies and were therefore little concerned with the AADEA; in all other aspects, except retirement age, these two groups were similar. [39]

The Ladd-Lipsett study also found that when professors are actually confronting retirement rather than viewing it as an abstract issue they are likely to decide upon a later date for retiring; they found quite a substantial increase in the number of faculty choosing to stay on as the date of their proposed retirement becomes imminent. From this they concluded that the AADEA could have a greater impact than that suggested by the survey data.[40]

In 1978, the AAUP projected that the AADEA could cause the hiring of new faculty to decline by more than thirty percent and possibly even cause layoffs. Within the current environment of declining enrollment projections and rising costs, colleges and universities can employ one of two basic approaches to offset the effects of the AADEA. They can hold the number of faculty steady, causing up to one-third less faculty hires when the mandatory retirement legislation takes effect or they can limit budget growth, the outcome of which would result in no new positions and possibly layoffs in the short run. The AAUP believes that long term effects would not prove to be as severe as these immediate effects. They too suggest that early retirement could possibly neutralize the impact of the AADEA.[41]

The American Council of Education's (ACE) Policy Analysis Service undertook a study in 1978 to assess the impact of the AADEA on higher education as based upon policies and practices in place in 1978. The

ACE study looked in particular at what changes in retirement patterns may occur with the AADEA in effect and what will be the implications for institutions in terms fo finances and possibility of employment in education for young Ph.D.'s. The sample in their study included ten percent of the junior colleges, four year colleges, and universities; the median age of the sample group was forty-two. To determine the maximum impact of the AADEA the ACE study made the following assumptions: all faculty who have remained employed until sixty-five will henceforth continue until age seventy. The proportion of faculty, who in the past have retired before sixty-five, will continue to do so. This later assumption is based upon TIAA-CREF statistics that show an increasing trend toward early retirement since the 1960's. While the suppositions are not expected to hold true, ACE called them 'worst case' projections and believed they would emphasize the maximum impact of the law. These projections indicated that the impact of the AADEA will be heaviest in the youngest and oldest age catagories. The over sixty-five faculty will increase from 7,600 in 1982 to 26,111 in 1987 and then level off. The under thirty catagory will decline to a low in 1988 of zero under thirty-one age faculty members. By 1990 young Ph.D.'s will be hired again, with the under thirty year olds better represented than current projections under the mandatory retirement amendment. Corwin also notes in the ACE study that even a small proportion of professors extending retirement to seventy can exceed the instructional needs of all institutions by over two percent or 9,900 faculty members. This points up that a small percentage of faculty altering their retirement dates can have a significant negative impact on an institution's hiring policies.[42]

The ACE study substantiated the obvious conclusions that the AADEA will cost institutions more money because the older faculty have higher salaries and benefit costs. Even without the AADEA few openings for young Ph.D.'s were expected in higher education in the near future. Any increase in employment of those over sixty-five will be at the expense of those under thirty; even a small change will have a large impact on the academic labor market. Since the output of Ph.D.'s is expected to decrease but slightly and total faculty employment is expected to drop in the 1980's the outlook which was grim before the AADEA was passed may become devastating.[43]

Robert Linnell believes that the impending bankruptcy of the Social Security System forced Congress not only to raise the Social Security tax but to extend the mandatory retirement age to seventy. He sees the law as turning age discrimination against the old to age discrimination against the young. Using a reasonable age range of a mock faculty he demonstrates the impact of the AADEA; in his example, the hiring of new faculty would decrease fifty-one percent and in ten years the institution would still have eighty percent of its original faculty. He sees lack of new employment opportunities as decreasing the overall vitality of a university and believes that this may increase the enrollment decline so that we have a downward spiraling trend. Linnell discusses the idea of increased hiring outside the tenure track as a way of keeping quality in education. He agrees with the AAUP on this hiring procedure being unjust and inequitable; however, unlike the AAUP Linnell sees this as a necessity in reacting to the AADEA.[44]

Hans Jenny, Peggy Heim, and Geoffrey Highes wrote a monograph in 1979 as a direct outgrowth of a study on age seventy retirement in

higher education. The monograph expresses a variation on the often heard theme, that "standing alone, the AADEA does not seem to impose a particularly onerous burden on highed education. Unfortunately it does not stand alone." As Jenny says, "the new law is but a minor contributor to institutional difficulties whose primary cause originates elsewhere." The monograph concludes that personnel planning in many institutions is inadequate for coping with the outcome of the AADEA and the many other circumstances impacting on our institutions of higher education.[45]

"Professors Plan to Delay Retirement When New Law is Applied to Them", according to the headline of an article in the Chronicle of Higher Education on 15 September 1980. This information was the result of a Consortium of Financing Higher Education (COFHE) study on the impact of the AADEA on the arts and science faculties of the thirty member association of selective private institutions. They projected that the faculty will postpone retirement an average of two years. The adjustment to the law for this group of institutions will take eight to thirteen years since over half of their tenured faculty is currently between forty-five and fifty-five years of age. The retirement plans of the COFHE faculty were found to be closely tied to inflation. About half would probably work longer if inflation were between nine and eleven percent with the proportion growing to three-quarters if inflation climbed to between fifteen and seventeen percent.[46]

In 1978 the COFHE group formed a small planning group to consider the issues raised by the AADEA. The group examined the possible financial and employment impact of the AADEA using such data from the thirty member institutions as age, salaries, and length of service of faculty.

They also tested the effects of sample incentive plans. Finally the group gathered information on faculty attitudes toward retirement and tested the attractiveness of various hypothetical plans for both full and partial early retirement. The study projected that their institutions will be facing significant increases in payroll costs even without the new age seventy law because their institutions have uneven age distributions and small numbers of projected retirements. If the same percentage of faculty, who would be retired mandatorily at sixty-five, were to stay until seventy they will be occupying positions that young faculty could hold at about one-half the salary. However, not all will choose to remain; the study shows fifty percent will have retired before seventy at an average age of sixty-eight and one-half.[47]

The analysis of the aggregate COFHE faculties are not applicable to individual institutions but a profile of an institution's own faculty can help estimate how many might remain until seventy and provide a basis for planning a response to the AADEA. The COFHE study suggests monitoring each institution's own present and future faculty situation by collecting and updating a small amount of data on each faculty member while monitoring payroll costs, quality of faculty and quality of research and education.[48]

The USDA was requested by Congress to study the effects of the college faculty waiver from the AADEA. The report predicts the average retirement age for professors will increase by about one and a half years from sixty-five and a half to sixty-seven. A survey of faculty over fifty years of age revealed that seventy percent are opposed to continuing the AADEA exemption held for the past three years, sixty percent of this sample also favors having no mandatory retirement age

whatsoever. Because a large number of older faculty with higher salaries will continue to teach, institutions of higher education will experience an increase in their budgets of three percent between 1982 and 1987 and in some cases the increase will be as high as eight percent. During this same period the number of new faculty being hired would decrease by twenty-five percent.[49]

This concludes a broad selected review of the literature on the projected impact of the AADEA. The consensus is that each institution will face a set of slightly different problems based upon its own characteristics such as age structure, current average retirement age, and staffing needs. Each institution will also have differing enrollment projection and budget situations that will possibly intensify the impact of the age discrimination amendment. Although there are no specific problems that are certain to apply to all institutions, there are some general trends that are predicted for higher education in the aggregate. The most important ones being a tendency to postpone retirement for a few additional years, an increase in faculty payrolls due to the shift to a more senior faculty, and a decrease in ability to hire young faculty. Clearly these effects are all closely connected.

RETIREMENT PLANS, DECISIONS, ATTITUDES

In reaction to the impending AADEA and the studies (outlined in the last section) on its likely effects, there have been numerous studies and surveys conducted on issues closely related to retirement programs. This brief, selective review of the literature will cover the issues of retirement decisions, preparation, and inflation.

James Mulanaphy stated, "Evidence from public opinion surveys suggest that a thirty year trend of retiring early (before age sixty-

five) might be ending, perhaps reversing." If an employee has not made very definite plans for retirement he is likely to be unsure of when to retire because of inflation and the economic outlook. Mulanaphy believes it is possible that, once the opportunity to work until age seventy has been established both in law and custom, a new employment pattern will emerge. However, he quickly qualified that statement by going on to say that it is also possible that early retirement will continue because retirement has become accepted as a normal part of the life cycle and there are still a number of disincentives to work in the labor market. Obviously trying to predict what will become the normal work-retirement pattern in the coming years is practically impossible. There will always be variation among individuals as each perceives his individual needs and desires. What is troublesome about this uncertainty is that even a small change in the retirement patterns at institutions of higher education can have significant consequences.[50]

In late summer of 1979 TIAA-CREF surveyed 2,260 randomly selected premium-paying participants between the ages of fifty-nine and sixty-nine. The respondents were asked to respond to questions about their attitudes toward work and retirement. A summary of TIAA-CREF findings showed that those looking forward to retiring were most likely to have made definite plans and have a positive attitude toward life after retirement. About seventy percent had a specific age in mind at which they expected to retire. When asked why they expected to retire at that age their reasons were related to work, personal situations, and finances. The group thought finances, health, inflation and job satisfaction to be important issues that had to be considered before making a retirement decision.[51]

Almost half expected their standard of living to be comparable to their present standard during the first five years of retirement but that number dropped to one quarter when projecting to more than five years hence. As the respondents considered retirement issues the list of concerns was dominated by questions of finances and inflation. Problems of health were the next most common concerns. Other worries were how to use extra free time, losing one's independence, sense of selfworth, living arrangements, and missing work. The primary attractions of retirement were leisure from the pursuits and pressures of work, hobbies, travel, family time, time for independent research and professional endeavors. Obviously making a decision to retire involves a number of complex and intertwining issues all with a very individualized perspectives. [52]

The group of TIAA-CREF respondents were sub-divided as to their views on retirement; the following characteristics were observed. The first subgroup consisted of those faculty who were looking forward to retirement. Within this group only a small proportion were satisfied with their jobs and had an interest in pursuing non-work or leisure activities. A larger number had made retirement plans and had a specific retirement age in mind. A significantly larger percent had prospects for adequate retirement income and maintaining their current standard of living. Eighty percent had not altered their personal retirement plans in connection with the new legislation. A second subgroup, those who were neutral about retiring, were characterized as having given less thought to retirement, were more likely to be very satisfied with their work and felt their standard of living would not decline after retirement. The third subgroup, consisting of those who disliked the

idea of retiring, were distinctive in a number of ways. They were above the overall mean age; smaller percent of them had made plans for, given thought to, or had a specific age in mind for retirement. This group had a significantly smaller percent who felt their standard of living and retirement income would be adequate.[53]

Only two factors were rated as being very important in influencing the decision to retire by over half of the respondents: assurance of a satisfactory retirement income and the state of one's health. Two other issues considered important by nearly half of the respondents were satisfaction with one's job and prospects of future inflation. Four issues that had little or no influence on the decision to retire by over half the participants were wishes of family and friends, concerns about making room for younger colleagues, prospects for promotion, and salary increases, and the status society places on retired people.[54]

One must remember that as comprehensive as it was, this survey was taken in 1979, three years before the effective dats of AADEA legislation. Thus, a number of the faculty interviewed would be retired before the law went into effect and would have their retirement decisions governed entirely by their institution's policies. Their attitudes would most likely by atypical.

A 1972 survey of TIAA-CREF annuitants on their observations about retired life resulted in the book My Purpose Holds by Mark Ingraham. The survey gathered two kinds of information: specifics of age, sex, health, housing, and finances, plus an open-ended section where respondents could comment on problems and experiences and any suggestions for people about to retire. Just over half of the faculty surveyed, had retired after age sixty-five, and forty-seven percent retired at or

before age sixty-five. More than half retired because they had reached a mandatory retirement. age. As a group, their finances compared very favorably to the national population of retired persons; more than half reported that their income allowed them to live very well or well, and less than one-quarter said their present standard of living was lower than before their reitrement.[55]

At the time of the survey (1972) fifty percent of those receiving income from annuities were older than sixty-five, seventeen percent younger than sixty-five, and twenty-six percent were sixty-five. There was a sizeable vocal group of respondents who believed that there should be no mandatory retirement age and believed that age discrimination is as unethical as sex and race discrimination. Even among retirees there is no consensus on the best age to retire; some believed one should retire early and indulge in their new status and another group felt that one should continue to work as long as one can be productive.[56]

For the majority of respondents, annuities and Social Security comprised over half their income; however, a very large number would have had to lower their standard of living to live on these alone. There was strong feeling of the need to save beyond TIAA and Social Security. There was also a fear of inflation and increasing medical expenses. Many were disappointed in the size of their annuity and few knew how much one would need to save in thirty years to take care of fifteen years of retirement.[57]

In 1977 James N. Mulanaphy conducted a study of the counseling and information programs available for retirement preparation in higher education. He found just four percent of the 2,210 responding institutions had a formal program of retirement preparation.

He concluded that both employers and staff members gain from a well organized retirement preparation program and that, although it had been traditional for an individual to plan his/her own retirement, they do not have the resources needed to do if effectively. He sees a good program as one encompassing the following:

> 1. Sufficient time for participants to make and implement plans. (authorities recommend a minimum of ten years)
> 2. Voluntary participation.
> 3. Open eligibility for all employees.
> 4. Content tailored for participants' needs.
> 5. Flexibility of program.
> 6. Attention to the human element. (future hapiness of the participant as the primary objective)
> 7. Continuity. (follow-up information)[58]

Although a director of a national retirement organization observed that people devote more time and effort to planning a two-week vacation than preparing for retired life, there is evidence that interest in retirement preparation is growing. In summarizing his research findings, Mulanaphy found that most employees approach retirement with little forethought, they receive little or no assistance from their employer and if their employer provides information it comes too close to retirement age to carry out much planning. He also found that good pre-retirement programs were becoming more available.[59]

Vincent Manion says that retirement is viewed by some as the first insult of aging. Retirement has great implications for changing a person's social and economic status, interpersonal relationships, self perception and morale. The evidence indicates that planning for retirement improves one's changes of making a positive adjustment.[60]

In an article on pre-retirement planning programs, Brenner and Linnell stress the need to use planning as a means to change employee

attitudes, from viewing retirement as a threat to seeing it as an opportunity. They note that the earlier one plans and more one prepares the more successful is the transition and retirement.[61]

A number of association and institutional studies note the need for better distribution of retirement information to allow faculty the opportunity for advance planning. A planning program can help people develop positive attitudes on aging and retirement. Information and counseling can be made available on aspects of finances, insurance and medical benefits, housing, and changes in life style. An employer must refrain from giving professional advice without proper expertise and not indulge in over-enthusiastic planning.

One of the most critical concerns noted in the literature on retirement is the effect of continuing inflation. It not only has serious impact on those already living on a fixed income but its threat will be a determing factor for others considering retirement. An inflation rate of only five percent compounded annually will reduce the purchasing power of $10,000 at age sixty-five to $3,585 at eighty-five years of age.

The single most important factor in making a retirement decision at sixty-five or seventy or any other age is finances. Can a person afford to retire? The question of finances is a complex and very personal one. At sixty-five a retired person can receive full Social Security benefits, which are tax free; (s)he will not pay Social Security taxes and will receive a double tax exemption from the Federal government. But (s)he may also have a sizeable number of outside commitments, dependents, and a mortgage. The very real

possibility of continued high inflation rates and increased longevity bring the fear of possible poverty level existence to many. Social Security benefits have some inflation adjustments; this is also true of many state retirement plans under which a number of state college and university employees are covered. But the majority of faculty are covered under TIAA-CREF plans, which lack such adjustments, and these employees are falling behind.

The outlook for fixed-income retirees is not encouraging; retiring early seems to impose an additional penalty on the retiree. Hopkins in an article on early retirement in 1974, before the AADEA was conceived, shows how an individual retiring early is penalized three ways:

> 1. He must substitute pension income for salary income from retirement age to 65.
> 2. When a person reaches 65, income from a pension will be considerably less than it would have been had he continued to teach until mandatory retirement age.
> 3. No social security benefits can be received until age 62 at which point there is a 20% reduction from age 65's lifetime income level.[62]

The TIAA-CREF plans are of the type called 'defined contribution' plan with the retirement income determined by the dollars contributed by the employer and employee, the length of time over which contributions have been made and the actuarial life expectancy at retirement. A defined contribution plan, by its very nature, is a disincentive to retiring. Since an individual's retirement payments are based upon actual contributions, the fund will increase with each year of service and the longer one works the longer the fund will remain intact and earning interest. Thus, any action, such as early retirement, that shortens the contribution and interest earning period will have a significant diminishing effect on the pension.

The current disadvantage for TIAA-CREF investors is that the rate of inflation has exceeded the rate of earnings on investments made in TIAA annuities in previous years by increasing amounts. A retired person's income from TIAA-CREF varies according to three factors:

1. Total contributions made up to the time of retirement.
2. Annual rate of income earned in the past.
3. Future rate of earnings on one's investments.[63]

The Washington State Legislature Joint Committee on Higher Education felt that TIAA-CREF, while attractive because of its being 'portable', was not keeping pace with the state's public employees retirement system program which covered other faculty in the state. In response, they made provisions to adjust benefits for inflation for TIAA-CREF annuity holders.[64]

As people get nearer to retirement age they are more likely to extend the age to which they expect work. The biggest questions are, will my retirement income be adequate? What will my situation be if I postpone my retirement? Inflation discourages retirement. A 1979 Wall Street Journal article stated, "The pressures of inflation are boosting retirement income needs and expectations."[65] While economists differ about the cause and cure for inflation, it has become a fact of life, like death and taxes. When planning retirement, one must pay careful attention to its effects.

Economist James Shulz in an 1980 article in Business Week says that employees regard pension plans as being a promise to provide relatively stable level of purchasing power during retirement and this is just not true, especially for defined contribution pension

systems where an employee's benefits are determined by the value of the contributions accumulated during his working career. The performance of these plans has lagged behind the cost of living during the 1970's.[66]

Because there is now a greater probability of living longer, the eroding effect of inflation on purchasing power poses an increasingly serious problem to retirees. Even after tax breaks for those over sixty-five the effects can be severe.

The COFHE study of 1980 found "the most powerful predictor for remaining on the job among those 61 and over was the expectation of inadequate retirement income immediately after retirement." Eighty percent of those who think their income will in inadequate, plan to remain working until seventy.[67]

Although several studies have shown that retired faculty are economically comfortable in retirement, Hans Jenny believes that there is more to the situation than has been stated and that many older employees face serious financial problems. Although retirement income remains adequate for a while, after several years of continued inflation, retirement income can prove inadequate. Jenny states that several colleges have found it necessary to contribute supplementary retirement income to already retired persons as a result of declining CREF payments.[68]

A retired TIAA participant notes that:

> the retirement pay dangled before him... corresponded to an entirely unrealistic option that, for reasons of family and obligations, he cannot accept, and that the pension he will receive will be much smaller than he thought. He also discovers...the dollar has fallen to less than one-fifth of the value it had when he contributed to the bulk of his contributions,

> and he may come to the paradoxical conclusion that the longer he has paid in, the less he will get.[69]

This is an overstatement of a very critical issue--one should be able to afford to retire.

SUMMARY

There is much literature on retirement that is based upon a large variety of institutional policies and varying retirement ages. Now federal legislation has introduced a common minimum retirement age. This law had nothing to do with growing inflation or declining enrollments but is has been the impetus for widespread interest in early retirement and incentive options.

Carl Patton reminds us that universities have had arrangements for voluntary early retirement for decades, usually with a reduced annuity for the retiree; now there is growing evidence in the literature of increased use of inducements to retire early.[70] The concept of early retirement incentive plans is not being over-enthusiastically endorsed within higher education but it is being widely considered. Opinion is not overwhelmingly in favor of early retirement incentive options as an answer to the situation institutions face today. There is no consensus that such a policy will help contain costs, open positions, reach affirmative action goals, or reduce faculty size but it is an idea that seems to be worth considering because research indicates that many faculty do not wish to work until seventy and may only do so out of necessity. Hans Jenny tells us that universities experiences severe declines in enrollment need help from any policy options that are available.[71] Because incentive retirement is a relatively new idea, institutions

may lack the expertise of designing policies that are equitable and attractive to both faculty and university. Chapter three consists of an examination of some of these agreements between employee and employer that provide a tangible inducement for retiring before the mandatory retirement age.

NOTES

[1] 1982 Information Please Almanac (New York: A & W Publishers, 1982), p. 796.

[2] U.S. Department of Commerce, Statistical Abstract of United States (Washington, D.C.: GPO, 1981), p. 27.

[3] James M. Mulanaphy, Retirement Preparation in Higher Education (New York: TIAA, 1978), p. 42.

[4] Joseph Conrad quoted in "When Retirement Doesn't Happen," Business Week, June 19, 1978, p. 72.

[5] Alan Pifer, "Fifty Years of TIAA: It's Past and Present," Educational Record, Fall 1968, p. 408.

[6] Graebner, History, p. 108.

[7] William Graebner, "The Origins of Retirement in Higher Education," Academe, March 1979, p. 97.

[8] Graebner, History, p. 109.

[9] William C. Greenough, "Retirement Benefits in Higher Education," School and Society, November 1969, p. 444.

[10] Graebner, History, pp. 109-114.

[11] Graebner, History, pp. 114-116.

[12] Greenough, p. 445.

[13] Robert C. Beethan, "Inflation, Common Stocks, and Retirement Income," AAUP Bulletin, September 1970, p. 306.

[14] Jack Magarell, "More Faculty Members Wary of Stocks When Investing Their Pension Funds," Chronicle of Higher Education, October 10, 1978, p. 11.

[15] Magarell, "More Faculty", p. 11.

[16] Senator Jacob Javits testifying before a committee on the AADEA quoted in Graebner, History, pp. 252-253.

[17] "Age, It's Just a Number Baby," American School Board Journal, May 1976, p. 25.

[18] Robert Huttar and Donald Spies, "Retirement Plans," Journal of College and University Personnel Association, Summer 1978, p. 63.

[19] Mitchell Meyer and Harland Fox, Early Retirement Programs (New York: Conference Board, 1971)

[20] Louis B. Harris et al., The Myth and Reality of Aging in America, (Washington, D.C.: National Council on Aging, 1975), p. 214.

[21] Ira Michael Shepherd, A Compliance Guide to the 1978 Amendments to the Age Discimination in Employment Act (Washington, D.C.: College and University Personnel Association, 1978), p. 8.

[22] Laura B. Ford, "The Battle Over Mandatory Retirement," Educational Record, Summer 1978, pp. 225, 209.

[23] Julia E. Stone, "Age Discrimination in Employment Act," Monthly Labor Review, March 1980, p. 32.

[24] Ford, p. 211. The "pension loophole" of the ADEA resulted in a Supreme Court holding in the McMann vs. United Airline Case that Congress wanted to reverse. The decision allowed United Airlines to retire McMann at age sixty because it had been the practice that employees retired at this age even though there was no written arrangement. The 1967 law allowed the retirement of McMann because the pension plan set 'normal retirement age' at sixty years of age prior to enactment of the law. The ADEA amendment does not require abandoning 'normal retirement age' as long as the plan does not contain a provision that requires retirement before age seventy.

[25] Ford, pp. 209-211.

[26] Ford, pp. 212-213.

[27] Ford, pp. 213-214.

[28] Ford, pp. 214-216.

[29] Ford, p. 216.

[30] Ford, pp. 216-219.

[31] Ford, pp. 219-220.

[32] Ford, pp. 221-222.

[33] Ford, p. 222.

[34] Ford, p. 222.

[35] Shephard, pp. 8-10

[36] Shephard, pp. 8-14.

[37] Mitchell S. Novit, "The Retirement Amendments: Why They Concern?" Business Horizons, February 1979, p. 32.

[38] Betsy D. Gelb and David M. Hunt, "Staying on the Job After Sixty-five," Business Horizons, February 1979, p. 17.

[39] Ladd and Lipsett, p. 7.

[40] Ladd and Lipsett, p. 7.

[41] Ellen K. Coughlin, "AAUP Finds Change in Retirement Age Could Lead to Layoffs, Reduced Hiring," Chronicle of Higher Education, July 24, 1978, p. 1.

[42] Corwin and Knepper, pp. 1-23.

[43] Cartter, p. 21.

[44] Robert H. Linnell, "Age, Sex, and Ethnic Trade-Offs in Faculty Employment," Current Issues in Higher Education (Washington,D.C.: American Association for Higher Education, 1979), pp. 3-7.

[45] Jenny, Another Challenge, p. 1.

[46] Beverly T. Watkins, "Professors Plan to Delay Retirement When the Law is Applied to Them," Chronicle of Higher Education September 15, 1980, p. 12.

[47] COFHE, pp. 4-6.

[48] COFHE, pp. 11-12.

[49] Beverly T. Watkins, "Colleges' Retirement-law Waiver Ends July 1," Chronicle of Higher Education, February 24, 1982, p. 11.

[50] James M. Mulanaphy, Plans and Expectations for Retirement of TIAA-CREF Participants (New York: TIAA-CREF, 1981), pp. 7-8.

[51] Mulanaphy, Plans and Expectations, pp. 8-11.

[52] Mulanaphy, Plans and Expectations, pp. 11-12.

[53] Mulanaphy, Plans and Expectations, pp. 13-17.

[54] Mulanaphy, Plans and Expectations, p. 23.

[55] Mark H. Ingraham, My Purpose Holds (New York:TIAA, 1974), pp. 17-57.

[56] Ingraham, p. 127.

[57] Ingraham, pp. 140-141.

[58] Mulanaphy, Retirement Preparation, pp. 61-63.

[59] Mulanaphy, Retirement Preparation, pp. 43, 68.

[60] U. Vincent Manion, "Pre-retirement Counseling," Personnel and Guidance Journal, November 1976, p. 119.

[61] Herbert T. Brenner and Robert H. Linnell, "Pre-retirement Planning Programs," Journal of the College and University Personnel Association, July-August 1976, pp.77-78.

[62] David S. Hopkins, "Research: Making Early Retirement Feasible," Change, July 1974, p. 46.

[63] Nancy S. Dorfman, "Inflation's Impact on Faculty Retirement Annuities," Industrial Gerontology, September 1975, p. 202.

[64] Washington State Legislature. Joint Committee on Higher Education, Faculty Retirement Systems (Seattle, 1973), p. 6.

[65] "Harris Survey Finds Inflation Won't Quit When People Retire," Wall Street Journal, March 1, 1979, p. 26.

[66] "Inflation is Wrecking the Private Pension System," Business Week, May 12, 1980, p. 95.

[67] COFHE, p. 7.

[68] Jenny, Another Challenge, pp. 22-23. He refers the reader to My Purpose Holds by Mark Ingraham and Academia in Transition by Carl V. Patton for "an essentially rosy picture of the economic status of persons retired from higher education."

[69] Erwin Chargoff, Heraclitean Fire: Sketches from a Life Before Nature (New York: Rockefeller University Press, 1978), pp. 195-196.

[70] Patton, p. 47.

[71] Jenny, Another Challenge, p. 35.

CHAPTER III

EARLY RETIREMENT AND INCENTIVES

In recent years, early retirement has been a recurrent theme; it has surfaced as an answer to budgetary constraints, large proportions of tenured faculty, and the need to make openings for new faculty. A growing university has no problem maintaining a good balance of faculty and responding to shifts in student demands. However, once enrollment growth has slowed and reversed, administrators become concerned about the proportion of tenured faculty. The concern is heightened by the additional factors of increased salary costs of older faculty, which combine to cause a loss of ability to hire young Ph.D.'s. When these already worrisome events, were topped with the possible impact of the AADEA, institutions of higher education began searching for an answer. Early retirement programs immediately surfaced as the most feasible solution to the myriad of events that seemed to be closing in on administrators. Lately, research has somewhat dulled this earlier enthusiasm; the current consensus is that early retirement is but a marginal (or temporary) solution to the much larger problem of long range staff planning. However, a possible temporary solution is better than no solution and so the interest in and the studies on how to best manage early retirement programs, continues.

Patton says that most institutions have had voluntary early retirement plans as part of their retirement policy. Such plans generally allow employees to retire early with an annuity reduced from what it would have been had they worked until mandatory retirement age. Even these minimal plans usually have certain age and years of service eligibility before an annuity can be drawn. For obvious reasons, few early retirements occurred under such arrangements.[1] In addition, universities have, over the years, made ad hoc early retirement arrangements for individual employees with low productivity, health problems, or other individual needs.

Although the above examples fall under the generic category of 'early retirement' plans, they have never attracted large numbers of individuals--nor were they intended to appeal to the faculty at large. However, the long-standing existence of such rudimentary plans continues to confuse the scene when one attempts to survey institutions with regard to early retirement plans. The focus of this chapter is on the more recent policies and plans enacted by institutions to broaden the base for early retirement by increasing the level of benefits to the point where early retirement becomes a feasible option for many rather than a necessity for a few.

STUDIES ON EARLY RETIREMENT AND EARLY RETIREMENT INCENTIVES

During the past decade a number of studies have been done on the concept of early retirement. Some of the more recent ones were done in conjunction with the impact of the AADEA, whereas, earlier studies evolved out of budgetary constraints and high tenure ratios; however, the focus has remained the same--retire some faculty early to save money or to open new positions.

In 1972, David Hopkins made a report and recommendations on an early retirement program for the Stanford University Faculty. Stanford was inquiring into the possibility of increasing the retirement rate through an early retirement program because budget contraints were going to require a fixed faculty size, which in turn would limit the hiring of new faculty--a matter of high concern in that Stanford already had a large proportion of tenured faculty. Stanford hoped that such a plan would result in more vacancies, an increase in the proportion of non-tenured positions and constant faculty costs. The recommendations of the study were that early retirement should be available to all faculty, it should be a mutual agreement between faculty and the university, and it should be reviewed and revised after three or four years. The study identified the group of faculty that the university would like to see retire; this group had salaries below the mean for their age group and had ten or more years of employment. The program would offer a minimum early retirement income that would be dependent on age and length of service rather than salary level. The early retirement income would be adjusted toward the average retirement salary by rank, so that the supplement offered low salaried faculty would be sizeable while faculty making well above the average salary would be advantaged by postponing retirement until the more usual, mandatory age.[2]

In 1973, the University of Southern California performed a self study on faculty retirement. The legislated retirement age was sixty-five with possible reappointment until seventy. While most faculty expected to retire from full time employment at sixty-five, researchers found that the expectation and desire for working until

age seventy increased with the age of the respondent. The study concluded that it would be beneficial for USC to offer alternative retirement plans because a significant percentage of faculty perferred early retirement if it were made attractive enough. Conditions cited as a necessity for early retirement included a need for supplementary income (two-thirds of the respondents), income equal to what would be available at sixty-five, and supplemental income by part time employment (sixteen percent of the respondents).[3]

Alton Taylor and Herbert Coolidge of the University of Virginia, in response to Virginia's need to grow at a reduced rate, surveyed the AAU institutions in 1972 regarding early retirement policies. They found two types of plans predominated. Fifteen schools had a fixed age plan--a mandatory retirement age with no extensions. Thirty-three institutions had a normal age plan--an institutionally defined 'normal' retirement age (ranging from sixty-five to sixty-eight) with extensions available. In the growth years prior to 1970, institutions were eager for most faculty members to extend their employment but by the time this study was conducted, steady-state enrollment projections began to appear and universities were becoming aware of a decrease in availability of new positions and the need to hold finances in check. Thus, the policy of granting extensions automatically beyond the normal age of retirement had already begun to move towards a more considered, ad hoc policy where extensions were based on institutional need. The implications of this shift being that an institution could lower its average retirement age several years by just not extending any faculty member past the normal age.[4]

Taylor and Coolidge found that the basic difference between the

plans varied as to how they were administered. If times were good, under a normal age plan everyone was extended to the maximan age and the two types of plans were distinctly different. However, if times were bad and no one was extended, the normal age became the mandatory retirement age and the two types of plans were indistinguishable. Obviously, an institution under a normal age policy has the flexibility to drop the entire institution's retirement age back to sixty-five by an administrative decision without requiring any approval.[5]

The study found that the attractiveness of early retirement was related to how well the faculty liked their work and colleagues, the sufficiency of the income, the loss of major benefits upon retirement, and outside interests. Taylor and Coolidge concluded that an early retirement policy can improve faculty turnover rate, result in moderate financial savings, and help develop a staffing policy that is cognizant of the changing needs of senior faculty. In the little or no growth situation of the seventies the flexibility of the normal age plan was an advantage. Institutions with fixed retirement age plans had no recourse except to undergo the complex process of lowering the mandatory retirement age. Taylor and Coolidge noted that about one-half of the AAU institutions had plans for reducing the mandatory retirement age to sixty-five while most of the others had begun or were intending to begin incentive early retirement plans.[6]

In a study done at the University of Southern California in 1975 as a follow-up to the Taylor-Coolidge survey, it was found that three additional institutions had lowered their retirement ages and others were still considering changes.[7]

A 1977 report, prepared for the National Science Foundation, was aimed at providing information to universities seeking short-run solutions to staffing problems due to slowing growth, desire to hire young Ph.D.'s, reallocation of positions among disciplines, and reduction of expenditures. The study also gathered information useful to individuals considering early retirement or career change. While finding that academic institutions have relatively little experience with early retirement incentive programs the study noted that an early retirement plan can have a sizeable qualitative impact on selected institutions and departments by permitting a few new, significant appointments, as a result of the early retirement of a few senior faculty. The study did not support the belief that there was a large bulge in the age distribution of faculty in the fifty to sixty age range, but that faculty age tends toward normal distribution with greater numbers in the younger ages. Such a disclosure implies that early retirement will not create any sizeable changes in available positions in the near future at the national level; however, the study did note that early retirement incentive programs can have different outcomes at the institutional level based upon the age distribution of the faculty.[8]

The Survey... showed that sixty-one percent of the faculty chose early retirement because it was financially feasible, forty-nine percent wanted to pursue other interests, and forty-three percent retired because they had lost interest in their work or were worn out by it. The Survey... found that half of the early retirees interviewed were sixty-five or older, that ninety-nine percent of those interviewed were satisfied with their early

retirement decisions, and that most felt they were financially well off.[9]

The Survey... concluded that an early retirement plan can be advantageous to an institution; even when such a plan will not greatly change the composition of the faculty or save much money, it can provide an institution with some critically needed appointments. If an institution is considering an early retirement program, planners should determine if it is cost effective; look at the current faculty age composition by field, the tenure granting rates, and the resignation rates; and calculate the impact of such options.[10]

The Ladd-Lipsett study in 1977 showed that ninety percent of the current faculty will be covered by the amended age discrimination law. They found that the planned retirement age varies greatly over institutions depending on whether their current mandatory retirement age is seventy or younger. The institutions with later mandatory retirement ages have a later average planned retirement age. The Ladd-Lipsett survey concludes that the small proportion of faculty over sixty-five in higher education is just a reflection of society's long standing acceptance of sixty-five as the expected retirement age.[11]

The 1977 Survey of the American Professoriate conducted by Ladd and Lipsett tested three levels of economic incentives for early retirement. One-third of those surveyed would consider early retirement is assured of an income equal to one-half of their annual salary. Forty percent would be interested in early retirement if they could receive full pension benefits equal to those available to them at the mandatory retirement age (this amount is normally greater

than one-half the final annual salary). Surprisingly, only about sixty percent would elect early retirement even if their retirement income was equal to their current annual salary; although this alternative is not economically feasible it effectively establishes the maximum number of faculty who would choose early retirement voluntarily under any reasonable plan. The authors concluded that more faculty may reconsider early retirement as job pressures in academia mount because of the reduction in faculty size and the resulting increase in responsibilities for those remaining.[12]

The Consortium of Financing Higher Education views early retirement plans as a means by which an institution can respond to attitudes and expectations about inadequate retirement incomes. Their study showed that all schools having early retirement incentive plans experienced lower mean ages of retirement than those without such a plan. When faculty were surveyed about several hypothetical early retirement incentive plans fifty percent rejected them. One-third liked a plan which guaranteed sixty percent of their current gross salary. The study substantiated the conjecture that faculty respond much better to actual working plans than to hypothetical plans. One university reported that thirty to forty percent of the faculty could be induced to retire as much as one and one-half years early by annual payments equal to one-third of their salary paid until normal retirement age. Since this same analysis predicted the retirement age would increase approximately two years as a result of the AADEA, the proposed plan could reduce that increase to possibly one-half year.[13]

A Princeton University committee study on faculty retirement

recommended that a modest early retirement incentive plan be offered for a limited period of time and then followed by an evaluation. Princeton is not an overtenured institution and could allow faculty retirements to run their normal course, with the consequence of higher than normal retirement rates in the 1990's. However, the committee foresaw few retirements over the next five to ten years in some departments and, in order to ease this problem, recommended increasing the retirement rate slightly through an early retirement incentive plan. The committee suggested giving the faculty the option of several retirement plans, so that a faculty member could find one that would suit his/her particular circumstances. The committee also recommended enhancing post retirement relationships with university and providing retirement counseling, a step which would include projections of each individual's retirement income.[14]

In a 1981 TIAA report on early retirement it was recommended that the following items be integrated into retirement policies: preretirement counseling, the possibility of keeping certain group insurance benefits, allowing employees to retain association with the university, promoting the concept of retirement, and making employees aware of retirement patterns to be expected. A plan proposed by TIAA would offer faculty at sixty-two a retirement income equal to what they would receive at sixty-five from TIAA-CREF income plus primary Social Security benefits.[15]

The current trend toward offering additional incentives is aimed at making early retirement feasible for the employee and thus opening up new hiring opportunities or reducing budgets for the institution. In his monograph, Early Retirement, Hans Jenny describes

the typical phases in the development of early retirement incentive policies in higher education. Stage one is the ad hoc stage, which he describes as an informal policy by which each case is handled individually and is not always initiated by the employee. It is often handled in the manner of a private arrangement between the employee and employer and, until recently, seems to have been the most prevalent situation.[16]

Stage two moves an institution toward a formulated plan and a broadening of eligibility requirements. If the initiative is taken by the university it is usually connected with a need to reduce staff. A key difference between this and the first stage is that early retirement becomes public policy at this point. As institutions begin to offer formal early retirement plans, some form of additional financial arrangement is likely to be a part of the plan. Jenny states that it is appropriate to assume that formal, early retirement plans will offer either severance pay or retirement income adjustments or both.[17]

Stage three is reached when one or more early retirement options are part of a basic retirement program of an institution. They are available to all employees who have met the eligibility requirements; actual planning is done jointly by the employee and the institution.[18]

The remainder of this chapter is devoted to providing an overview of stage two and three type early retirement plans that are in operation in AAU institutions and which offer varying kinds of incentives to faculty members. It also describes the shift in policies that took place between the time of the 1972 AAU survey

done by Taylor and Coolidge and a similar study done by Robert Linnell in 1981.

TAYLOR AND COOLIDGE STUDY

In 1972 Herbert Coolidge and Alton Taylor surveyed the AAU institutions on the subject of early retirement. Their definition of an early retirement plan was "...a plan by which the individual chooses the age at which he will retire before the fixed or normal age and may include a period of reduced duties."[19]

Responses to the following questions were requested:

1. Does your institution have a policy which allows faculty to retire before the normal retirement age or age at which most of your faculty normally retire?
2. Are provisions made to provide faculty a retirement income which is not seriously depleted by early retirement?
3. For faculty who choose to adopt your early retirement plan are there considerations for a reduction in teaching load? Reduction in pay?[20]

In 1972, there was a trend in the forty-eight AAU institutions toward lowering the age for retirement and away from the practice of allowing all faculty to work until the established age of retirement.[21]

This survey reported one hundred percent participation by the AAU institutions.[22] As shown in Table 1, just over half of the schools (twenty-six) had plans for early retirement. Twenty-three of these had specific age requirements for eligibility in their plan. Only seven reported that a minimum number of years of service to the institution constituted a requirement of the plan. Responses

TABLE 1: SUMMARY OF RETIREMENT PLANS AT AAU INSTITUTIONS BASED ON TAYLOR-COOLIDGE SURVEY, 1972

EARLY RETIREMENT PLANS	TYPE OF PENSION PLAN:					TOTALS
	TIAA-CREF	STATE EMPLOYEE PLANS	COMMERCIAL PLANS	INSTITUTIONAL ADMINISTERED PLANS	NOT SPECIFIED (CANADIAN)	
FINANCIAL INDUCEMENTS ONLY	3					3
PHASED RETIREMENT INDUCEMENTS ONLY	8					8
FINANCIAL AND PHASED RETIREMENT INDUCEMENTS	3					3
NO INDUCEMENTS	1					1
NOT SPECIFIED		4	1	4	2	11
NO EARLY RETIREMENT PLANS	19	2	1	4	2	22
TOTALS	34	6	2	4	2	48

to the second question indicated that while professors were allowed to retire before the mandatory or normal age it was with the accrued benefits reduced and that, in general, the institution did nothing to encourage such early retirement.

The survey divided the institutions according to the types of retirement plans. Thirty-four were covered by TIAA-CREF, and, of these, fifteen had early retirement plans. Six schools were covered by state employee pension plans, four of which had early retirement provisions. All of the institutions with self administered plans (four) and the Canadian universities (two), provided for early retirement. One of the two institutions covered by commercial plans had an early retirement provision.

Of these twenty-six schools responding positively to the question on early retirement plans, only six indicated that they contributed additional financial support to encourage early retirement; these six universities were TIAA-CREF participants. There is no indication that any institution, covered by a retirement plan other thant TIAA-CREF, offered any kind of financial incentive to early retirement.

Plans that offered reduced teaching loads with reduced pay (phased retirement) were cited by eleven institutions. Universities allowed faculty who had chosen a reduction in load to maintain such status until retirement age was reached. For those that provided such information, the phased retirement option lasted as few as three years (from age sixty-five to age sixty-eight) to as long as twenty years (available at fifty years of age with mandatory retirement at age seventy); most, however, were available from five to ten years. Two institutions having phased retirement options reported the

age at which work reduction could start but did not indicated that these options were part of a university policy, which may imply that they were usually handled on an ad hoc basis.

While in the current literature, reduction in load and pay is considered to be an early retirement incentive, it seems to have been viewed as a separate policy ten years ago. If we consider the phased retirement policy to be a type of early retirement incentive plan and combine these institutions with those providing additional retirement benefits, we find over thirty percent of the surveyed institutions offering some type of retirement inducement (three universities provide both types). It is also worth noting that of the twenty-six institutions providing an early retirement plan, fourteen offered either financial or phased retirement supplements as inducements.

It is interesting to look at the retirement age restrictions at the fourteen institutions offering inducements to retire early. (See Table 2) Ten of the fourteen universities had a normal age policy with the possibility of extending employment until a mandatory retirement age. Extensions in these cases were usually granted for one year at a time with the result that employees working past the normal retirement age did not necessarily work to the maximum age allowed. In all but one of the institutions, sixty-five was the normal retirement age with three universities providing extensions to sixty-eight, four to seventy, and two having no age limit. The remaining universities had a normal retirement age of sixty-seven with extension possible to age seventy. The other four institutions have a fixed mandatory retirement age--for three it is seventy, for one it is sixty-eight.

TABLE 2: RETIREMENT AGE POLICIES AT AAU INSTITUTIONS OFFERING INCENTIVE OR PHASED RETIREMENT IN 1972

NORMAL RETIREMENT AGES				FIXED MANDATORY RETIREMENT AGES	
65 EXTENSION TO:					
68	70	no limit	67 EXTENSION TO 70	68	70
3	4	2	1	1	3

In 1975 a University of Southern California survey of AAU institutions noted various shifts of policy rather than an obvious trend. Four additional universities had instituted early retirement options while eight universities reported they had used their plans sporadically or had dropped them. No information was available on the effectiveness of the plans.[23]

LINNELL SURVEY

In 1981 Robert Linnell surveyed the AAU institutions by asking the following question:

"Do you have or are you contemplating any early or phased retirement plan? Please provide details about the status of plans and if implemented who is eligible and what the fiscal or other incentives are."[24] From the fifty AAU universities, he received responses from thirty-eight, of which twenty-eight were in the affirmative.[25] Initially it seemed that this second survey could be immediately used to portray the policy shift that had taken place in response to the demographic and economic changes ensuing since the 1972 Taylor-Coolidge survey. Centainly the AAU represented a very stable survey group. However, a study of the responses from both surveys, showed that an accurate comparison would be difficult. This was primarily due to the imprecise wording of both the questions and the responses. No where in Linnell's survey is an 'early retirement plan' defined. Some institutions clearly considered their ad hoc arrangements as being plans and others stated that they had 'formal ad hoc' plans. (The former were not considered early retirement plans but the latter were). Because of these and other irregularities reported by the Linnell study, it was decided that additional

survey efforts should be taken to extend the usefulness of the study. The eleven institutions that didn't respond to Linnell were queried once again with the result that five more replies were obtained. Further, the twenty-eight universities that had answered positively were requested to provide additional details on their early retirement plans. As a result of these efforts to refine the Linnell survey, it became possible to obtain some rough comparisons of the two surveys. These comparisons must be viewed as general indications rather than precise changes because it is not possible to turn back the clock and make the same adjustments to the 1972 Taylor-Coolidge survey as were done on the Linnell survey.

The counts recorded in Table 3 indicate a noticeable but modest shift towards the implementation of early retirement plans--twenty-six in 1972, thirty-three in 1981. Considering the dramatic demographic and economic changes that have transpired over the last decade, this shift is modest indeed. Although early retirement plans have received much press as an available solution to many of the current problems in higher education, it is clear that the major research institutions are not rushing headlong into their use. A more significant trend seen in Table 3 is the shift towards early retirement plans offering some type of additional incentives--a change from fourteen in 1972 to twenty-nine in 1981.

The institutions with studies in progress seem to be very serious about their endeavors; three were far enough advanced to give the details of their proposed plans and two other institutions, which responded to Linnell's question as having no special plan but were in the process of developing an incentive early retirement plan,

TABLE 3: RETIREMENT POLICY CHANGES FROM 1972 TO 1981

EARLY RETIREMENT PLANS	AAU SURVEY 1972 TAYLOR-COOLIDGE	AAU SURVEY 1981 LINNELL
FINANCIAL INCENTIVES ONLY	3	8
PHASED RETIREMENT ONLY	8	13
FINANCIAL INCENTIVES AND PHASED RETIREMENT	3	7
NO INDUCEMENTS	1	1
NOT SPECIFIED	11	3
NO FORMAL EARLY RETIREMENT AD HOC ARRANGEMENTS OR PLAN UNDER STUDY	22	11
TOTALS	48	43

now have such plans formalized and in operation. It is also interesting that of the three schools listing specifics of their proposed plans one had submitted the plan to the President and Provost at the time of the Linnell survey, and as of a July 1982 telephone conversation the status remained unchanged. The plan had not been rejected but neither had it been adopted.

Of the eleven universities shown in Table 3 as not having an early retirement plan in place all but three are either formulating a plan or have some type of ad hoc procedure to handle early retirement. Only one institution provided for voluntary early retirement but offered no incentives. It is interesting to note the influence exerted by the passage of the AADEA. Thirteen schools were either studying a new early retirement plan or were revising their current plan since the passage of the AADEA.

Six institutions have more than one option in their early retirement incentive policies. Several universities have ad hoc plans; two of these have formal plans under review for early retirement inducements available to all faculty. Private schools were more likely to have an ad hoc plan than public institutions.

Four of the six institutions that had an early retirement financial incentive plan in 1972 still had an incentive plan in 1981; the remaining two did not respond to the 1981 survey. Seven of the eleven schools that had a phased retirement plan in 1972 had some form of phased retirement in 1981, one school no longer had such a plan in 1981, one was studying other early retirement incentive options, and two did not reply to the 1981 study.

Most AAU institutions in 1981 had a combination of age and service eligibility for their early retirement plans. The lowest

age one could enter such a plan was fifty-two, the highest 'before seventy'. Most preferred sixty or sixty-two as the age of eligibility. The average length of service required to be eligible for an early retirement plan was ten years. A few universities have a combination of age and years of service requirement for eligibility, so that both younger employees with many years of service and older employees, who have been at an institution just a few years, can qualify.

Most universities also require approval for someone wanting to retire under an early retirement incentive plan. The person or group whose approval is needed varies from the department chairman to the President or the Board of Trustees. It is often written that acceptance is based on "the good of the university" or "to keep the program healthy".

A few universities have policies where selection is discretionary with the university and is reserved for situations where it would be mutually advantageous to both the university and the faculty member. One institution policy states that the dean may negotiate early retirement in order to create a new faculty slot or solve a problem. Yet another institution speaks of a plan publicized to the deans only, to encourage early retirement of unproductive faculty by individually negotiating a large reduction in work, a modest reduction in income and allow the university to save money by not renewing the position or doing so at a lesser rank and salary.

Although a number of institutions are structured to select individuals for early retirement, their policies do not appear to preclude an individual asking to be considered for inclusion under such a policy. Most of the institutions that have a selective policy

for early retirement also have a policy that is open to a wide group that meets certain age and years of service criteria; these plans almost always provide for part-time employment with certain benefit arrangements. The idea of institutional selection rather than voluntary action by an individual has potential legal implications. An over zealous administrator encouraging a selected faculty member to retire early could be viewed as practicing age discrimination.

An unusual arrangement is being explored at one school where special incentives are being made available only to a very select group of employees and for only a short period of time. The employees are members of departments or units that must be reduced or eliminated due to retrenchment. These options are unlikely to become part of a formal retirement policy and are more generous than the regular inducements in the formal incentive policy. The initiation of these options and the length of time they are available to faculty do not provide the time needed for either the university or employee to plan for early retirement in an organized fashion. While these options may indeed provide financial saving and staffing flexibility to the university and furnish some faculty members enough inducement to retire early, it is a short run solution to a difficult situation and in fact cannot be considered part of any formalized early retirement policy. Since these special options are not available to the faculty of the university in general it must be shown that such action is in the best interest of the university. The options, that may be authorized to faculty of threatened units, include a plan for separation with full salary and benefits for up to two years. Another option is a generous phased retirement and

annuity supplement plan where the individual is provided with an income equal to what it would have been several years hence plus an additional supplemental payment if the employee is not of the age to receive full Social Security benefits. The university is planning to offer these options to designated units over several years as the university copes with retrenchment.

One institution has received a $750,000 grant from the Mellon Foundation to be used just to encourage early retirement in the humanities.

EARLY RETIREMENT PLANS

This section describes the types of incentive plans being used at various AAU institutions, together with the eligibility requirements, arrangements, limits, and benefits provided. Information was collected on early retirement incentive plans, in place or under study, at AAU institutions identified by Robert Linnell's 1981 survey; it was also collected from five additional AAU institutions that did not respond to the Linnell survey.

The nature and level of specificity of the information received varied by institution from the general to the detailed but was sufficient, in aggregate, to form an understanding of how these various incentive plans work and what variations on the theme are offered by the univerisities.

Since identifying the institutions contributes nothing to the description of their retirement plans but does pose considerable problems in some cases where the information may be considered sensitive, it was decided to preserve the anonymity of the contributing institutions.

Institutions were able to provide little information on the effectiveness of current early retirement incentive programs, either because they were relatively new or because no records had been kept on that question.

PHASED RETIREMENT

Phased retirement is the most prevalent plan and is known under a variety of names: part-time retirement, semi-retirement, and partial leave without salary. These plans have different guidelines but they all provide for employment of less than full time. This retirement option provides for any number of arrangements short of complete employment termination. If refers to a reduction of duties within a normal work schedule and a reduction of salary.

One institution has this option available for those approaching but not yet wishing complete retirement; another looks at it as "preparation for retirement". To the university it can mean saving salary dollars and adding staffing flexibility depending upon replacement considerations. To the individual faculty member, in addition to providing needed income, it can mean more time for other interests while continuing ties with the university community.

The obvious flaw in this option is that it is unlikely to be available to every position because of student demand, departmental staffing considerations, and educational goals. One institution's policy states that the phased retirement will "not be granted if it is contrary to the educational goals of the department or the university". Another potential area of disagreement is that the faculty member and the university may not see part-time employment in the same way. A faculty member could visualize a half-time

teaching appointment as a small graduate seminar in his speciality, whereas, the department may have the need of a teacher for a large introductory lecture course. To ward off this potential misunderstanding most institutions with phased retirement plans provide for arrangements of responsibilities to be put in writing, stating effective dates, duties, and conditions of reduced employment.

A hypothetical phased retiremental plan, which displays the features typically found in such plans, might be structured as follows: All employees sixty years of age or older and with twenty years of service with the university are eligible to negotiate with their department for partial retirement. If a mutually agreeable schedule can be arranged for a formal agreement is drawn up that establishes the terms: duties, beginning date, number of years partial retirement wil continue, and schedule. The faculty member relinquishes the right to return to full time employment. Part-time employment may be scheduled for no more than sixty percent of full time employment. Partial retirement may continue for five years but never past the mandatory retirement age of seventy. The salary is a prorata of the full salary plus ten percent of the full salary the last year (s)he was so employed. Partially employed faculty are eligible for cost of living and merit raises. The university will continue the same health and life insurance as it does for full time employees. TIAA-CREF contributions will be paid by the university as if the faculty member remained fully employed until the normal retirement age.

All early retirement incentive programs have some eligibility requirements for phased retirement; it is almost always based upon age and years of service. Four institutions provided for phased

retirement based on age alone and that option could be considered as early as age fifty-two. The most common age for eligibility was sixty years with length of service requirements ranging from five years to twenty years, twenty being the most common length of service requirement. Other arrangements provided for a combination of age and length of service, these combinations range from fifty-five years of age and thirty years of employment to sixty years of age and only five years of service to the institution.

The name phased retirement is rather misleading; the implication is that there is a gradual movement from full time employment to retirement, while in most cases the faculty member moves directly to working a certain percentage of time, usually one-half, and from that state directly to complete retirement. However, one institution does provide a gradual phasing by beginning with eighty percent employment, moving to half-time and then full retirement over a period of five years. Another university stipulates the cut must be at least twenty-five percent and still another requires that twenty-five percent will be the maximum amount of time one can be employed. A few universities state that the move to part-time employment is irrevocable; about half of the institutions limit the number of years one can be partially retired before full retirement must be effected. The most common arrangement is five years partial employment. Part-time employment is understood to terminate by seventy years of age except in states that have no mandatory retirement age. One institution provides faculty the opportunity to try out phased retirement; a faculty member is provided a one year trial period of phased retirement; three months before that year is

up, a decision must be made on whether to go back to full time work or to continue partial retirement until seventy.

Several universities provide for a formal agreement, in writing, on the specifics of the phased retirement agreement. Some allow changes to be made through mutual consent, the implications usually being that the percentage of time worked can be decreased but not increased. One university policy states that it allows for up to one-half time employment outside the institution--usually outside employment is not mentioned in early retirement policies.

Most of the surveyed institutions did not make reference in their partial retirement plans to the paying of retirement benefits; TIAA allows payments into annuities to continue while a portion of the annuity is being drawn by the employee but the policies of most institutions do not allow this.[26] A few of the institutions surveyed, specifically mention allowing an employee to draw retirement benefits or a portion thereof while under a phased retirement option. One of these respondents, however, limited the total of part-time salary and basic retirement income drawn; it could not be more than the full time salary rate for that position in any given year. If it does exceed that amount reduction must be made on the retirement income drawn.

Two institutions had provisions for both part-time employment and early retirement with re-employment. The basic difference between the plans seems to be that in partial employment, tenure is retained, full benefits are continued, and no retirement benefits are drawn. Early retirement with re-employment means that the employee retires early, may draw early retirement benefits and

supplement his/her income by means of part-time re-employment outside the tenure system.

Every institution makes some provision for the approval of a faculty member participating in its phased retirement program. Most provide for joint agreement between the individual and the university, most often at the departmental level. Some institutions require several layers of approval for entering into a phased retirement agreement beginning with the mutual satisfaction of the retiree and his department and proceeding through all levels of the administration up to the Board of Regents. One plan further stipulates that is a proposal is not approved one year it may be submitted in the subsequent year.

The salary provided those who elect partial retirement is usually based upon a percentage of employment and full time salary. One institution provides payment of the pro-rated percentage of salary plus ten percent of the individual's full time salary as an additional inducement. Another provides sixty percent of the salary base for fifty percent employment and yet another provides a supplement up to ¢5,000 per year based upon the faculty member's full time salary and years of service, in addition to half time pay for half time employment. Most schools provide for proportional yearly increases in part-time salary to make the plan more equitable with those working full time.

Institutions usually continue payments into the retirement fund as if the faculty member was employed full time. Some schools terminate these payments when the faculty member reaches normal retirement age rather than continuing payments until age seventy;

this is the same policy they pursue with full time employees. Two institutions provide variations in the payment of benefits. One contributes as if employment is full time if the employee is hired half-time or more; less than half-time means a reduced contribution based upon the actual salary received. Another school contributes to the retirement fund as if the employee was working full time as long as benefits are not being drawn from the retirement fund, but if benefits are being drawn contributions are made proportional to the actual salary earned.

Insurance benefits are continued in all cases, as if full time employment is continued. Some institutions specify other perquisites, such as tuition for dependents, parking, sabbatical leaves, and athletic tickets.

To an administrator the phased retirement plan variations may not seem to stray much from the basic theme of partial pay for part-time work, but to the faculty member there can be a great range in income both while (s)he is participating in phased retirement and after (s)he reaches full retirement. The largest difference is determined by whether retirement benefits are drawn during phased retirement or are left intact to be drawn upon full retirement. If one's income, while serving in a reduced capacity, is a combination of partial retirement salary, savings, and various other sources, with no pension benefits or Social Security being drawn and at the same time, retirement plan contributions are continued as if the employee were working full time, then at mandatory retirement age the income will equal that resulting from continued full time employment. To many faculty this a realization of a long time goal.

As faculty reach the final employment years they may wish to reduce institutional obligations, find time for other activities and yet continue important contacts with the university, all without burdening the coming years with financial insecurities. However, the above described phased retirement represents the most favorable plan; other variations of the phased retirement arrangements do reduce benefits received upon full retirement from what one would have accumulated had full time work continued--in some cases, to a significant extent. The length of the participation period in phased retirement before full retirement is reached has an impact on post retirement benefits. Whether the university contributions to the retirement plan continue as if the retiree were fully employed or are reduced in proportion to the actual amount of part-time salary is yet another factor. So too, is whether the employee her/himself continues making contributions during the years of partial retirement. But the biggest impact of post retirement income will be determined by the age at which the employee begins to draw retirement benefits. If benefits and even Social Security are drawn at the time phased retirement is initiated as a means of supplementing the reduction in income, it is certain that later retirement benefits will be permanently reduced; this will also be true if Social Security is drawn before sixty-two. If accumulated retirement funds are used as a supplement to phased retirement benefits, it is important that the employee does not find her/himself in a precarious financial position when full retirement takes place. Once pension benefits are drawn, some institutions then describe the situation as early retirement and if any employment is offered as a way to supplement income the situation is seen as

early retirement with partial re-employment. From the information available, it is not clear, whether there are subtle differences between early retirement drawing benefits plus partial employment and phased retirement supplemented with some retirement benefits being drawn; perhaps these are but simply different approaches to the same situation. There seem to be implications that tenure, insurance benefits, and contributions into the retirement system are involved but nothing is consistent across institutions. A later section discusses further a policy of early retirement with part-time employment and annuity supplements.

INTERIM ALLOWANCES

The next most common early retirement option among AAU institutions is a regular payment, usually a percentage of full time salary, from early retirement until mandatory retirement (or another specified date). The retiree usually postpones drawing retirement benefits until the mandatory age. The money is paid as a salary with most of the other benefits continued, but no service is rendered by the retiree.

The eligibility requirement for institutions with such salary continuance plans range from fifty-five years of age and fifteen years of service to sixty-five years of age and ten years of service. All institutions provide continuing coverage of various insurance plans and most continue pension plan contributions until normal or mandatory retirement age, but one institution limits the period to five years or until age seventy, whichever occurs first. Another institution determines the length of time that payments are to be made by the years of service of the individual employee, allowing two months of

benefits paid for every year of service, with a maximum of five years of benefit payments. The length of time over which this percentage salary continuance is paid makes a great difference in the total cost of such a plan to an institution.

The institutions providing interim allowances are nearly equally divided as to whether they provide annual increases of the allowances paid the retiree or whether the salary is fixed from the date of entry into the plan. The amount paid the early retirees varies greatly across institutions. One institution allows eighty percent of the individual's final full year salary minus Social Security payments; another pays up to fifty percent of the final salary but the percentage is dependent on the age at retirement and the number of years of service. One policy states that the amount paid is determined to a significant degree by the after tax disposable income during the last year of full time employment. Two institutions aim their incentive plans at persons with salaries lower than the average faculty member for their age, rank, and school; these plans base the benefit upon the median salary for one's peers. Several institutions require that an interested faculty member apply one year in advance for this early retirement inducement option. To encourage faculty to plan ahead and thus give the institution the benefit of more advance time, one university will add two percent per year (up to six percent) for every year earlier than the one year required that notification is given.

The common theme of these early retirement incentive plans, is that the university pays the faculty member, in regular installments, enough money to make early retirement attractive. The amount may

vary from institution to institution, even person to person, but is usually large enough that the retiree need not prematurely draw upon his regular retirement fund. The participant has no service committment to the institution while under such a plan. Three of these plans have been in existence for over five years and are considered effective by the reporting institutions.

ANNUITY SUPPLEMENTS AND AUGMENTED BENEFITS

This type of early retirement incentive plan aims at giving employees that retire early benefits comparable to those they would receive if they had continued working until the mandatory retirement age. A variation of this incentive focuses on ensuring that an individual's retirement income will be a certain percentage of her/his full time salary. This level is achieved by using a supplemental annuity, purchased by the university, which takes effect at mandatory retirement age. In order to provide additional assistance over the period between early retirement and mandatory retirement many of these plans offer some interim benefit to supplement the early retirees regular early retirement benefits, this may be a direct payment or partial employment.

These plans require certain eligibility requirements of age and length of service, from sixty to sixty-five years of age and a service requirement ranging from ten to twenty years is common.

One institution has provided such a plan for its faculty since 1959. Early retirees, after the age of sixty-five and with twenty years of full time service will receive retirement benefits equaling those that the faculty member would have received if full time employment had continued until age seventy. This institution also

continues TIAA-CREF contributions the faculty member would have received had (s)he worked three more years. Another university provides a supplement if the individual's retirement income, without Social Security, does not equal fifty percent of the average of his/her highest two consecutive years of salary.

Two institutions provide supplemental annuities, receivable at mandatory retirement age, sufficient to bring the retiree's income up to a specific predetermined level; between early retirement and normal retirement age the faculty member is also provided with part-time employment to supplement the reduced early retirement annuities. At the normal retirement age a supplemental annuity is provided by the university to augment the retirement benefits that have been reduced by early retirement.

Two institutions allow eligible faculty to select an early retirement age, usually sixty-five, as a target date for building up benefits. During the period between the year this plan is begun and the selected early retirement age, both the university and the individual accelerate their contributions to TIAA-CREF. The extra amount placed in the annuity fund is calculated so as to be equivalent to what would have been contributed by the university (and the individual) if the employee had continued full time up to mandatory retirement age. For example, if a faculty member decides at sixty to retire early at sixty-five, each year the university and employee contribute an additional amount above and beyond the normal contribution, so at sixty-five the employee will have accumulated the amount he would have accrued had (s)he worked until age seventy. If the employee does not retire at sixty-five the university makes no further contributions towards the retirement fund.

A final inducement was offered at one instution where faculty, agreeing to retire early and enter retirement within three years after applying, would receive a one time six percent raise at the end of the year of agreement. The faculty member is eligible for any salary or merit increases provided by the institution prior to his/her retirement.

These plans were consistently vague about the continuation of other benefits during the period between early and mandatory retirement. Plans of this type are attractive to faculty who have focused their retirement needs on the income level of mandatory or normal retirement benefits and are able to cope with less than full employment salary in the years between.

SEVERANCE PAY

Only one institution reported severance (separation) pay as an early retirement incentive option. This option was available only to a specified group for a limited period of time as a result of specific retrenchment policies. In operation, this option was identical to a terminal leave of absence where the repayment of salary and benefit costs were waived. Up to two year's salary was paid to faculty members from designated areas who agreed to leave by a particular date. TIAA-CREF contributions and insurance premiums were continued while the individuals remained on the payroll. Such a severance pay option can only be considered an early retirement plan in those cases where the person concerned was of such an age that they did decide to take the option and immediately retire.

Almost all of these early retirement incentive plans have provisions for a periodic review and evaluation to determine the plan's effects upon the institution's goals and financial situation. Suspension of the plan would not effect an person in the program.

DISINCENTIVES TO EARLY RETIREMENT

As pointed out in the TIAA study, one of the first steps an institution should take prior to setting up an early retirement plan is to carefully review existing policies and remove all those unnecessary stipulations that could act as disincentives towards early retirement.[27] In this section, the form that such disincentives might take is discussed.

Financial considerations are likely to be the largest disincentive to any early retirement option. The fear of inflation eroding away one's relatively static retirement income can become a reality in today's economic state. Table 4 shows how drastically various inflation rates, compounded annually, reduce the purchasing power of $10,000.

Not only does the employee, who elects to retire early, spend less time building up a retirement fund but (s)he also requires that this smaller fund last a longer period of time. The last few years of employment are usually at the employee's highest salary level; this, plus the fact that every year of gainful employment means one more year of accrued interest and one less year of benefits paid out, contributes substantially to the final retirement income. The effect of early retirement could be the permanent reduction of one's standard of living during retirement. Much is written about disposable income; it varies considerably by individual

TABLE 4: EFFECTS OF INFLATION ON $10,000 PER YEAR INCOME

AGE	INFLATION RATES			
	5%	7%	10%	12%
65	10,000	10,000	10,000	10,000
66	9,500	9,300	9,000	8,800
67	9,025	8,649	8,100	7,744
68	8,574	8,044	7,290	6,815
69	8,145	7,481	6,561	5,997
70	7,738	6,957	5,905	5,277
75	5,987	4,840	3,487	2,785
80	4,633	3,367	2,059	1,470
85	3,585	2,342	1,800	775

and is based upon not only the income tax paid and Social Security payments but also state, county, local laws and taxes, property taxes, marital status, dependents, and the composition of retirement income. Employees must be able to generally determine their disposable income before they can make a decision about early retirement--a formidable task which, for many could, in itself, act as a disincentive. In the early 1970's, Central Michigan University (not an AAU institution) set up a computer program to make such calculations and give employees the kind of financial information necessary for retirement decisions. The model was able to show for each faculty member, the contract salary minus deductions, and compare that with retirement income less taxes.[28]

Early retirement can also mean the loss of other very important non-salary benefits such as group life and medical insurance, a loss that would make any early retirement incentive plan unacceptable to many.[29] The loss of contact with students, colleagues, and academic life is a very strong disincentive to a substantial group of faculty. Certain, low or zero cost, amenities offered by the university in conjunction with an incentive plan can often be far more effective than the incentive plan along. Some such provisions include the use of office space, access to the library, health services, athletic and cultural events, and parking privileges. Other low cost incentives might include continued participation in group insurance plans and tuition benefits for the retiree's immediate family. In a 1980 statement drafted by a joint committee of the AAUP and AAC it was recommended that various privileges and facilities be given to retired faculty to assist them in remaining a part of the university.[30]

Phased retirement can prove an attractive device for cutting back duties, keeping important contacts, and supplementing early retirement income while easing into complete retirement. As mentioned earlier, drawing retirement benefits during this period can have detrimental long range consequences; the employee must research not only his phased retirement income but also any impact on his future full retirement benefits.

The institution's method of determining who may retire early can in itself become a disincentive. Jenny tells us that private ad hoc arrangements are becoming a thing of the past but there is still evidence among the AAU institutions of universities selecting the individuals they would have take an early retirement option.[31] One institution encourages deans and chairpersons to review future plans with faculty as they approach sixty. If the faculty member is considered productive and wishes to continue teaching, the review is brief. If the administrator feels adjustments are in order the discussion turns toward early retirement options. Another institution approaches faculty members that are not "performing adequately". If (s)he is interested in pursuing the subject of early retirement an independent consulting firm is retained to develop an individualized plan agreeable both to the institution and retiree. Procedures such as these associate early retirement with the stigma of substandard performance and such an association can be difficult to erase. Even though such implications do a disservice to the concept of early retirement, many institutions feel that some such control must be exercised to protect programs and educational goals. One university, whose early retirement incentive options are open to all, finds that

it can exercise sufficient control by possibly delaying an employee's retirement up to a maximum of twelve months. Care in protecting both the quality of education and psychological impact on the employee must be maintained when writing the rules on early retirement eligibility.

There are also legal consequences to early retirement policies. The AADEA prohibits the involuntary retirement of any employee on the basis of age alone. There can be legal implications attached to reducing benefits such as life insurance, medical, and retirement benefits for older employees. The Employee Retirement Income Security Act (ERISA) limits the amount that may be added to an individual's pension fund; if an early retirement plan includes an annuity supplement, its legality must be ascertained. The Internal Revenue Service has particular interpretations of deferred income and the taxation of such. Legal counsel should review all early retirement incentive options to be sure they are in compliance with the laws and recent court interpretations and inform employees of any tax consequences of these options.

NORMAL AGE INTERPRETATION

Prior to the enactment of the AADEA many institutions had formally established a certain age (usually sixty-five) as the 'normal retirement age' with the understanding that all university contributions to the retirement fund would cease, regardless of an individual's retirement status, once (s)he attained that age. The AADEA requires that the mandatory retirement age be raised to seventy but, interestingly enough, it does not require that university paid benefits be extended beyond the 'normal retirement age' if, prior to the AADEA,

an institution had formally established a normal retirement age short of seventy and stipulated a termination of benefits at that point; current interpretation permits the institution to continue this practice. Within institutions fulfilling these conditions, the faculty can continue working to age seventy, but the institution's contributions to retirement and other benefits will stop at sixty-five. In effect, this interpretation acts as an incentive to retire early--the employee has less to gain by continuing to work.

CONCLUSION

With the 1980's bringing new and continued financial and staffing pressures to bear upon universities, it is reasonable to assume that they are now more receptive, than at any recent time, to innovative policies such as represented by incentive early retirement. However, voluntary early retirement will attract fewer faculty as inflation erodes their accumulating retirement funds; it cannot be expected that faculty will freely absorb the costs associated with early retirement without help. Besides helping the institutions, Patton suggests that "The major benefit of early retirement might be the release of indentures labor. To free faculty that would like to leave but cannot afford, too.[32]

In the preamble to its early retirement incentive plan one institution notes that it is offering such inducement "to provide maximum flexibility and opportunity for its faculty member to retire prior to the mandatory retirement age while also recognizing their right to remain in full employment until age 70." It goes on to say they see their early retirement inducement plan as a way to provide for intellectual renewal, increased opportunity for the promotion of

younger faculty, flexibility to meet changing needs, and a fair method of reducing faculty size.

Upon analyzing its own faculty make-up, an institution may choose to ride out the cycle of declining enrollments, and the reduced ability to hire new faculty as older faculty extend their careers to age seventy, but many institutions may view the lack of flexibility as a burden and try to increase the number of retirements. These latter institutions will likely consider early retirement incentives as a means to that end. The literature agrees that incentive early retirement can provide short term relief; institutions that adopt such policies must either place a time limit on them or provide for ongoing evaluation to be sure they are, in fact, providing flexibility in staffing and are financially sound. It is possible that institutions will consider offering generous early retirement incentive plans to faculty within specific units for a limited length of time as a humane alternative to severe retrenchment. Up to this point, the enactment of the AADEA has provided greater impetus towards early retirement than any other single factor.

The COFHE study found that historical data from their institutions showed that universities with early retirement incentive plans have lower ages of retirement than those without plans. Obviously, the availability of an early retirement incentive is an important consideration in an employee's decision about when to retire.[33]

Nothing radical has been seriously proposed as an early retirement incentive plan; universities are moving slowly and conservatively toward early retirement incentive policies. Since the Linnell survey in 1981, five additional institutions have enacted new early retire-

ment incentive policies. The plans of the AAU institutions seem to cover the full range of effective plans that an institution can afford. It is unlikely these plans in their present form, will save a great deal of money or bring about large scale early retirements, but they will retire some and in doing so achieve some modest cost reductions and make some additional hiring possible. In time, these minor successes will help dispel some of the apprehension surrounding early retirement incentive plans with the result that institutions may become more imaginative and accepting of risk in their search for more effective retirement policies.

NOTES

[1] Patton, p. 7.

[2] David S. Hopkins, An Early Retirement Program for the Stanford Faculty (Stanford, Calif.: Stanford University, 1972), pp. 1-4.

[3] Rosemary Cliff, Faculty Retirement, University of Southern California. Office of Institutional Studies, 1974, pp. 2-5.

[4] Alton L. Taylor and Herbert E. Coolidge, "Survey and Analysis of Early Retirement Policies," Educational Record, Summer 1974, pp. 183-184.

[5] Herbert E. Coolidge and Alton L. Taylor, Considerations For Faculty Retirement Policies in a Steady-State Condition, University of Virginia, 1973, p.4.

[6] Taylor, p. 185.

[7] Patton, pp. 48-49.

[8] A Survey of Institutional Practices and an Assessment of Possible Options Relating to Voluntary Mid- and Late-Career Changes and Early Retirement for University and College Faculty. Prepared for National Science Foundation, Washington, D.C., 1977, pp. ii-v. Hereafter cited as Survey...

[9] Survey..., pp. 84-90.

[10] Survey..., pp. 210-221.

[11] David D. Palmer and Carl V. Patton, Attutudes Toward Incentive Early Retirement Schemes, Current Issues in Higher Education. (Washington, D.C.: American Association for Higher Education, 1978), pp. 14-15.

[12] Palmer and Patton, pp. 16-17.

[13] COFHE, p. 8.

[14] Report of Princeton Ad Hoc Committee, pp. 18-19, 30.

[15] Report on Early Retirement (New York: TIAA-CREF, 1981), p. 20.

[16] Jenny, Early Retirement, p. 27.

[17] Jenny, Early Retirement, pp. 27, 4.

[18] Jenny, Early Retirement, p. 28.

[19] Coolidge, p. 24.

[20] Coolidge, p. 26.

[21] Coolidge, p. 16. The reader is referred to Considerations For Faculty Retirement Policies in a Steady-State Condition: A Report to the Provost by Herbert E. Coolidge and Alton L. Taylor niversity of Virginia, Office of Institutional Analysis, June 1973 for a complete analysis of the survey.

[22] The appendix lists the forty-eight AAU institutional members at the time of this survey. Note number 25 explains the shift in membership as of 1981.

[23] Patton, p. 48.

[24] Robert H. Linnell, Retirement, Post-Tenure Review and Career Development and Chance Programs (Los Angeles, University of Southern California, 1981).

[25] Linnell uses the term California System to cover two state supported California AAu members: University of California, Berkley and the University of California Los Angeles. I have chosen to count these as two separate institutional members and with the addition of the University of Pittsburg list fifty AAU institutions as of 1981.

[26] "The Retirement Problem: A Positive Approach," AGB Reports, November/December 1981, pp. 27-28.

[27] Report on Early Retirement, p. 21.

[28] Raymond Kieft, "Financial Implications of Early Retirement," College Management, February 1974, pp. 18-19.

[29] 'In Box', Chronicle of Higher Education, November 10, 1982, p. 25.

[30] "Statement of Principles on Academic Retirement and Insurance Plans," Liberal Education, Summer 1980, p. 262.

[31] Jenny, Another Challenge, p. 41.

[32] Patton, p. 48.

[33] COFHE, p. 8.

CHAPTER IV

POLICY AND PLANNING

Planning for an effective response to offset the deleterious effects of the AADEA, declining enrollments, and escalating costs must begin with a consideration of the characteristics that are unique to each university. Panic over the AADEA at an institution is needless if the average retirement age is already sixty-nine and a half. Likewise there is little sense in developing a plan to encourage early retirement in response to declining enrollments if the current policy is to ignore normal attrition by automatically replacing any resigning faculty member. To plan successfully, the current situation and practices must be known and assessed in the light of future goals.

> Successful...planning is the result of the application of reason to particular situations. Sole reliance on mechanisms and procedures... can lead to undesirable rigidities. Like the sculptor, those who plan...policies well seek tools appropriate for shaping the desired piece and not always those that cut deepest.[1]

Early retirement is not the only way to solve the problems converging on higher education nor will it solve all the problems. An early retirement incentive plan will have different consequences for different institutions depending upon the age distribution of the current faculty, enrollment projections, budget constraints, and personnel policies.

The Survey... states that an early retirement plan must be based upon an institution's own goals and faculty age distribution. A plan that worked for one institution may not work at another. A university must know its age distribution to determine if motivating a few more retirements now and accepting fewer in the future can solve any problems. An institution must know the approximate cost of the options, the price it is willing to pay and how faculty flow will be affected. Since the number who will elect early retirement cannot be accurately estimated, an institution is well advised to limit the period of time an early retirement incentive option is available and then reasses the plan.[2]

An effective early retirement policy can provide some added flexibility by freeing positions and thus allowing the institution to recruit needed skills, shift resources to critical areas, establish new programs, rebuild programs and reduce payroll costs. It can also make it possible for individual faculty to consider leaving if they have become less productive, less interested in teaching or if they simply wish to take up another activity.

The National Science Foundation survey found that by setting benefit levels, stating early retirement terms clearly, and informing potential retirees, an institution can obtain advantages with an early retirement incentive plan. While such a plan may not dramatically change the composition of the faculty or save a great deal of money, it would permit a few important replacements that would enhance the academic programs. The study concludes that saving money should not be the primary reason for adopting an early retirement incentive program. The study recommends that an institution

considering an early retirement incentive plan should examine its current faculty age structure, composition by field, tenure granting rate, and resignation rate. The institution may find another answer or find that an early retirement incentive plan is worth pursuing.[3]

Robert Linnell suggests an institution look at the 'controllable' personnel policies--hiring, tenure granting, promotion, and retirements--all of which affect the institution's budget as well as faculty mix; these policies should then be balanced against the faculty death rate and resignation rate which are uncontrollable variables. The planners must adjust the controllable variables and try to attain the faculty size and discipline balance desired for the future. He warns institutions that the future is being subtly determined on a day to day basis by the filling of vacant positions.[4]

Hans Jenny's monograph on early retirement sees an incentive plan as part of the institution's overall retirement system and total institutional planning. He reminds universities that they must take into account some personnel replacement costs because they cannot control who leaves and so almost certainly someone will leave whose replacement will be a necessity. He also advises planners to evaluate the merits of an employee phaseout plan as compared to full retirement. He sees early retirement incentive as a possible way to strengthen staff and provide balance rather than as an answer to financial problems.[5]

David Hopkins warns institutions not to adopt an ill-conceived plan just because of a need to turn-over faculty positions. The initiative for pursuing an early retirement option should rest with the faculty; much ill will and possible legal action will result if

the administration insists on identifying individuals for early retirement.[6]

The university must be aware of how various policies may influence the number of vacancies. At Stanford planners studied the effects of tightening tenure standards, setting tenure quotas, and varying the mix of tenure and nontenure track persons when making new appointments. They found that if appointment and promotion rates are held constant, an early retirement incentive policy can increase turnover in the short term but will have little effect in the long run.[7]

EARLY RETIREMENT AND POLICY

Concern about the impact of the AADEA and early retirement incentive plans upon tenure have been voiced throughout the literature. The AAUP Statement of Principles on Academic Freedom and Tenure insists that tenure continue until retirement. The AAUP will resist any proposal that puts an age limit on tenure. The American Council of Education (ACE) on the other hand, hopes that the AADEA will not automatically extend the years of tenure and believes that institutions must examine the assumption that tenure is given until retirement.[9] It is highly unlikely that a change in the concept of "tenure until retirement" will occur. The opposition of the AAUP and individual faculty members would be a powerful force and the courts would very likely determine it to be a form of discrimination against older workers. What is more likely is that institutions, will either reduce the rate of granting tenure or will seek to impose job evaluation procedures on tenured faculties. With respect to the latter, older workers do not disagree with the application of a

legitimate standard of competency. In fact, testimony by the National Retired Teachers Association stated that older people do not want to be covered by a law that protects them if they are incompetent. However, it went on, they do want to be provided protection against arbitrary discrimination because of age.[10] With respect to the policy of lowering the tenure granting rate, much has been written. Todd Furness states that when growth stops and an institution continues granting tenure at the old rate, an institution's flexibility will be cut.[11] Offering another view, the Survey... notes that a reduction in the rate of granting tenure may make an institution unattractive because then the turnover will primarily involve only the younger faculty, which is clearly unhealthy. Further, a high rate of tenure denial will discourage young faculty from coming to an institution and will lower the percentage of faculty in the lower age group. This leads directly into another dilema facing higher education--the concern for the influx of young faculty.[12]

Both institutions and faculty wish to maintain the ability to hire young Ph.D.'s and pursue affirmative action goals. Young faculty bring new ideas into a department; they are likely to have new and different competencies and can offer a balance to entrenched viewpoints. According to ACE data from 1977 the age range of current faculty will have a great impact on new job openings in higher education. A shift to an older faculty profile is developing even without the possibility of working until seventy years of age. Because of enrollment declines the increase in older faculty will be at the expense of those under thirty. The expectation is that the output of Ph.D.'s will decline only slightly. Cartter predicts

that only twenty percent of the Ph.D.'s in the 1980's will find teaching jobs.[13] University goals and student demand require that there be flexibility in course offerings and areas of expertise. To accomplish this some steady movement of faculty is going to be required.

Jenny sees that with the AADEA and a general enrollment decline, a conflict with equal opportunity objectives is inevitable. The time table for accomplishing affirmative action goals will lengthen and institutions must look past the transition period of adjusting to the AADEA.[14]

Normal attrition through resignations at a preretirement age is another policy concern. The TIAA Report on Early Retirement notes that little information is available in the aggregate on this matter but that if an institution can rely on its own past patterns and perhaps modify this pattern to respond to future needs it can adjust its staffing to reduce total size and create opportunities for new hires.[15] If an institution is considering using early retirement incentive plans it must first look at the possibility of accomplishing the same goals by effective management of normal attrition by resignation or death. Any exit from the university provides a means of saving money or providing flexibility. In fact, the resignation of a thirty year old tenured professor frees a position for forty years and, in salary dollars released, is equivalent to at least four early retirements at sixty-five. Further, such normal attrition can be monitored so as to quickly alter the over-all age configuration of the faculty; for example, a resigning thirty year old tenured faculty member could be replaced by a sixty year old

professor; such a personnel decision might be prudent if there were doubts about the student demand within the discipline beyond the near future.

A consideration of these complex and often conflicting personnel issues, would indicate that early retirement plans cannot be developed in isolation. Apparent as this may be, it is nevertheless often overlooked by institutional planners who focus on early retirement as a possible panacea for all their staffing problems. It cannot be reiterated too often that early retirement is but one of several inter-related personnel policies that need to be analyzed and woven together into a coherent personnel paln. Only is this way can institutions gain the needed staffing flexibility and cost reductions without pitting the young against the old and the tenured against the untenured.

EARLY RETIREMENT POLICIES AND MODELS

Several kinds of models are available to help an institution make decisions about an early retirement incentive program. Since each model was originally developed to answer a particular question--either practical or theoretical--each institution must first determine the questions it wants answered before it can decide which type of model is most appropriate. Most administrators are either unaware of the many models already developed or somewhat mystified by the ones that they do know. A search of the literature was conducted to collect information on models that have been either proposed or used to analyse faculty staffing. In what follows, seven models have been selected, which best typify this collection, and have been analyzed in terms of how they work, what they can and cannot do, and what

data is required to run them. With this accomplished, there is considerable hope that planners can select the model most appropriate to their institution's specific needs, the data it has available, the style of its decision makers, and the capabilities of its support staff. Within an institution, certain preliminary investigations need to be conducted before a model can be selected. In fact, the results of these preliminaries may indicate that no tangible benefits will accrue from an early retirement incentive plan. As a minimum, the following questions need to be posed and answered in detail:

1. What is the current age structure of the faculty? It could be found that so few faculty are in the over sixty category that it would not be worth the manpower and time to develop an early retirement inducement strategy at this time. Figure 1 is a graphical display of an institution's age structure; such graphs usually convey the configuration in a more comprehensible manner than a table of figures.

2. What are the patterns of retirement at your institution? The answer to this question provides information on whether the AADEA has the potential of making noticeable impact upon the institution. Tables 5 and 6 illustrate two ways an institution might choose to display this information.

3. Why is an early retirement incentive plan being considered? The information to be gathered and the options examined may vary depending upon whether the university's main goal is to save money, reduce faculty size, provide flexibility in staffing, or increase the influx of new faculty. One may also ask such questions as, is the university policy one of holding its budget constant over some

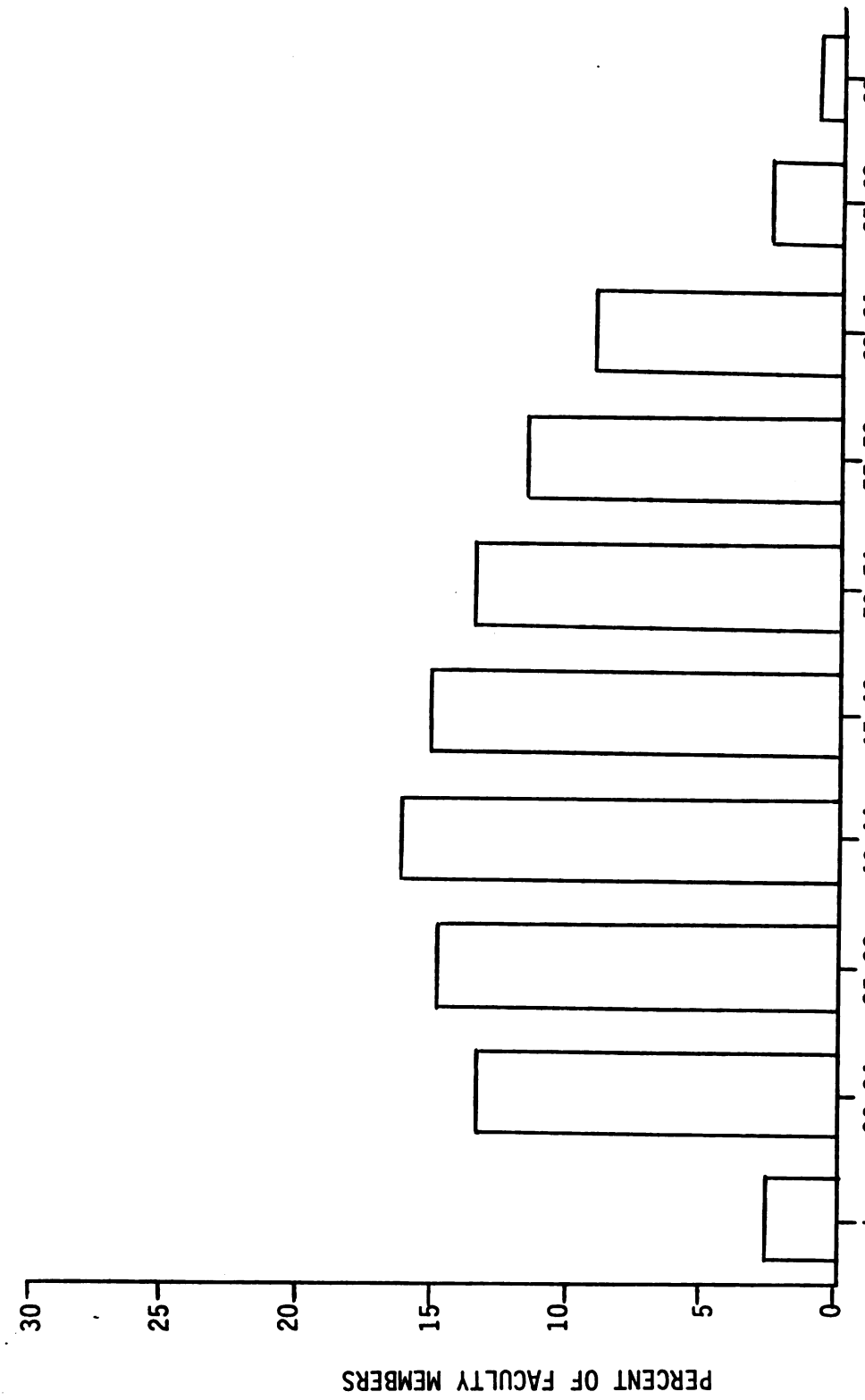


FIGURE 1: AGE DISTRIBUTION OF FULL-TIME FACULTY AT SAMPLE UNIVERSITY

TABLE 5: FACULTY AGE DISTRIBUTION BY YEAR AT SAMPLE UNIVERSITY WITH CONSTANT RETENTION RATES

AGE	1982	1983	1984	1985	1986
70	2	4	3	3	7
69	6	4	4	9	8
68	6	6	12	11	12
67	8	16	15	16	18
66	21	20	21	24	28
65	27	29	33	39	42
64	31	35	41	44	45
63	37	43	46	47	
62	45	48	49		
61	51	52			
60	54				

TABLE 6: FACULTY ATTRITION PATTERN AT SAMPLE UNIVERSITY

YEAR	RESIGNED	DIED	RETIREMENT AGE		TOTAL RETIREMENTS	TOTAL ATTRITION
			60 - 65	66 - 70		
1976	120	1	16	13	29	150
1977	138	0	19	17	36	174
1978	135	2	22	16	38	175
1979	141	1	22	17	39	181
1980	142	1	21	24	45	188
AVERAGES	135	1	20	17	37	174

time period and thus reducing faculty population or is it to hold faculty size constant and thus assume some budget increase?

Surprisingly enough, Hans Jenny found that there is a widespread information gap in institutions of higher education. Few of those he surveyed possessed readily available information of their staff age structure; even less often was there an understanding of historical attrition patterns. To undertake a modeling exercise or to make a decision on any early retirement incentive plan without this information is futile.[16] Even the exercise of gathering and selecting the information needed to use a model is frequently found to be equal in value to the actual use of the model. Kutina and Bruss concurred that many additional benefits accrued from gathering information to develop a model. "The primary unforseen benefit that accrued...was a phenomenally sharpened perspective about the utility...of existing faculty information systems in the Medical schools." They discovered that is was more difficult than had been imagined to gather data and more sources had to be tapped than expected.[17]

Most of the models described in this chapter are faculty flow models that use the "fundamental assumptions that the proportion of faculty who change from classification to another in a given year is predictable although what happens to a given individual appears random." The faculty flow models tell the decision makers what <u>might</u> happen if the assumptions used in the model are accurate. "The prediction of any faculty flow model depends on two kinds of input: the characteristics of the faculty and the parameters governing the changes in the faculty." The parameters may be based upon the

continuation of historically verified institutional experience or adaptations of new policy decisions.[18]

In what follows, the selected models are described in a very broad fashion so as to focus attention on what the models are designed to do and the nature of the input data required. This strategy is designed to aid administrators and planners in narrowing the search for an appropriate model down to one or two choices. At that point, they can consult the referenced documents for the explicit details required to develop an analogue of the selected model.

GENERAL PROJECTION MODEL

In the Survey of Institutional Practices and Assessments of Possible Options Relating to Voluntary Mid-and Late-Career Changes and Early Retirement for University and College Faculty, a model was developed to illustrate the possible results of retirement, resignations, and mid-career changes.[19] The model was not intended to be a predictive model but rather to show how faculty distribution can change, given certain fixed rates. The researchers analyzed the results of different combinations of rates and tested the effects of various policies on a typical population. The Survey... had found that because of demographic trends and budgetary concerns many institutions would be prudent to assume a steady state, that is a relatively constant, faculty size. This assumption means that open positions can only occur by resignation or retirement of current faculty. This often means that there will be little room for new hires unless current faculty can be encouraged to leave or tenure is denied to young faculty. A rather simple faculty flow model was developed to apply to this limited data because the detail needed in other more sophisticated, models was unavailable. The primary idea was to test the sensitivity of the flow of new faculty to changes in retirement, tenure denial, mid-career change, and resignation rates. The results were compared between a faculty with a normally distributed age range to results associated with a faculty with a greater proportion of older members. The intention of the model was to analyze the

results of setting different combinations of rates and to test the impact of alternative policies on a particular population distribution.

INPUT DATA

1. Base population distributed by age, in five year or less increments from base year.
2. Number of year periods to be projected.
3. Tenure denial rate: only applicable to age brackets up to age thirty-nine, because tenure has nearly always been determined by that age.
4. Death and retirement rates: Rates are applied to the oldest age cohorts (55-59, 60-64, 65-) as being the only groups affected.
5. Mid-career change: The concept of a career change to a non-academic endeavor among middle age faculty has been discussed in the Survey...as another option available to faculty and institutions to make openings available for new appointments. It was noted that such a policy is non existent in higher education but is worth considering given the problems of the 1980's. The basic university expectations behind such a policy would be the elimination of a number of faculty members before they reached the older age groupings. The rate for this variable was set at two percent assuming that it would be unlikely to achieve a higher rate.

HOW THE MODEL WORKS

Because detailed input data was unavailable to the researchers who developed this model, the choice of rates for the four variables was determined by current aggregate trends in higher education, and also by using a normally distributed faculty population and refining

the rates to be used by trying to keep a normal distribution. These rates were then used on an older faculty distribution. An older faculty was chosen as representative of institutions today. Of course, other users of this type model will use as input, data collected within their home institution and will not have to facricate such hypothetical situations. Using the assigned input rates, the model projects the number of faculty in each age cohort for a given year. The sample output of the model shows the faculty configuration for the base year 1978 as compared to what it will be five years hence. (Figures 2 and 3) Such printouts can be obtained for any increment of time desired. The question then becomes one of deciding what policies can be developed to obtain the desired rates. This is experimentally arrived at by a trail and error usage of the model.

INFORMATION THE MODEL SUPPLIES

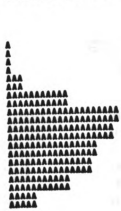
The model projects the faculty age distribution into the future. A researcher could take an institution's specific probabilities of retirement, tenure denial, resignation, and career changes and determine the faculty age distribution five or ten years from the present if current policies were continued. Then the user could begin manipulating the probabilities until the desired age distribution was reached. For example the Survey... found that tenure denial provided the most changes but an institution may believe that by raising the tenure denial rate, young high quality faculty would be discouraged from applying for jobs. Further, an institution may have no program to induce mid-career change and may not wish to consider one, so this probability should be set at zero.

HISTORICAL BASE YEAR 1978

POPULATION TABLE

AGE COHORT	BASE POPULATION	OUTMI-GRANTS	TENURE DENIALS	RECENT RETIREES	MID-CAREER CHANGE	RECENT HIRES	NET CHANGE
70 PLUS	0.	-----	-----	-----	-----	-----	-----
65 - 69	0.	-----	-----	-----	-----	-----	-----
60 - 64	30.	-----	-----	-----	-----	-----	-----
55 - 59	110.	-----	-----	-----	-----	-----	-----
50 - 54	200.	-----	-----	-----	-----	-----	-----
45 - 49	190.	-----	-----	-----	-----	-----	-----
40 - 44	160.	-----	-----	-----	-----	-----	-----
35 - 39	150.	-----	-----	-----	-----	-----	-----
30 - 34	110.	-----	-----	-----	-----	-----	-----
UNDER 30	50.	-----	-----	-----	-----	-----	-----
TOTAL	1000.						-----

POPULATION HISTOGRAM



POPULATION	AGE COHORT
0.	70 PLUS
0.	65 - 69
30.	60 - 64
110.	55 - 59
200.	50 - 54
190.	45 - 49
160.	40 - 44
150.	35 - 39
110.	30 - 34
50.	UNDER 30
1000.	TOTAL

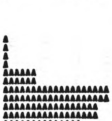
FIGURE 2: FACULTY AGE CONFIGURATION FOR BASE YEAR, 1978

FIVE YEAR SUMMARY AT 1983

POPULATION TABLE

AGE COHORT	BASE POPULATION	OUTMI-GRAFTS	TENURE DENIALS	RECENT RETIREES	MID-CAREER CHANGE	RECENT HIRES	NET CHANGE
TO PLUS	0.	0.	0.	0.	0.	0.	0.
65 - 69	0.	0.	0.	0.	0.	0.	0.
60 - 64	30.	0.	0.	20.	0.	0.	-21.
55 - 59	110.	0.	0.	85.	0.	2.	-44.
50 - 54	200.	2.	0.	11.	0.	5.	-8.
45 - 49	190.	4.	0.	6.	18.	9.	-19.
40 - 44	160.	7.	0.	3.	16.	23.	-3.
35 - 39	150.	12.	24.	2.	0.	31.	-8.
30 - 34	110.	14.	37.	1.	0.	75.	23.
UNDER 30	50.	10.	0.	1.	0.	89.	79.
TOTAL	1000.						0.

POPULATION HISTOGRAM



RESULTING POPULATION	AGE COHORT
0.	TO PLUS
9.	65 - 69
64.	60 - 64
190.	55 - 59
167.	50 - 54
142.	45 - 49
135.	40 - 44
89.	35 - 39
115.	30 - 34
89.	UNDER 30
1000.	TOTAL

FIGURE 3: FACULTY AGE CONFIGURATION SUMMARY, 1978-1983

The Survey... population showed that when retirement rates were increased the number of faculty in those age groups and their proximity to mandatory retirement age was close, that the increased retirement rates had relatively small impact on the number of new positions that became open.

MODEL LIMITATIONS

Having determined the desired faculty distribution via the model, the question becomes how this distribution can be obtained realistically. The model offers no help on this question; the researcher must determine the appropriate rates by means of trial and error. Once the correct retirement, career change, and tenure denial rates are found, the problem is only half solved, for then the planner must develop a personnel policy that will enable administrators to control the flow of faculty and ensure that desired rates are effected. This model is not developed to compare incentive plans or to give an answer to the question of who might retire. It is simply a faculty distribution model.

FIXED STUDENT/FACULTY RATIO MODEL

The TIAA Report on Early Retirement is appreciative of the fact that most studies and predictions of the effects of the AADEA and declining enrollments have been made in the aggregate and that an institution must have more specific information upon which to base a decision on early retirement incentive plans for its faculty.[20] Towards this end, a general model was constructed that can be used in conjunction with an institution's own data. As a service, TIAA will run the model and provide output to any institution providing the necessary input data.

In order to give potential users an idea of how the model works and what results can be expected, TIAA has worked through a hypothetical example in the referenced document. The model looks at a representative institution with declining enrollment and an aging faculty. The example assumes that any faculty member who resigns or dies will be replaced so the only attrition will be through retirement. The first model calculation is to determine an ideal faculty size over a certain number of years; this is chosen to be proportional to the overall student enrollment. This ideal faculty population is then used to calculate a target retirement age, such that if the faculty selects this age to retire the resulting faculty size will closely approximate the ideal faculty size over the years. The example model shows no retiring faculty member being replaced. The TIAA Report...recognized that the example they used was somewhat simplistic but they believed it was reasonable enough to enable an

institution to establish a retirement policy objective and assess its financial implications.

For every year retirement is postponed, a faculty member costs the university his salary plus benefit costs, so for every year that a person retires before the mandatory age the university can offer him/her an inducement up to that amount and break even. Any incentive less than the total salary and benefit costs would be a savings to the university if the faculty member does not need to be replaced--a crucial and somewhat unrealistic assumption.

INPUT DATA

1. Name, age, date of employment, current salary, and TIAA contract number for all the institution's faculty.
2. Student to faculty ratio desired.
3. Enrollment gain/loss predicted for the projection period.
4. Annual salary increases to be awarded.

HOW THE MODEL WORKS

This model uses the fixed student/faculty ratio to determine the ideal faculty population needed each year as enrollment changes. The model then compares this ideal faculty size with the faculty that will result from several retirement patterns--namely, retirement at 62, 65, 68, and 70. In the process of making these calculations, the model operates under the assumption that every faculty member retires at the specified age being used in the projection and that there is no attrition at any younger age--that is, if resignations or deaths occur, those positions are immediately filled. In addition to making projections of an institution's faculty based on retirement ages of 62, 65, 68, and 70 another projection is made using a more

complex retirement patterns: one-third of the faculty retiring at sixty-five, one-third at sixty-eight, and one-third at age seventy. All these projections are made in order to show whether the retirement pattern produces an excess or shortage of faculty over the next fifteen years. As the next step, the model determines the retirement age that results in a faculty size that most closely approximates the ideal faculty. To determine the financial consequences of an early retirement incentive plan aimed at this particular retirement age the cost of the incentive is shown for each faculty member as (s)he reaches the target retirement age. The incentive used is an annuity purchased by the university which guarantees that each faculty member, at the targeted retirement age, will receive the same benefits (TIAA single life annuity) that (s)he would have received if employment was continued to age seventy. Since this model uses specific data for each faculty member, it can list the actual early retirement date for each faculty member, the normal benefit derived, the early benefit, the excess annuity needed and the cost to the university. An early retirement cash flow analysis can be projected by year showing the cumulative salary costs saved minus the cost of the annuities purchased.

INFORMATION THE MODEL SUPPLIES

The model output consists of a series of tables. Table 7 shows the projected enrollment and the ideal faculty size needed to handle these enrollments at a sample institution.

The model then produces both a table (Table 8) and a graphical plot that compares the ideal faculty size with the faculty that will result from retirement at 62, 65, 68, and 70.

TABLE 7: FIFTEEN YEAR PROJECTION OF IDEAL FACULTY SIZE AT SAMPLE UNIVERSITY

Year	Total Number of Students	Ideal Faculty Population
1981-82	1,030	86
1982	1,009	84
1983	989	82
1984	969	81
1985	950	79
1986	931	78
1987	912	76
1988	894	75
1989	876	73
1990	859	72
1991	842	70
1992	825	69
1993	808	67
1994	792	66
1995	776	65

TABLE 8: FIFTEEN YEAR COMPARISON OF IDEAL FACULTY SIZE AND ACTUAL SIZE RESULTING FROM FOUR RETIREMENT AGES

Year	Ideal Faculty Population	Age 70 Faculty Remaining	Age 68 Faculty Remaining	Age 65 Faculty Remaining	Age 62 Faculty Remaining
1981	86	87	87	87	87
1982	84	87	87	86	82
1983	82	87	87	85	80
1984	81	87	87	85	79
1985	79	87	86	82	78
1986	78	87	85	80	77
1987	76	86	85	79	76
1988	75	85	82	79	75
1989	73	85	80	77	71
1990	72	82	79	76	69
1991	70	80	78	75	67
1992	69	79	77	71	65
1993	67	78	76	69	64
1994	66	77	75	67	60
1995	65	76	71	65	59

The next output consists of a listing of all faculty members and the costs associated with inducing them to retire at the target age.

The model then compares the total costs of early retirement with the salary savings that would result and calculates the net savings/costs of the plan.

The value of the TIAA model lies in the fact that it performs one calculation that no other model attempts, that is, an exact calculation of Social Security and retirement annuities associated with each individual.

MODEL LIMITATIONS

The model's value is greatly reduced by several assumptions that are built into its operation. The assumption that the faculty needed are directly proportional to the enrollment is counter to much institutional planning. The assumption that no retiring faculty member need be replaced is improbable.

There are structural limitations as well. The model is primarily concerned with carrying out many accounting calculations and does not have the flexibility to simulate any scenarios except the one built into the model. Thus, the researcher is unable to model what happens if some of the retiring faculty are replaced, or if the tenure award rates are changed, or any of the other ideas that are discussed under other models.

CONSTANT FACULTY OR CONSTANT BUDGET MODEL

In 1977, the AAUP appointed a committee to consider the effects of the proposed ADEA Amendment to help the Association formulate its position.[21] Events moved so rapidly that the committee's charge was modified to assess the new law's impact and evaluate various institutional strategies. Looking at the information on higher education in the aggregate, the committee found neither a uniform age of retirement nor a consistent policy on contract renewals after age sixty-five; a trend toward early retirement was noted even though a decade of inflation had eroded retirement income. Upon this background was placed the possible effects of the AADEA. Two scenes could be visualized. As faculty approached sixty-five, instead of retiring as in former years, they would work until seventy. If faculty size was not to grow, new hires would have to be reduced by the number delaying retirement until seventy. These older faculty would likely be receiving double the salary a young Ph.D., with the result that salary costs could rise appreciably. The other scenario would find faculty ignoring both the new law and inflation and retiring at sixty-five or earlier. Thus, the continuation of the trend to voluntary early retirement and a move by institutions toward offering incentives for early retirement could ameliorate the effects of the AADEA.

The committee used a faculty flow model to project the influx of new faculty, salary costs, and faculty size under the assumptions of the two different scenarios. In addition, each scenario is run

under two different policy options--constant faculty size and constant budget size. The committee made projections using three distinct faculty age configurations--a balanced distribution closely approximating the aggregate age configuration of all U.S. faculty; a young faculty, representative of institutions that grew in the sixties by hiring mostly young faculty; and an older faculty representative of established institutions, that grew less in the sixties and hired more experienced employees.

INPUT DATA

1. Current faculty age distributions--the percent of faculty in each five year age increment beginning with a group under thirty.
2. Current salary averages for incremental age groupings.
3. Transitions rates for moving from one age group to the next or to early retirement.

HOW THE MODEL WORKS

Constant faculty size policy: Taking the distribution of faculty ages and assuming no change in retirement age, each group is aged in five year increments. At each five year point, new hires are calculated so as to keep faculty size constant. This is continued to the year 2002. The transition rates moving faculty to the next age group are constant to age fifty-nine, then the number of faculty moving on is decreased by twenty-five percent to show the effects of the present trend of early retirement.

The same process was repeated with the retirement age changed to seventy and the assumption that seventy-five percent of the faculty in the age 60-64 group will continue working until seventy. The

number of openings for new faculty resulting from these two model runs are then compared every five years for each of the three populations--balanced, an older, and a younger faculty group.

To determine total salary costs the number of faculty in the age categories are multiplied by the average salaries reported in the 1977 Ladd-Lipsett survey of the American Professoriate.

This model indicated adverse short-run effects on hiring new faculty but not especially severe effects in the long run.

Constant Budget Policy: The number of new hires, or in some cases layoffs were projected for a current polciy of retirement at sixty-five and a repeat model run was made for retirement changed to age seventy. Under this budget constraint annual salary increases prevented the hiring of new faculty even without increasing the mandatory retirement age. The model uses the number of new hires beginning with the initial year set as one hundred percent and shows the decline or increase percentage of new hires every fifth year for each of three faculty age configurations. The model also projects the percentage change in new hires that an institution can expect by holding the budget constant. The committee noted that the consequences of maintaining a constant budget (Table 9) are more drastic than holding a constant faculty size. (Table 10)

INFORMATION THE MODEL SUPPLIES

The model shows the maximum impact of an age seventy retirement policy versus the current retirement age on the ability to hire new faculty as based on either a policy of constant faculty size or constant budget. The model can help make a decision on the need for inducing faculty to retire early.

TABLE 9: CHANGES IN NEW HIRES BASED ON ASSUMPTION OF CONSTANT COMPENSATION BUDGET

Indexes of New Hires: 1977 = 100

	1977	1982	1987	1992	1997	2002
Age 65—Mandatory Retirement						
Balanced	100.0	58.6	58.6	87.9	108.1	122.2
Mature*	100.0	211.1	255.6	322.2	344.4	1022.6
Young	100.0	0	0	0	0	21.9
Age 70—Mandatory Retirement						
Balanced	100.0	58.6	0	12.1	49.5	75.8
Mature*	100.0	211.1	0	266.7	307.4	866.7
Young	100.0	0	0	0	0	0
Percentage Change in New Hires						
Balanced	0	0	L**	−26	−34	−38
Mature	0	0	L	−49	−46	−21
Young	0	0	L	L	L	L

* See note accompanying Table 4.
** L = Layoffs

TABLE 10: CHANGES IN NEW HIRES BASED ON ASSUMPTION OF CONSTANT FACULTY SIZE

Indexes of New Hires: 1977 = 100

	1977	1982	1987	1992	1997	2002
Age 65—Mandatory Retirement						
Balanced	100.0	107.1	128.3	152.5	163.6	165.7
Mature*	100.0	261.5	537.0	633.3	811.1	755.6
Young	100.0	62.1	92.2	92.2	96.3	166.1
Age 70—Mandatory Retirement						
Balanced	100.0	107.1	87.9	120.3	155.6	162.6
Mature*	100.0	261.5	340.7	585.2	670.4	703.0
Young	100.0	62.1	66.8	90.5	100.9	123.3
Percent Age Change in New Hires Each Year Resulting from Retirement Age Change						
Balanced	0	0	−31	−15	−5	−2
Mature	0	0	−37	−7	−17	+1
Young	0	0	−31	−2	+8	−27

* Inasmuch as the indicated percentages reflect only the relative increase from 1977, the very large increases shown for mature faculties appear somewhat distorted simply because the number of new hires in the base year would have been so few; thus, as a large number of older faculty members retire, the change from a small number of previous new hires appears almost exponential.

MODEL LIMITATIONS

The model does not allow one to look at implications of how other personnel policies may impact on the university. The model was designed for the single purpose of comparing the effects of age seventy retirement to some other retirement age.

It is also limited to the two policies of constant budget and constant faculty size--policies that many institutions would not care to implement.

MARKOV CHAIN MODEL

In the early 1970's Stanford's increasing budget costs meant that staff size would have to be kept relatively constant.[22] Such a freeze on faculty size would have greatly reduced the number of new faculty entering the university. To preserve a reasonable influx of new hires, Stanford decided to increase the turnover by retiring some older faculty early. There was evidence that a number of older faculty would like to retire before the mandatory retirement age if only they could afford to do so. At that time, the university retirement plan (similar to most) contained no provision to counter the strong disincentive represented by the fact that a faculty member's retirement income almost doubles the last six years of employment.

The first step was to identify the faculty the university would be most willing to see retire early. The university assumption was that an individual's salary was a good indicator of his/her value to the institution. Preliminary calculations also showed that the early retirement bonuses could be lower for faculty with lower salaries. These two considerations led to the decision that the low salaried faculty should be the primary target group. To further establish low salaries as a means of selecting early retirement candidates, planners looked at all faculty with below median salaries for age and length of service and found they almost all had been identified earlier as part of the group that Deans would be

willing to see retire early. The strategy was to provide an early retirement plan that, while available to all, would offer more inducement to the identified characteristics of the group the university would like to retire. This was effected by offering each individual, age fifty-five or more, a retirement level which would have accumulated at age sixty-five if he were paid the median salary of his college during his remaining years of service.

The second goal was to provide a mathematical model of faculty flow that would predict the effects of the early retirement plan, the additional faculty who would take advantage of such a plan, and the costs to the university of instituting such a plan. Interestingly enough, the later analysis showed that personnel costs would never be more than three percent larger as a result of offering an early retirement incentive plan and replacing all retiring faculty to keep faculty size constant. The model also determined that early retirement was not particularly effective in the long run as a means of increasing flow of new faculty into the institution.

INPUT DATA

1. Faculty counts--The faculty belonging to each college are partitioned into those that are tenured and non-tenured. The tenured faculty are than grouped by age, into five year increments. The faculty, fifty-five and older, are further divided into three salary levels--low, medium, and high. The final step is to count the number of faculty in each of these groups and put these counts into the computer model.

2. Transitions rates--Historical data must be used to determine the rate at which the faculty leave each group--as established above--and

to move to another group. Thus, the rate at which tenure is granted, the resignation rate for faculty within each five year age group, and the retirement rate for each group must be determined.

3. Salary averages--The average salary, for each of the three faculty groups (low, medium, high) must be provided.

4. Retirement rate with an early retirement in effect--Planners must subjectively estimate the rate that faculty in each age group above fifty-five and in each of the three salary levels, will elect to take the early retirement option.

5. Average length of service--For each faculty group over fifty-five, the average length of service must be determined. This is used to calculate the retirement income accumulated by age sixty-five.

6. Assistant Professor salary--Since each retired faculty member is replaced by an Assistant Professor, this average salary is needed for cost calculations.

HOW THE MODEL WORKS

The plan was developed to offer a retirement supplement to those who retired early with ten years of service and over fifty-five years of age. The base benefit, as determined by the university, was equal to the equivalent level of a pension fund that would have been accumulated at age sixty-five if the faculty member had been paid the median salary for his school or college during each year of service. It was designed such that the retirement benefits received by a faculy member in the high salary group would eventually overtake the value of the base benefits provided by the plan and this, this group would have no extra pension benefit incentive to retire.

The model was developed to predict the outcome of the early retirement plan by comparing the flow of the faculty under no early retirement plan with the situation likely to exist after implementation of the above early retirement plan.

Each faculty member was put into a specific group or state. The fifteen states were defined as follows:

1. Non tenure, any age.

2.-6. Tenured faculty from ages 30-34, 35-39, 40-44, 45-49, 50-54.

7.-15. Tenured faculty ages 55-59, 60-64, 65 and over; further divided into salary levels of low, medium, and high. After the faculty is partitioned over the various states, the model then proceeds to show the state changes of the faculty over time by means of what is called a Markov chain model. For example, if there were one hundred tenured faculty in the 55-59 age category, medium salary, and the probability of retirement was twenty percent, twenty faculty would leave this state and retire. Further, if the resignation rate was two percent, two more would leave this state. This leaves seventy-eight of the original group to which we add the new faculty that are moved into this age group from the 50-54 group according to a rate established for that age group. The number of faculty in each state changes from year to year according to the probabilities of each group moving in any of the possible directions.

In calculating the cost of additional bonuses paid out under the early retirement plan, the model performs several steps: The number of individuals in each age and salary group who will elect early retirement are calculated. Then the average length of service associated with each of these states are used to calculate how much

of a supplementary bonus must be paid out to raise an individual's retirement pay to the designated level. The bonuses are then summed for all the early retirees. The model also calculates the net cost of the plan by summing the salary savings and subtracting the bonuses paid and the salaries of the replacement faculty. In this way one can compared the movement of the faculty, the number of new appointments and attached average salary costs both with and without the early retirement incentive plan.

INFORMATION THE MODEL SUPPLIES

1. The percentage change in the non-tenure component of the school-the tenure ratio.
2. The number of retirees each year.
3. Change in the ratio of younger to older faculty (age fifty-five being the breaking point between young and old).
4. Change in the annual appointment rate of new faculty.
5. Cost to the university in terms of salaries and contributions to the retirement fund with and without early retirement.
6. Five year or more forecasts of the information above.
7. This model indicates the colleges identified with the early retirements and thus gives planners some indication of what programs the retirements are impacting.

Table 11 illustrates the predicted effects of the early retirement plan.

MODEL LIMITATIONS

This model is not set up to compare various early retirement plans; it was constructed to evaluate one and only one type of plan.

TABLE 11: PREDICTED EFFECTS OF STANFORD EARLY RETIREMENT PLAN

	Without early retirement	With early retirement	
A. *Equilibrium results*			
New appointments/year	89	95	(+7%)
Faculty stocks:			
Nontenure	319	346	(+9%)
Tenure—age 30 to 54	474	489	(+3%)
Tenure—age 55 to 64	207	155	(−25%)
Cost/faculty member	$23,346	$23,815	(+2%)
B. *Short-run results*			
New appointments, 1972–1977	426	483	(+14%)
Terminal stocks:			
Nontenure	317	351	(+11%)
Tenure—age 30 to 54	807	814	(+1%)
Tenure—age 55 to 64	176	135	(−23%)
Five-year cost (Discounted @ 5%)	$123,544,000	$128,286,000	—

Nor does it tell how well the plan will be received, for the rates at which the faculty will choose early retirement are arrived at by subjective means. Planners must be convinced that the group to be retired early is characterized by low salaries.

SIMULATION MODEL

The University of Southern California (USC) Faculty Model was originally developed in 1972 by Dr. Paul Grey, then Professor of Quantitative Business Analysis at the University's Graduate School of Business.[23] It is an interactive simulation computer model written in BASIC and developed to measure the effects of various policy alternatives over several years. Its aim was to help find a mix of faculty (rank, tenure, minority groups) that would meet USC's objectives. Using certain faculty information as input data, the administrator is able to look at the implications of a number of policies for hiring, tenure granting, promotion, and retirement. Using data on each faculty member, alternative policy situations were constructed and analyzed to show the various implications of administrative decisions. A wide variety of policy studies were conducted under several environmental assumptions. These computer simulations did result in several findings that appeared to generalize beyond the specific input data used, one of which was the observation that an early retirement program has only a short term effect on position openings for new faculty. The model also indicated that an institution's initial faculty age distribution plays an important part in determining the impact of the AADEA; age and rank distribution are the primary influences on costs, tenure ratio, and faculty flow within institutions. One of the unique aspects of the USC model is that it has been made available

to researchers at other institutions for a reasonable usage fee. Under this arrangement the user supplies the necessary input data reflecting the characteristics of their institution. The policies to be investigated and the various environmental conditions to be simulated are specified; these policies and conditions are specified in terms of data and instructions as to how the data is to be used. The USC staff then runs the model and provides the user with a set of detailed output graphs and tables that facilitate understanding the results.

INPUT DATA

The environmental information needed is as follows:

1. Characteristics on each faculty member are needed: rank, age, salary, tenure status and year, sex, ethnicity, departmental affiliation.
2. Resignation rates for faculty who leave for reasons other than tenure denial, death, or retirement. The assumption is that the historical average over the last five to ten years will continue.
3. Number of faculty needed: This can be programmed either to remain constant so that if a faculty member leaves he will be replaced or can show growth or decline in total numbers.
4. Time projection: Ten years is typical but can be stretched to show twenty years into the future.
5. Salary structure: The pattern for annual raises.

The policy information needed is as follows:

1. Retirement: The user sets the probability of a person retiring at a certain age. Historical data over the last five to ten years

can be used to show what a continuation of current trends will do. To show the worst case under the AADEA the user would specify that all faculty retire at age seventy.

2. Tenure: For each rank, the user specifies the percentage who are granted tenure. As in retirement information, the university's historical information over the past five to ten years provides a beginning assumption. The model can be used to show the results of an increase in awarding of tenure or more denials.

3. Hiring policy: For example, under a constant faculty size policy, faculty members leaving the university are replaced by someone whose rank is determined by a probability distribution.

4. Promotions: The probability of promotion is specified for each given rank. Historical data is again a good starting point. Certain limits on promotion can be imposed to show changes in policy.

HOW THE MODEL WORKS

All the above information is entered into the computer model. The model simulates the passage of each year by tracing the movement of the current faculty and specifying the changes in the status of each individual in terms of retirement, death, resignation, tenure, and promotion. These changes are determined by the probabilities furnished as input by the user. For each individual, a random number is drawn and combined with the input probability to decide what happens to that faculty member.

Because of the random number generator, a model using the same initial data will produce slightly different outputs everytime it is run; it is very unlikely that any individual will simulate the same status changes on successive computer runs. This apparent chaos is

brought into control by making a series of computer runs that repeatedly simulate the same situation for a period of time. The output data is then averaged and these average outputs are regarded as being statistically representative of what will happen. If each computer run's output is equated to a random sample of a population, the logic of this method becomes apparent.

The researcher compares various policies by changing the input variables that reflect these policies, runs the model for an identical number of years, and then evaluates the outcomes of each policy as expressed by the output tables and graphs.

INFORMATION THE MODEL SUPPLIES

For each year specified by the user, the model supplies the following information: (Table 12)

1. Retirement: The number of faculty who retire and their age at retirement.
2. Number of resignations, deaths, faculty denied tenure, faculty granted tenure, faculty promoted, initial faculty who departed, and cumulative number of faculty hired. It also states the number of faculty at each rank each year, number of FTE filled by part-time faculty, average age, age distribution by rank, average annual salary, average salary costs to the institution in total, and the percent of tenured, female, and minority faculty.
3. By department, the model tells: the expected number of original faculty remaining and the expected number of openings for new hires.

The interested reader can consult Appendix C of the referenced document for a sample output.

TABLE 12: SAMPLE OUTPUTS OF UNIVERSITY OF SOUTHERN CALIFORNIA FACULTY STAFFING MODEL

RESULTS:

RETIREMENT STATISTICS:

RETIREMENT AGE:	60	61	62	63	64	65
AVG. # RETIRED:	0	0	0	0	0	5

FACULTY CHANGES:

	75	76	77	78	79	80	81	82	83	84
AVG. NO. OF QUITS	1.5	1.5	0.5	2.0	2.0	1.0	2.0	3.0	1.0	1.5
AVG. NO. OF DEATHS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
AVG. DENIED TENURE	0.0	0.5	3.0	1.5	2.5	0.0	0.0	0.5	1.5	1.5
AVG. NO. RETIREMENTS	0.0	0.0	1.0	0.0	1.0	1.5	0.5	0.0	0.0	1.0
AVG. NO. TENURED	0.0	2.5	0.5	0.5	0.5	0.0	0.5	0.0	0.0	0.0
AVG. NO. PROMOTED	0.0	1.5	0.5	1.5	1.0	1.0	0.0	0.5	0.0	0.0
ORIG. FAC. DEPARTING	1.5	3.0	7.5	10.0	14.0	15.5	16.0	16.5	17.0	19.0
CUM. NO. HIRES	1.5	3.5	8.0	11.5	17.0	19.5	22.0	25.5	28.0	32.5

FACULTY DATA:

	75	76	77	78	79	80	81	82	83	84
AVG. NO. PROF.	7.0	8.0	8.0	9.0	8.0	8.0	8.0	8.5	8.5	7.5
AVG. NO. ASSOC.	10.5	10.0	10.0	9.5	9.5	8.5	8.0	7.5	7.0	6.5
AVG. NO. ASST.	14.5	14.0	14.0	13.5	14.5	15.5	16.0	16.0	16.5	18.0
AVG. NO. INST.	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
AVG. NO. F.T.E.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FAC. REQ'D. (10'S)	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
AVG. FACULTY AGE	41.8	42.3	41.2	41.4	40.1	39.8	40.1	40.6	40.9	40.0
AVG. SALARY (1000'S)	16.5	16.8	16.7	16.8	16.2	15.8	15.9	16.0	16.1	15.6
AVG. COST (100K'S)	6.4	6.5	6.5	6.6	6.3	6.2	6.2	6.3	6.3	6.1
AVG. % FAC. TENURED	43.6	48.7	47.4	48.7	46.2	42.3	42.3	41.0	39.7	34.6
AVG. % FEMALE	21.8	19.2	20.5	21.8	25.6	26.9	25.6	25.6	25.6	26.9
AVG. % MINORITY	7.7	7.7	9.0	9.0	9.0	9.0	7.7	9.0	7.7	7.7
AVG. % F.T.E.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

BASED ON AVERAGE OF 2 ITERATIONS

Because the model is run by a researcher seated at a computer terminal, the user soon comes to view retirement as but one element in over-all faculty movement. While the model does not isolate retirement as a separate element of personnel policy the user can look at retirement as a separate policy by holding all other possible variables steady and seeing what a retirement policy variation would do. Or, (s)he can make trade-offs such as between retirement policy and changes in tenure denial and replacements. The user can also examine the changes in salary costs as retirement ages are increased or decreased. Because information is compiled on death and attrition, an intelligent decision can be made on whether it is in the best interest of the university to offer a retirement plan with large financial incentives or whether its desired faculty composition can be accomplished by policies aimed at considered variations of filling vacancies occuring through death, resignations, and regular retirements at the mandatory age. Also it shows the user if there are enough faculty left in the upper age brackets to warrent pursuing an early retirement incentive plan. The model provides the kind of information a university needs for over-all personnel control. It also provides information needed to determine if an early retirement incentive plan is going to help the university achieve its goals over time. It has an abundance of information not specifically tied to retirement issues but of great importance to administrators looking for answers to issues confronting higher education in the coming decade.

MODEL LIMITATIONS

While the model can help the university decide on 'if' the university wants an early retirement policy by the process of

illustrating the savings that would occur, it does not have the ability to model the use of incentives to reduce the retirement age. No information can be obtained on what costs any particular incentive plan would incur or save the university. It does not help the institution decide what plan might in fact lower its retirement age to the level the model showed to be the most beneficial. If, using the fact that the faculty have historically retired at sixty-eight, the model then finds that the university could accomplish its goals of retrenchment if the faculty were to retire at age sixty-four, the problem remains one of finding a way to induce this earlier retirement pattern.

The random number generation technique may show that on the basis of a single run, three business professors over sixty will leave, two professors in anthropology will die, and seven professors in arts and letters over sixty-eight wil remain. The probability of this actual scenario taking place is close to zero. Thus, the model will not tell specifically who will do what and yet this if one of the major concerns to administrators who are attempting to accomodate shifts in student demand.

BEHAVIORAL MODEL

The basic assumptions behind this model is that

> estimates of the impact of changes in retirement income on the retirement-decision making of faculty is essential for calculating the expected costs of incentives for early retirement, for determing the characteristics of the faculty members who respond to the incentives, and for simulating the long-term effects on the age and tenure composition of the institution's faculty.[24]

This article estimates the probability of retirement based upon a model of retirement decision making and then, uses these probabilities to simulate the financial impact of three early retirement incentive plans. The assumptions is that it is possible to induce a sizeable number of faculty members to retire early. It provides the user with information about costs/savings on three distinct retirement options and the number of faculty likely to be induced to each plan.

INPUT DATA

The model can be viewed as consisting to two small models, one which statistically determines the probability of retirement for each faculty member, and a second model which then uses those probabilities to randomly simulate the retirement or continuence of each person.

Probability input data:

1. The individual's expected income is (s)he retires at time 't'
2. The individual's expected retirement income if he works one more year.

3. Average raises (in percent) for the individual during the past three years.

4. Sex

5. Rate of change in Consumer Price Index. (CPI)

Since the date is significantly different for faculty over sixty-five, the author suggests building two probability models--one for faculty under sixty-five and one for faculty over sixty-five.

Simulation model input data:

1. The salaries of all current faculty who qualify for the early retirement inducement.

2. The probability of retirement for these same faculty, as calculated by the probability model--both with and without an incentive plan.

3. The cost of the early retirement inducement.

For the analysis of incentive plans the assumption is that the purpose of a supplement plan is to encourage additional early retirements. The results indicate that numbers of retirees can be predicted and the plan is to encourage additional early retirements. The results indicate that numbers of retirees can be predicted and the plans analyzed assume the university can effectively choose a plan to appeal to particular cohorts. Plan One assumes some equality, with all who retire receiving the same per year dollar supplement. Plan Two targets the lower paid faculty by stipulating a base retirement income and only those who fall below this level receive a supplement. Plan Three offers a larger supplement to those with lower salaries but offers something for most higher income faculty. The assumptions of plans two and three is that if a faculty member

can increase his/her retirement income by retiring early there is a probability that (s)he will.

HOW THE MODEL WORKS

Using the historical information gathered over a six year period on a stratified (by age) sample of faculty, sixty-two years or older, an equation was developed via a statistical method called Logit analysis. It uses information on retirement income, income if work is continued, average raises over the past three years, sex, and the change in the Consumers Price Index. It is reasonable to expect the amount of ones retirement income will be an incentive toward retirement while the expected income if work is continued, and the change in the CPI (inflation) will be a disincentive. Specific information on these items are multiplied by coefficients that are statistically determined by characteristics of the sample. A sample equation resulting from the data on faculty over sixty-five is: the probability of retirement is equal to -4.6 -2.4 (sex) +.5 (raise) - .3 (CPI) +.03 (retirement income) -.02 (retirement income if retirement is delayed). The equaltion indicates that behavior of faculty over sixty-five can be predicted and that an increase in early retirement income can increase the number of faculty who would elect early retirement. Other data indicated that for faculty members under sixty-five, the decision to retire is not related to the above stated variables and suggests that the behavior of younger faculty toward early retirement incentive plans is unpredictable at Weiler's home institution.

Having determined that a behavioral model can predict the probability of early retirement in faculty over sixty-five, Weiler

then used his model to evaluate three types of incentive plans to determine the differential in incentives they provide to faculty and the net savings to the institution. Plan One provides a supplement of $1,000 per year to any faculty member who retires before the mandatory age. Plan Two establishes a base for early retirement income and then pays an early retiree a yearly supplement to raise his/her retirement income to the base level. Any retiree above the base level salary would not receive supplemental pay. Plan Three pays a supplement to early retirees to raise their yearly income to a specific percentage of their salary with the percentage declining at higher salary levels.

In general, the model proceeds by considering each faculty member individually and simulating retirement or continuence on a random basis but according to established probabilities. Specifically, it accomplishes this as follows: it considers each faculty member in turn by putting the individual's data into the probability equation and calculating a probability of retirement without an early retirement in operation. It then, for each individual, uses this retirement probability and a generated random number to decide whether or not that individual will retire or not. The model repeats this procedure one hundred times. Because of the random numbers, every run through the faculty roster will generates a different, but fairly similar, list of people who will retire. All the salaries for the retirees over these one hundred replications are then totaled up and the average salary is calculated.

The next step is to select all the faculty who are eligible for the early retirement plan. For these faculty, the entire first step

is repeated. Because the early retirement plan changes the retirement income if a person elects to retire immediately, all the probabilities for retirement will increase and more faculty will select retirement. The final result of this second step is the average salary of all the people who decide to retire with the early retirement plan in place.

The final stage of the computer model now becomes one of simple book keeping. It calculates the cost of inducing people to retire early and the salary savings derived from the extra people who retired only because of the early retirement plan. The net savings is then the difference between these two figures. Table 13, taken from Weiler's paper, shows these results for each of the three incentive plans tested. Of course, a researcher is free to test plans other than those the author considered. Likewise, a researcher should develop his/her own probability model by using his/her own institution's historical data.

Even though Weiler's results are specific to a particular faculty, it may be instructive to review his results. At the very least, one can gain some appreciation for the model by observing that the results seem reasonable and that few people could have weighed all the complex relationships and guessed the best plan.

Plan One shows the largest savings per retiree of any plan. However, the average salary of those who retire is the highest and the average salary of those who retire with the plan is higher than those who retire without the plan, so the plan obviously induces some highly paid faculty to retire which may not be the desired results.

TABLE 13: SIMULATION RESULTS OF ALTERNATIVE EARLY RETIREMENT INCENTIVE PLANS

	Plan		
	1	2	3
1. Number in sample potentially receiving a supplement[a]	221	115	157
2. Average salary of 1	$36,032	$30,052	$34,806
3. Number expected to retire without the plan	33	20	25
4. Average salary of 3	$34,263	$29,277	$32,646
5. Number expected to retire with the plan	42	34	42
6. Average salary of 5	$34,535	$28,676	$33,714
7. Average supplement paid to 5	$1,000	$3,303	$2,910
8. Net savings[b]	$882,804	$281,174	$965,304

[a]The total number of faculty aged 65 and over is 221.

[b]The net savings is calculated as follows. The total cost is the product of the predicted number of retirees in Row 5 and the cost of a life annuity paying the value in Row 7 (based on the average age of the faculty members expected to retire). Total savings is the product of the number of additional retirees induced by the plan (Row 5 less Row 3) and the total compensation (salary plus fringe benefits) which would be paid to these faculty members if they remained at the University until the normal retirement age. Net savings is, of course, the difference between total savings and total cost.

Plan Two has a high cost in supplement payments in relation to the small amount of total savings to the institution and there would not be enough money to hire replacements for all the retirees.

Because Plan Three induces the most faculty to retire; it provides the largest net savings even though the average supplement paid is almost $3,000. However, the average retiree's salary is slightly above the salary level of faculty who would retire without the inducement so it induces a few highly paid employees to retire.

INFORMATION THE MODEL SUPPLIES

A predictive model of retirement-decision making based upon the premise of increasing retirement income is produced. This model can be used to analyze the acceptance of various incentive retirement alternatives. The researcher is free to try out any plan of his own and to develop probability equations reflective of his own institution's historical data.

MODEL LIMITATIONS

The model is not concerned with the relationships between retirement rate and rates of promotion, reappointment, and tenure. It is limited to testing the cost effectiveness of incentive early retirement plans.

The model assumes that retired faculty will not be replaced, but a planner can easily modify the model so that it would allow the specifying of some rate of appointing new faculty.

The model cannot be simply copied since it only works for the three plans Weiler studied. A researcher would have to program the model to reflect the characteristics of his/her own plan. If one

later decides to study a different early retirement incentive plan, (s)he may have to perform considerable reprogramming.

OPTIMIZATION MODEL

The impetus behind the development of this model was the increased used in higher education of management science methods, especially as directed toward resources management.[25] The author noted two limitations found in most of these models. One is that they calculate budgets in future years as an output of the model. Schroeder feels that factors such as tuition generated by enrollments, appropriations from the legislature, and endowments are what determine budgets, and so budgets should be considered an input of the modeling procedure. The problem then becomes how to allocate the available budget. The second limitation is the fixed faculty-to-student enrollment situation that most models assume; the faculty size rises and falls in rigid proportion to the enrollment. Schroeder believes that often when enrollments rise, the instructional load can be adjusted by means of larger sections, use of TV teaching, and more teaching assistants rather than additional faculty hiring. Likewise, when there is an enrollment decline a like decline in faculty is not always called for. His solution was to prepare a model that links faculty with enrollments in a more sophisticated fashion so that changes in enrollment do not force corresponding changes in faculty size but rather create a 'pressure' for such a change; the option of ignoring or only partially satisfying the pressure for change is available.

Using a process called 'goal programming' Schroeder, shows how a planner can specify a set of different, conflicting goals,

each with an assigned priority. The final distinguishing feature of this model is that it finds the unique optimal solution. Thus the model, given a fixed budget, is capable of allocating the dollars in such a manner that the highest priority goals are satisfied to the greatest extent possible.

In the example developed by the author the goals were to find the right mix of staffing as measured by teaching loads, proportion of faculty in each rank, teaching assistants (TA's) to faculty ratio, and support staff to faculty ratio while keeping within limits set for the number of new hires, staff reduction, salary budgets, and faculty flow. Since it is an optimization model it automatically considers trade-offs within the limits of the priorities that have been set and seeks to minimize penalities that are assigned for over and under-achieving the established goals. It allows administrators to allocate funds by considering goals for faculty and to ask 'what if' questions about the levels of hiring, budgets, attrition, and promotion.

INPUT DATA

1. The number of faculty, by rank, TA's, and support staff within each academic unit. (Consolidated so that no unit has under fifty faculty members.)
2. Number of new hires in the first year of the simulation.
3. Average salary of faculty members within each unit, by rank.
4. Average cost of TA's by unit.
5. Proportion of faculty per rank, within each unit.
6. Proportion of faculty that stay from year to year.
7. Desired teaching loads for faculty by unit.

8. Upper limit allowed on hiring of faculty.

9. Desired TA to faculty ratio.

10.Cost per staff by unit.

11.Proportion of staff who stay.

12.Total budget available each year.

HOW THE MODEL WORKS

The user defines a number of goals he wishes to achieve. The desired priority for these goals is established by assigning penalties to under- and over-achieving each goal; for example, the highest priority goal will have the largest under-achievement penalty. The model ensures that the goal with the highest priority is met to the best extent possible prior to achieving the second priority goal and so on. It accomplishes this by means of a procedure called 'linear programming' by which it minimizes the total penalties accumulated by missing the various goals to varying degrees. The faculty flow follows a Markov chain model such as was described in the model developed at Stanford.

The model is focused on dividing the payroll budget between faculty, staff, and TA's depending on the priorities set and relative to the costs of each category. Ranks are used because a change in mix of rank can have a large effect on faculty payroll costs. The model is capable of using a larger number of variables and constraints.

An example uses three departments over a three year period using nine faculty goal constraints, one for each year for each department, the same nine constraints for TA's, a budget constraint for each year, and two upper bound constraints on the number of faculty in one department. To test the sensitivity of the goals

using the same inputs the model is run three times; once with strict priorities for departments and hiring of faculty and TA's. The second run was done with faculty hiring having priority over TA's but all departments having the same priority, and thirdly with all staff types and ranks having equal priority. The model computes the average salary by rank, annual attrition rate, and annual promotion rate, and determines the number of new faculty, TA's, and support staff that should be hired by each department in each year.

INFORMATION THE MODEL SUPPLIES

This model is very sophisticated in that once the modeler has specified and assigned priorities to a set of goals, the mathematical algorithum incorporated in the model finds the unique distribution of resources which results in the most favorable outputs possible.

Table 14 displays the input data to the model. This table contains the number of faculty initially on hand in departments A, B, C, the number of faculty, and faculty/TA ratio desired in the three departments for each of the next three years (2 x 3 x 3 = 18 goals), and such data, as average salaries and attrition and promotion rates. Table 15 specifies three scenarios (cases) to be run, each defined in terms of priorities placed on achieving the eighteen goals. Case I places first priority on reaching the desired faculty count in department A and ends with assigning last priority to the faculty/TA ratio in department C. Case II places first priority on attaining the faculty number goals and treats the faculty/TA ratio as secondary; all departments have equal priority. Case III assigns equal priority

TABLE 14: SUMMARY OF INPUT DATA FOR THE OPTIMIZATION MODEL

	Department		
	A	B	C
Initial Faculty			
Professors	20	24	18
Associate Professors	26	18	12
Assistant Professors	16	1	7
Totals	72	43	37
Goal Levels			
Total faculty, year 1	86	40	26
Total faculty, year 2	75	45	26
Total faculty, year 3	65	50	26
Desired TA-to-faculty ratio, all years	0.8	0.8	0.9
	Annual salary ($1000's)	Loss rate (annual)	Promotion rate (annual)
Professor	22.2	0.03	—
Associate Professor	14.1	0.05	0.20
Assistant Professor	11.7	0.20	0.20
Teaching Assistant	3.6	—	—

Total budget for all Departments: $3,237,000.

TABLE 15: SAMPLE GOAL STRUCTURE FOR THE OPTIMIZATION MODEL

	Priorities					
	Faculty			Teaching Assistants		
	Dept. A	Dept. B	Dept. C	Dept. A	Dept. B	Dept. C
Case I	1	2	3	4	5	6
Case II	1	1	1	2	2	2
Case III	1	1	1	1	1	1

to all eighteen goals. Each case produced results (not shown) that were dramatically different, showing that the priorities assigned to the goals were as important as the goals themselves.

MODEL LIMITATIONS

The model developed by Schroeder was intended only as an example. A planner who wishes to use this optimization approach to study the retirement issue will gain little help from the referenced paper as to how to construct a model appropriate to his/her needs. Someone with experience in developing linear programming models will have to be relied upon. Likewise, any later model modifications that seem desirable will probably require the help of an expert to implement.

The complexity of the model makes it difficult to explain to executive officers and this in turn lends to uneasiness on their part to accept recommendations--particularly if the model's results are counter to their intuition. Also, it often becomes difficult to obtain goal and priority statements that are precise enough to quantify.

CONCLUSION

The models outlined in this chapter were selected on the basis of both their structure and the nature of the questions they were designed to answer. The issue of structure is raised to acquaint the reader with the relative complexities involved. The most important point, however, is the realization that the model is largely determined by the questions to be answered. Clearly, help is available in the form of computer models, whether one looks at the problems of the next decade in terms of holding budgets constant, holding faculty size steady, or reducing faculty as enrollments decline. As we have seen, early retirement can be isolated as to its impact on a single variable such as faculty size, flow of new appointments, budgets, or tenure ratios. Early retirement can also be handled more generally by studying the effects on the entire personnel system.

Certain models may help decide if an early retirement plan will be of any value in solving current problems. Other models can help assess the impact of various early retirement incentive plans in terms of costs or faculty size. Almost certainly a model can be found and adapted to answer the questions that face an individual institution.

The coming decade will be like no other in the history of higher education, enrollments are expected to continue to decline, inflation which has been ravaging budgets of both institutions and individuals may continue, governmental revenues are drying up, and there is considerable talk of uncapping the mandatory retirement age completely. With all these elements converging it is only a

guess as to what decisions institutions and individuals may make relative to early retirement. What is hoped is that the institutional decisions will be reasoned ones based on the best historical information available, the attitudes of the individuals affected, and the goals of the institution. Some planners believe that computer models, similar to those examined, can help accomplish this end.

NOTES

[1] Todd W. Furness, Steady-State Staffing in Tenure Granting Institutions (Washington, D.C.: American Council on Education, 1973), p. 2.

[2] Survey..., pp. 4-5.

[3] Survey..., pp. 210-212.

[4] Robert H. Linnell, The USC Faculty Model. Office of Institutional Studies, University of Southern Californai, Los Angeles, California, rev. September 1979, p. 2.

[5] Jenny, Early Retirement, pp. 12, 33-38.

[6] Hopkins, "Research:.." , p. 46.

[7] David S.P. Hopkins, "Analysis of Faculty Appointment, Promotion and Retirement Policies," Higher Education, November 1974, pp. 397-8.

[8] Louis Joughin, ed. Academic Freedom and Tenure (Madison, Wisc.: University of Wisconsin Press, 1967), p. 3.

[9] Morton S. Baratz, "A New Retirement Age and a New Attack Upon Tenure," AAUP Bulletin, March 1978, p. 69.

[10] Graebner, History, p. 250.

[11] Furness, p. 2.

[12] Survey..., p. 206.

[13] Corwin and Knepper, pp. 25-27.

[14] Jenny, Another Challenge, p. 19.

[15] Report on Early Retirement, p. 4.

[16] Jenny, Another Challenge, p. 5.

[17] Kenneth L. Kutina and Edward A. Bruss, "Faculty Flow in a Medical School--A policy Simulator," A paper presented at the Nineteenth Annual Forum of the Association of Institutional Research, San Diego, California, May 13-17, 1979.

[18] Christopher H. Nevison, "Effects of Tenure and Retirement Policies on the College Faculty," Journal of Higher Education 5, No.2 (1980), p. 157.

[19] The reader is referred to Carl V. Patton, Academia in Transition, and A Survey of Institutional Practices and an Assessment of Possible Options Relating to Voluntary Mid- and Late- Career Changes and Early Retirement for University and College Faculty for a more complete description of the model.

[20] The reader is referred to the Report on Early Retirement, 1981 (TIAA-CREF) for a more complete description of the model.

[21] The reader is referred to the article "The Impact of Federal Retirement-Age Legislation on Higher Education," in the September 1978 issue of the AAUP Bulletin for a more complete description of the model.

[22] The reader is referred to several publications by David S.P. Hopkins for a more complete description of the Stanford model: "Analysis of Faculty Appointment, Promotion, and Retirement Policies," in Higher Education, November 1974; "Research: Making Early Retirement Feasible," in Change, June 1974; "Faculty Early Retirement Programs," in Operations Research, 22, No.3 (1974); and An Early Retirement Program for the Stanford Faculty: Report and Recommendations, Stanford University, 1972.

[23] The reader is referred to Robert H. Linnell's The USC Faculty Model , University of Southern California, rev. September 1979, for a more complete description of the model.

[24] The reader is referred to the article "Simulation of Institutional Incentive Plans for Faculty Early Retirement Using a Behavioral Model of Retirement Decision Making," by William C. Weiler in Research in Higher Education 15, No.2 (1981) for a more complete description of the model.

[25] The reader is referred to the article "Resource Planning in University Management by Goal Programming," by Roger G. Schroeder in Operations Research, 22, No.4 (1974) for a more complete description of the model.

CHAPTER V

SUMMARY

The majority of Americans in the workforce today will live to experience retirement and, in some cases, a long period of retirement. Since many of them will need a substantial sum of money to sustain a comfortable lifestyle in retirement, the need for advanced planning is crucial. Most university faculty are covered by an institutional retirement fund similar to TIAA-CREF in that retirement funds accumulate faster during the final working years. As a result, such plans do not provide much incentive to retire any sooner than necessary. This fact, when combined with the likelihood of continued inflation, ensures that faculty will give serious thought to remaining in the classroom--an option that was given wider scope by the AADEA, which now allows faculty the option of working until seventy.

The AADEA puts additional pressure on institutions that are already feeling the ill-effects of declining enrollments, inflation, decreasing governmental support, and the continued need to respond to changing educational demands. However, the AADEA only exacerbates an already existing problem; extending the employment of older faculty is but a heightening of the long-standing problems associated with the fact that salaries of older faculty members are roughly twice those of young assistant professors, colleges and universities are labor intensive organizations, and that tenure severely limits the control that institutions may exercise over the situation.

One often proposed answer to an institution's need to save money, reduce size, or rearrange curricular offerings is incentive early retirement. The idea of bolstering retirement benefits as a financial inducement has been used on occasion for many years. Initially such arrangements were the exception rather than the rule, with adjustments based on a faculty member's declining interest in teaching or for reasons of health. More recently, such early retirement plans have been intended for broader groups of faculty as a way to accelerate retirements and create openings in time of steady-state enrollment. One of the most alarming developments in the last few years has been the perceived conflict between the intent of the AADEA and the pressures generated by declining funds and enrollments; the AADEA enables faculty to extend their stay in the labor force whereas the latter requires a reduction in the faculty.

Many administrators view early retirement incentive plans as the best and most easily adaptable response to a university's need to reduce faculty size or create a few open positions for new hires; however, doubts about the cost effectiveness of such plans have caused them to proceed cautiously. Consequently, only a relatively small range of early retirement incentive plans are in use by AAU institutions. The most wide-spread incentive option is that of phased retirement, which provides for a reduced work load from a certain date until full retirement. This option was developed to provide both income and a diminishment of academic obligations, while continuing contact with students and colleagues. Other early retirement incentive plans include arrangements whereby: (1) the institution makes benefit contributions from the early retirement date until the retiree reaches the mandatory retirement age; (2) an institutional

supplement is paid between early retirement and mandatory retirement age; and (3) cash settlements are given to early retirees. Few perquisite type benefits are extended to early retirees even though these would cost a university little and yet would inspire much good-will. Little information is available from specific institutions on the outcome of their early retirement incentive plans.

The complexities encountered in evaluating the various early retirement options has brought about a renewed interest in planning models. As defined by Massey and Hopkins, "Planning models are products of modern decision science. Generally quantitative in nature, they are designed to help managers and policy planners make more-informed decisions about allocation of resources."[1] While models are designed to help make decisions by providing extensive information they are meant to complement a decision maker's own judgement on quality and institutional goals--not supplant them.

A number of conceptually different computer models have been used to assist decision makers. A researcher may either select and adopt such a model to his/her own purposes or simply use one as a general pattern and program a completely original model that shares only the general mathematical principles. In either case, the type of model chosen is dependent upon the data available from institutional records, the style of the decision makers and the ability of the support staff. The various types of models are described for the general reader, in chapter four with regard to their underlying assumptions and methods of operation as well as their output formats and input requirements. The reader is referred to specific material for complete explanation of each model including full mathematical notation.

CONCLUSIONS AND RECOMMENDATIONS

Early retirement incentive plans should not be seen as a cure-all to the staffing problems currently besetting higher education, but rather as a policy worth serious consideration. In times of declining enrollment and retrenchment, other personnel policy decisions need to be examined. A change in policy that provides for slowing down the rate of promotion or increasing the difficulty of receiving tenure have the obvious disadvantage of decreasing the attractiveness of the institution as an employer and creating internal morale problems. Mid-career changes are not a viable option in this time of high unemployment and the option has never been developed as a operational policy in institutions of higher education.

All are influenced by their peer group and, in a more general way, by overall attitudes of our society; most people now share a background that views retirement at sixty-five as being normal. However, we are entering a transitional decade in which it has become a legal right to remain in the work force until seventy years of age. The effects of continued high inflation rates, the threat of recession, and the news of a bankrupt Social Security system are the current realities facing a prospective retiree--realities that may cause an upward shift in what is considered as a normal retirement age.

Administrators do not have adequate understanding of a retiree's needs or expectations. The single most important consideration influencing an individual's decision concerning retirement is the perceived adequacy of his/her retirement income. Further, one's financial situation is in a constant state of flux, and is dependent

upon inflation, Social Security, investment return, and other outside income, balanced against financial obligations. Employees are more concerned with the adequacy of their retirement income than they are with the university's financial problems and institutions will do well to keep this in mind as they develop an early retirement incentive plan, for an inadequate plan will simply be ignored.

A number of faculty would appreciate continuing contact with the university in the form of library privileges and office space as well as other low cost 'perquisites' that provide them an atmosphere in which to continue work and maintain contacts with colleagues. As stated by Ingraham, "It is somewhat disturbing how seldom in spite of having enjoyed teaching, missing students, and retaining an interest in their disciplines, the retired spoke with affection of the institution they had served. There are too few love affairs between colleges and scholars."[2]

The severity of problems vary by institution and the initial characteristics of its faculty. Administrators must be fully aware of the current policies, and the effect of those policies on future outcomes, in order to see if institutional goals can be accomplished. By using historical data related to faculty flow--constrained by current legal requirements, retirement policies, and institutional need for reduction in size or openings of new positions--planners can project these assumptions for ten to twenty years and gain a general idea of the problems that can face their institution. Even for such a general overview of the situation, administrators must be aware of the age mix of the current faculty, the direction toward growth or decline, and the institution's general financial situation

and budgeting strategy. The more administrators know about the relationship between the current staffing situation and future goals the better (s)he can plan, and planning is the key to solving problems in the coming decade.

Faculty flow projections will also help decision makers determine what early retirement incentives can do for their institution relative to saving money. But saving money cannot be the only reason for an early retirement incentive plan; even in times of retrenchment some departing faculty will need to be replaced. Administrators must extend the staffing plan to also include such considerations as adding new skills, shifting resources to different areas, rebuilding programs or opening new areas of expertise. Along with these goals, administrators must always be sensitive to faculty morale and the attractiveness of the university as an employer. An early retirement incentive plan must not be allowed to operate in such a way as to subtly damage the academic environment of the institution. Fiscal considerations must not be allowed to dominate staff planning.

There are no solutions applicable to all institutions to be found in this research. The vexing problems related to faculty staffing remain as a major issue for higher education. Each institution has its own set of faculty and financial characteristics and thus must find a unique solution. It is valid to claim that some institutions have found a partial solution to staffing problems by implementing early retirement incentive plans. However, it is clear that the number of operational plans are few in number and that the exploration of possibilities of various early retirement incentive plans has just begun. The similarity of the plans in place at AAU

institutions suggests that the continued search for more creative early retirement incentive plans will bear benefits both for the institutions and individuals, such institutional efforts should include the collection and analysis of data reflecting current staffing patterns and a comprehensive survey of faculty attitudes toward early retirement.

The complexity of the staffing issues and the need to project the future consequences of current actions, almost demand the use of computer models. Already, the increased research activity in this area is reflected in the many different models described in the literature.

Every administrator experiencing faculty staffing problems needs to respect the complexity of the many interlocking issues and investigate the problem in a systematic, careful manner. The procedure should ensure that the problem is handled in a way that is both technically sophisticated and capable of giving proper weight to the subjective issues involved. In order to place this general conclusion on a more concrete footing, the following series of recommended steps are offered as an example of a coordinated approach to defining and solving a staff planning effort.

As an aid to deciding if an early retirement incentive plan will help alleviate impending problems, administrators should assemble certain information and use it as a basis for determing the likely benefits of each type of plan.

1. First decision makers should gather data on the age distribution of the faculty and the current average retirement age and use it to answer such questions as: Are there enough faculty members in the

older age ranges that retiring a proportion of them early would help the university respond to student demands, save money, or provide new positions? At what age should faculty be encouraged to retire inorder to provide the outcomes desired.

2. Administrators must study faculty payroll costs and, as best they can, the quality of the faculty and their research. This information will provide some constraints within which a policy is to be developed.

3. Before a plan is instituted decision makers must determine the faculty's attitude toward retirement and test the attractiveness of various plans. This could be done by means of a formal survey. It would be useful to determine the age at which faculty would like to retire and also the age at which they expect to retire. If these ages differ significantly it is necessary to determine why. Faculty might also be questioned as to what will be the most important considerations used in making their retirement decisions. If the major consideration is financial, the faculty might be asked to specify what they consider an adequate replacement income. Research has shown that there are differing attitudes toward retirement based upon age, so it would be advisable to stratify any sampling done on retirement attitudes by age. Research has also shown that faculty are generally more interested in early retirement once a formal plan is in place than they are when questioned about hypothetical plans. Thus the interest evidenced through a questionnaire should be considered the minimal interest; planners should be reluctant to assume from such questionnaire data that the interest does not warrant further action.

4. After determining faculty attitudes towards retirement, administrators need to find which types of plans are acceptable to the potential retirees. Decision makers should try to pinpoint those features of an early retirement incentive plan that seem to be most attractive to their faculty. Planners should especially sound-out the interest in part-time retirement and, if such interest is strong, an additional study might be done to uncover creative ways of providing such employment. The survey of AAU institutions indicated that more than a few universities had phased retirement plans that were so poorly conceived or implemented that few faculty would or could elect to use such plans. It is worthless to have phased retirement as an option if it is so couched in ambiguities as to make it seemingly risky to the employee or assigns complete discretionary control to the department chairman who will veto any phased retirement request if he views it as a loss to the unit.

5. After faculty wants are determined some hypothetical plans should be analyzed for cost/benefits under the university's specific staffing situation. A simulation model could be used for both the cost/benefit study and to show the impact of various early retirement ages on staffing patterns. Such a simulation model should include current institutional rates on promotion, tenure, hiring, and attrition.

6. At this point, whether or not the decision is made to develop an early retirement incentive plan, administrators should begin to monitor faculty attrition and retirement, both to study the effects of the AADEA and economic trends as well as to gather information that may be useful later in assessing the possible consequences of

uncapping the mandatory retirement age.

7. Decision makers must also determine how much money is available to effect early retirement plans. Is there the financial flexibility to consider a faculty member at age sixty, multiply his current salary, projected raises, benefit costs by ten years (years until age seventy) and determine that up to this calculated amount is available to induce retirement assuming no replacement is needed? Or is the cash flow situation such that this long range view is financially impossible and that fiscal inducements must be limited to what is currently available? Early retirement incentive plans involve a considerable amount of financial planning. A hastily conceived plan could open an institution to enormous fiscal risk--particularly if the options involve high immediate costs in return for indefinite long range benefits. Clearly some of this risk can be contained by limiting the effective period of the early retirement plan, so that the costs and results can be evaluated before continuing the plan.

In connection with this fiscal evaluation of a retirement plan, an institution's budget office is often not the best source of expert judgment. Most budget offices are structured to prepare year-to-year budgets; their time horizons are very short range and their major concern is with current expenditures. Such planning is vastly different from financial planning, which is the type of planning most appropriate for evaluating and not the long range consequences--the type of planning most appropriate for evaluating early retirement plans.

If, after completion of these suggested steps, the decision is made to develop and implement an early retirement incentive plan, the following additional considerations are concluded to be advisable:

1. The university faculty is comprised of individuals of widely varying personal situations; an early retirement incentive policy should recognize this fact by including enough options that a potential retiree can find a plan suited to his/her needs.
2. The zero and low cost incentives such as office space, library privileges, reduced athletic or concert ticket costs, etc. should be pursued. These are 'no lose' incentives; they demonstrate much good-will by showing an institutional interest in the retirees' situation. Those faculty that are not interested will simply not take advantage of the incentives, but for those that desire some continued contact with the university community, such perquisites will prove to be surprisingly important inducements.
3. If part-time (phased) employment is to be an option it must be a viable one. There is nothing gained in making it an early retirement incentive option if the individual units are not prepared to allow reduced workloads. In addition, phased retirement options need to be formally and precisely spelled out. Many such plans are incapacitated by putting the part-time employment on a conditional basis with the use of such ambiguous phrases as 'according to the needs of the university' or 'as determined by the department chairman'.
4. If it is of value to the administration to know several years in advance when an employee will retire, a plan can be developed wherein financial benefits accrue to employees who commit themselves

to a retirement date several years in advance. An additional stipulation must be incorporated to cover the possibility of the employee changing his/her mind.

5. Special, time limited, incentives may be offered to faculty in specific areas where severe retrenchment appears necessary. These incentives would be more generous than the general early retirement incentives and should be carefully crafted so as to preclude any misinterpretation of intent--particularly a perceived attack on the tenure system.

6. Consider basing incentinves on the average pay for rank within each disciplinary area so as to give added encouragement to lower paid employees. This basis for inducement is only valid if the administration believes that salary raises have historically been based upon merit. Diplomacy must be exercised to avoid having the retirement plan saddled with the perception that it was designed to retire the less productive employees.

7. Because any retirement plan is so dependent for feasibility on many outside factors, all under going changes over time, it is important that the plan be implemented and reviewed in discrete intervals of time, not exceeding five years. Such a review would evaluate the plan in terms of goals effected and costs to the institution. It will be far easier to increase incentives at a later date if the planned number of retirements is not being met, than to reduce inducements already in existence.

8. Consider the local effects--at the department or program level--of personnel lost through early retirement. Clearly the greatest gains from early retirement can only be realized if retiring faculty

are not from replaced. However, if dollars and positions are automatically withdrawn from the unit, the plan will run the risk of discouragement by the unit chairman or director. Can a compromise arrangement be made to provide some benefit to the unit?

9. The national survey conducted by Ladd-Lipsett found that the most capable faculty researchers tend to retire late.[3] This finding mitigates the very common fear that an institution may lose all its best senior faculty if early retirement plans were offered. If, in spite of such attitudes, the administration wishes to be conservative in its efforts to retain its best (and most highly paid) senior faculty, there are various ways to weight the incentives so as to provide no inducement to those with high salaries.

10. Retirement planning is very complex. If fact, it is so complex that most faculty members put off their planning as long as possible. COFHE found that forty percent of its faculties did not even know their institution's policy on retirement.[4] A very attractive early retirement plan could be made ineffective by nothing more than the fact that individuals are unable to evaluate the benefits as compared to those associated with regular retirement. Administrators would be well advised to promote the idea of retirement planning by establishing a central office for preretirement counseling. One service of such an office would be a computerized analysis of an individual's retirement package under the conditions of the various options. Other services could include information on tax and legal implications. By actively assisting a faculty member to prepare for retirement, the university promotes a positive relationship that will considerably enhance the acceptability of early retirement.

This completes the exposition of conclusions drawn directly from the study; there are, however, several issues which are relevant enough to the main theme to bear some discussion.

UNCAPPING

A recent article in the Chronicle of Higher Education noted that there loomed the possibility of Congressional action to abolish mandatory retirement age--uncapping the minimum age (seventy) of mandatory retirement.[5] If it is expected that moving the minimum mandatory retirement age to seventy will increase the average age of retirement by one and one-half years (from sixty-five and a half to sixty-seven), how much higher will the average retirement age rise with the elimination of a mandatory retirement age altogether? If it were to rise significantly, all the projected ill effects of the AADEA would be magnified--increased salary costs for the institution, further aging of the faculty, loss of open positions for young Ph.D.'s, and possible loss of vitality. Institutions that have made efforts to cope with these circumstances by effective early retirement incentive plans might find their efforts in vain if many of the remaining faculty took the option of working beyond seventy.

With the enactment of the AADEA, arguments were voiced about limiting tenure; these arguments will surface again, this time with much greater fervor and with additional organizations joining the hue and cry.

The AAUP Statement of Principles of Academic Freedom and Tenure provides for tenure until retirement. The AAUP has long supported a relatively late retirement age (between sixty-five and seventy)

and endorsed the amendment to raise the minimum mandatory retirement age to seventy. However, they could not support the idea of uncapping.[6] While, the number of faculty who would elect to work after seventy years of age is undoubtedly limited, the feeling is that even a small number would cause additional problems with disproportionate consequences.

The real fear is that uncapping will bring about a severe and prolonged attack upon the tenure system. Tenure surfaced as an issue with the passage of the AADEA but circumstances did not appear threatening enough to do anything as radical as to limit or eliminate tenure. The current threat of uncapping may provoke a more sustained attack. The AAUP report proposes tenure modifications such as ending tenure at seventy years of age with subsequent annual contracts or limiting tenure to term contracts of five to ten years.[7] R. Claire Guthrie, a Washington, D.C. lawyer and former ACE counsel, believes that separating tenure from retirement is impermissable.[8] Undoubtedly one of the strongest attacks on tenure will take the form of a proposal that periodic performance reviews be required of all senior faculty. When the suggestion of faculty evaluation arose during the discussion centering on the AADEA it was viewed as being unworkable. Nothing has happened that would cause one to revise that judgment.

All in all, the act of uncapping carries the possibility of intensifying the problems facing higher education today. Likewise, the problems besetting the Social Security System, may require changes that will impact on all persons currently in the work force. One of the most discussed modifications is the postponement of Social

Security benefits until an employee reaches sixty-eight years of age--a change that would act as a serious deterrent to retiring before sixty-eight.

Universities must face the prospect of very real and imminent problems facing them because of various federal mandates. These must not be used as scapegoats for the problems, but as mandates to incorporate better planning into their systems.

Institutions of higher education were caught unprepared to evaluate the effects of the AADEA when it was first proposed and cannot let it happen again with respect to uncapping. Individual institutions and associations should monitor Congressional activity relative to uncapping and make known their arguments on the repercussions such changes would have on higher education in this country.

YOUTH VERSUS AGE

The AADEA made it legal to work at least until the age of seventy, rather than retire at some age short of this, as mandated by the institution. Certainly many faculty are capable of teaching and maintaining an undiminished research program well past the average retirement age. Examples abound of the older faculty member who has more ideas, energy, and vitality than his younger colleagues have, or ever will have. The terms 'vitality', 'innovation', and 'new ideas' keep recurring in the literature as reasons for bringing new Ph.D.'s into an institution. These claims seem to ignore the fact that in many disciplines, these recently credentialed Ph.D.'s learned their 'new ideas' from a senior faculty member and that, in a competitive job market, young faculty may be so consumed with the

threat of 'publish or perish' that they turn all their energies to research and have little 'vitality' left for a classroom of students. A report on academic tenure at Harvard found, after examining intellectual and curricular innovation at the university, that most of the experimental changes came from tenured faculty members.[9] Although this researcher did not wish to become immeshed in the extensive literature on the productivity of older faculty members, enough reading was done to ascertain that the literature is fairly well balanced on both sides of this issue; that is, there is no uncontested research that would support the claim that there is a general decline in ability or productivity across all disciplines for older faculty. This being the case, one must retain an open mind with respect to this issue and recognize that an institution can be as enriched by its senior faculty as by its younger members, albeit in a different way. The point to be made is that there is insufficient evidence to support a claim that younger faculty members are more valuable than their senior colleagues. Thus a university must not automatically view unfavorably the choice of a faculty member to work past the normal retirement age. Neither should it launch an early retirement program solely on the premise that any exchange of senior for junior faculty members is for the betterment of the institution.

It is, however, a fact--requiring no careful investigation--that senior faculty are more expensive than their juniors. To ignore this condition is to ignore reality. Clearly any cost/benefit study done on early retirement is predicated upon a senior/junior salary differential. This consideration, which heavily favors

replacing senior faculty with younger faculty having lower salaries, is quite a different issue than the one discussed above which favors younger faculty for unsubstantiated reasons.

UNIVERSITY WIDE POSITION CONTROL

The many staffing studies conducted with the aid of computer models all convincingly demonstrate one very important point: the issue of early retirement must be studied within the larger context of overall position control within an institution. The size and cost of the faculty, the mix of ranks, the age configuration, the tenure ratio, and the flow of new faculty are all dependent upon a multitude of factors other than the retirement age. An administrator can exercise an assortment of controls over faculty flow by means of modifications to institutional policy. Such controls include tenure quotas, length of mandatory time spent in non-tenured status, restrictions placed on reappointment and the filling of open positions, early retirement incentives, faculty buy-out plans, and the appointing of junior faculty into temporary status rather than the tenure system. Each of these controls has a different effect on the various characteristics of the faculty, and further, is associated with a list of pros and cons that must be fully considered before implementing any changes to personnel policy. A better appreciation of these personnel controls can be gained by injecting the element of <u>time</u> into the consideration. Since each control, directly or indirectly, achieves its effect by altering the number of faculty who leave the institution, it is clear then that the impact of the control is dependent upon the <u>age</u> of the faculty member who leaves, since 'age' serves as a measure of how many man-years of salary the institution

has saved. To pursue this idea a little further, compare the savings effected by inducing a $40,000 a year, sixty-five year old professor with the savings represented by the departure of a $25,000 a year, thirty-five year old assistant professor. Often planners focus on the short run benefits to the detriment of long range planning; in the above example, the senior professor's early retirement saving has the edge with respect to the first five years--$40,000 versus $25,000 saved per year; however, the departure of the younger professor could be viewed financially as an early retirement--early by thirty-five years--in which case the total savings is $875,000. This example serves to point up the fact that early retirement incentive plans act at the terminal end of faculty careers, a point where the savings gained are sizeable but short term in contrast to the other personnel control options that affect attrition at younger ages and have a smaller immediate return acting over a longer period of time. If an institution is considering an early retirement incentive plan as a means of reducing faculty size, providing openings in new fields, rebuilding a program, or responding to student needs, it cannot afford to separate this plan from personnel policies that automatically fill all open positions. Each open position, regardless of how it occurred, must be regarded as an expensive asset and carefully evaluated within the context of a university-wide, long range plan.

There is another kind of position coordination that must exist within the university structure. The specific goals of an individual unit often work at cross purposes with the goals of the institution as a whole. In terms of an early retirement incentive plan, if a

faculty member retires and his/her position reverts back to the college or university the unit head may discourage early retirement. Or, if a faculty member tries to arrange phased retirement and the department is hoping for a full time replacement, the chairman may disallow part-time employment as an option. There must be some return to the immediate academic unit of the early retiree or the early retirement incentive policy will not function as well as it might. There must be some benefit (or at least no disadvantage) in such a plan beginning with the individual and going to the highest level.

USING MODELS TO EVALUATE EARLY RETIREMENT INCENTIVE POLICIES

The imposition of an early retirement incentive plan on a university personnel system can cause some changes that intuition alone would not predict. For this reason, models have gained rather wide acceptance as a means of studying faculty flow problems. Models are simply tools designed to provide information that helps administrators make more informed decisions about allocation of resources; models are not designed to evaluate quality or replace human judgment. The value of a model in studying a university's staffing problems lies in its ability to handle the many relationships existing among hundreds of variables--a task too complex for the human mind.

In a 1979 book Joe Wyatt set down five rules concerning models that seem especially insightful:

1. Those who use models must be involved in their development.
2. Data must be representative and reliable.
3. Models must have an executive godfather.

4. Models must be comfortable to their users.
5. Results must be communicated with care.[10]

The model builder and the decision maker must communicate so as to coordinate assumptions and methods. The model should be kept simple, adaptive, and as complete as necessary to answer the critical questions. Whether an institution should adapt a model already in use or build its own depends upon the time and money available, the style of the decision maker, and the skill of the support staff. There is much agreement in the research that the process of model building provides valuable insight into the system being studied and that the more high level involvement the more serious the output is taken.

TOPICS FOR FURTHER STUDY

The results of this study suggest that university planners have but begun to adequately study and surmount the many complexities that immediately arise whenever the issue of early retirement is explored within the context of faculty staffing. Many very basic questions are still unanswered.

When are faculty going to retire? What will early retirement mean a decade from now? If historically, faculty retired at sixty-two will they continue to do so or it retiring at sixty-two seen as retiring 'three years early' so that with the AADEA moving the mandatory retirement age to seventy, retiring 'three years early' becomes retirement at sixty-seven years of age? To an employee, who views anything short of seventy as early retirement, the difference between retiring at sixty-two or sixty-seven may appear negligible, but to the university such a five year spread in the

retirement age may mean the difference between reaching certain personnel goals or not.

Is the recent trend towards early retirement, whatever that term will come to mean, so ingrained that it will continue or are the fears of inadequate retirement income going to halt this practice? Important as such questions are, little research has been done.

Not only should surveys be conducted on faculty attitudes but individual institutions and national associations should compile retirement data beginning with the 1982-83 academic year to see what patterns of retirement will evolve under the AADEA and continuing inflation. It would be interesting to see if differing patterns emerge across similar institutions with and without early retirement incentive plans.

National associations should collect information related to the possible effects of uncapping so that institutions of higher education will be prepared to present their views and rally support for their stand on this issue.

It is very likely that the future will bring further disincentives for early retirement in the form of reduced or postponed social security benefits and the elimination of any mandatory retirement age. In addition the salary and benefit costs paid by institutions will escalate at the same time as revenues decline. The gravity of the situation will ensure that early retirement of faculty will continue to be an issue of high interest. Further creative research should be done to explore a larger variety of early incentive retirement plans. Since phased or part-time employment seems to be the most popular option, studies should be conducted on broadening the

scope of such arrangements--various options, kinds of obligations, and service requirements. Other creative solutions to the problems of excess faculty or the lack of positions for younger faculty should be explored, such solutions might include: special assignments for older faculty, temporary retirement, large increases in vacation time, job sharing, and retraining for other careers.

Pre-retirement counseling seems to be working well within the few institutions that have such a program. Further research should be done by individual institutions to devise a procedure that will help faculty make the transition from work to retired status in the most humane way and provide the faculty member with as much information and help in adjusting to his/her new status as possible.

NOTES

[1] David S. P. Hopkins and William F. Massy, Planning Models for Colleges and Universities (Stanford, Calif: Stanford University Press, 1981), p. 1.

[2] Ingraham, p. 86.

[3] Ladd-Lipsett, p. 8.

[4] COFHE, pp. 7-8.

[5] "Tenure Seen Imperiled by Retirement Proposals," Chronicle of Higher Education, September 29, 1982, p. 1.

[6] "Excerpts from AAUP Report on 'Uncapping' Retirement Age," Chronicle of Higher Education, September 29, 1982, p. 28.

[7] "Excerpts from AAUP...", p. 28.

[8] Claire R. Guthrie, "Can Tenure Be 'Decoupled' from Retirement?" Chronicle of Higher Education, September 29, 1982, p. 28.

[9] David D. Dill, "The Tunnel at the End of the Light:Tenure Quotas and their Impact on Faculty Staffing Patterns," Public Policy Issues:Issues and Analyses, Selections from the Fourteenth Annual Forum of Association for Institutional Research, Washington, D.C., 1974, p. 87.

[10] Joe B. Wyatt, James C. Emery, and Carolyn P. Landis, eds. Financial Planning Models: Concepts and Case Studies on Colleges and Universities (Princeton,NJ: EDUCOM, 1979), pp. 6-10.

APPENDIX

APPENDIX

ASSOCIATION OF AMERICAN UNIVERSITIES MEMBERS, 1972

Brown University

California Institute of Technology

University of California, Berkeley

Case Western Reserve University

Catholic University of America

University of Chicago

Clark University

University of Colorado

Columbia University

Cornell University

Duke University

Harvard University

University of Illinois

Indiana University

Iowa State University

University of Iowa

Johns Hopkins University

University of Kansas

University of Maryland

Massachusetts Institute of Technology

McGill University

Michigan State University

University of Michigan

University of Minnesota

University of Missouri

University of Nebraska

New York University

University of North Carolina

Northwestern University

Ohio State University

University of Oregon

Pennsylvania State University

University of Pennsylvania

Princeton University

Purdue University

University of Rochester

University of Southern California

Stanford University

Syracuse University

University of Texas

University of Toronto

Tulane University

Vanderbilt University

University of Virginia

University of Washington

Washington University

University of Wisconsin

Yale University

BIBLIOGRAPHY

BIBLIOGRAPHY

Abramson, Elinor W. "The Storm Ahead for Ph.D.'s." Occupational Outlook Quarterly. Winter 1975, pp. 11-15.

"Age, Its Just a Number Baby." The American School Board Journal. May 1976, p. 25.

Association of American Colleges. Statement on Financial Exigency and Staff Reduction. Washington, D.C.: Association of American Colleges, 1971.

Baratz, Morton S. "A New Retirement Age and a New Attack Upon Tenure." AAUP Bulletin. March 1978, p. 69.

Barfield, Richard E. and James N. Morgan. Trends in Planned Early Retirement. Ann Arbor, Mich.: University of Michigan Institute for Social Research, 1976.

---------- Trends in Satisfaction with Retirement Ann Arbor, Mich.: University of Michigan Institute for Social Research, 1976.

Beetham, Robert C. "Inflation, Common Stocks, and Retirement Income." AAUP Bulletin. September 1970, pp 303-307.

Best, Fred and Barry Stern. "Breaking the Education-Work-Retirement Lockstep: Trends, Research and Speculations." The Journal of College and University Personnel Association. Summer 1978, pp. 43-55.

Bixby, Lenore Epstein. "Retirement-Age Policy and Employment." The Journal of College and University Personnel Association. Summer 1979, pp. 79-104.

Bottomley, Wayne N. The USC Faculty Planning Model: A History and Description. Los Angeles: Office of Institutional Studies, University of Southern California, 1978.

----------, Robert H. Linnell, and Herbert W. Marsh. "Differences in Cost, Tenure Ratio, and Faculty Flow as a Result of Changed Mandatory Retirement Ages." Research in Higher Education, 13, No. 3, 1980, pp. 261-272.

Bowen, Howard R. Academic Compensation: Are Faculty and Staff in American Higher Education Adequately Paid? New York:TIAA, 1978.

Brenner, Herbert T. and Robert H. Linnell. "Preretirement Planning Programs." Journal of College and University Personnell Association. July-August 1976, pp. 77-89.

Bruss, Edward A. and Kenneth L. Kutina. "Faculty Vitality Given Retrenchment: A Policy Analysis." Research in Higher Education. 14, No. 1, 1981, pp. 19-30.

Brown University. Policy on Early Retirement Benefits. Providence, Rhode Island: Brown University, July 1, 1982.

Cartter, Allan M. Ph.D.'s and the Academic Labor Market. New York: McGraw-Hill, 1976.

Casebolt, Myrna et al. "Start Taking Action on Your Retirement Transition." Journal of the College and University Personnel Association. January-February, 1976, pp. 7-12.

Chargoff, Erwin. Heraclitean Fire: Sketches from a Life Before Nature. New York: Rockefeller University Press, 1978, Chapt. 2.

Cliff, Rosemary. Faculty Retirement: A Preliminary Study. Los Angeles: Office of Institutional Studies, University of Southern California, 1974.

Consortium on Financing Higher Education. The Report of the COFHE Study on Faculty Retirement: An Overview. 1980.

Coolidge, Herbert E. and Alton L. Taylor. Consideration For Faculty Retirement Policies in a Steady-State Condition: A Report to the Provost. Charlottesville, Va.: Office of Institutional Analysis, University of Virginia, June 1973.

Corwin, Thomas M. "Assessing the Impact of Mandatory Retirement at Age 70." The Journal of College and University Personnel Association. Winter 1978, pp. 63-68.

---------- "A Research Perspective on Mandatory Retirement." Current Issues in Higher Education. Washington, D.C. American Association of Higher Education, 1978.

---------- and Paula R. Knepper. Finance and Employment Implications of Raising the Mandatory Retirement Age for Faculty. Washington, D.C.: American Council on Education, December 1978.

Coughlin, Ellen K. "AAUP Finds Change in Retirement Age Could Lead to Layoffs, Reduced Hiring.: Chronicle of Higher Education. July 24, 1978, p. 1.

Dill, David D. "The Tunnel at the End of the Light: Tenure Quotas and their Impact on Faculty Staffing Patterns." Public Policy Issues: Issues and Analyses. Selections from the Fourteenth Annual Forum of Association for Institutional Research, Washington, D.C. 1974, pp. 83-88.

Dorfman, Lorraine T."Emeritus Professors: Correlates of Professional Activity in Retirement." Research in Higher Education. 12, No. 4 1980, pp. 301-316.

---------- "Emeritus Professors: Correlates of Professional Activity in Retirement II." Research in Higher Education 14, No. 2, 1981, pp. 147-160.

---------- and others. "Retired Professors and Professional Activity: A Comparative Study of Three Types of Institutions." Research in Higher Education, 17, No. 3, 1982, pp. 249-266.

Dorfman, Nancy S. "Inflations Impact on Faculty Retirement Annuities. Industrial Gerontology. September 1975, pp. 201-208.

"Excerpts from AAUP Report on 'Uncapping' Retirement Age." Chronicle of Higher Education. September 29, 1982, p. 28.

Fernandez, Luis. U.S. Faculty After the Boom: Demographic Projections to 2000. Report for Carnegie Council on Policy Studies in Higher Education. April 1978.

"Few Faculty Openings Seen Under New Law." Chronicle of Higher Education, January 15, 1979, p. 18.

Ford, Laura B. "The Battle Over Mandatory Retirement." Educational Record, Summer 1978.

Furness, W. Todd. "Is There a Perfect Faculty Mix?" Educational Record, Summer 1971, pp. 244-250.

---------- Steady-State Staffing in Tenure Granting Institutions and Related Papers. Washington, D.C. American Council on Education, 1973.

Gelb, Betsy D. and David M. Hunt. "Staying on the Job after 65." Business Horizons, February 1979, pp. 17-

Graebner, William. A History of Retirement. New York:Yale University Press, 1980.

---------- "The Origins of Retirement in Higher Education: The Carnegie Pension System." Academe, March 1979, pp. 97-103.

Greenough, William C. "Retirement Benefits in Higher Education." School and Society, November 1969, pp. 444-46.

Guthrie, R. Claire. "Can Tenure Be 'Decoupled' from Retirement? An Analysis of the Law." Chronicle of Higher Education, September 29, 1982, p. 28.

Hamblin, William H. "Mandatory Retirement and Dismissal in Institutions of Higher Education." Journal of the College and University Personnel Association, April-May 1976, pp. 1-5.

Harris, Louis B. and associates. The Myth and Reality of Aging in America. Washington, D.C.: National Countil on Aging, 1975.

"Harris Survey Finds Inflation Won't Quit When People Retire." Wall Street Journal, March 1, 1979, p. 26.

Heim, Peggy. "Implications of Mandatory Retirement Legislation For Institutions of Higher Education." Current Issues in Higher Education. Washington, D.C.: American Association of Higher Education, 1978.

Hopkins, David S.P. Analysis of a Faculty Early Retirement Program. Stanford: Stanford University, 1972.

---------- "Analysis of Faculty Appointment, Promotion, and Retirement Policies." Higher Education, November 1974, pp. 397-418.

---------- An Early Retirement Program for the Stanford Faculty: Report and Recommendations. Academic Planning Office. Stanford: Stanford University, July 1972.

---------- "Faculty Early Retirement Programs." Operations Research, 22, No. 3, 1974, pp. 455-467.

---------- "Research: Making Early Retirement Feasible." Change, June 1974, pp. 46-64.

---------- and William F. Massy. Planning Models for Colleges and Universities. Stanford: Stanford University Press, 1981.

Huttar, Robert and Donald Spies. "Retirement Plans: Impact of the 1977 Social Security and Age Discrimination Amendments." The Journal of College and University Personnel Association, Summer 1978, pp. 61-69.

"Impact of Federal Retirement-Age Legislation on Higher Education." AAUP Bulletin, September 1978, pp. 181-192.

"'In Box'" Chronicle of Higher Education, November 10, 1982, p. 25.

Indiana University. Academic Handbook. Bloomington, Indiana.

Indiana University. Memo "Statement of 18-20 Rule applicable to TIAA-CREF Retirement Plan Participants as Approved by the Trustees May 18, 1959 and amended April 20, 1974. Bloomington, Indiana.

"Inflation is Wrecking the Private Pension System." Business Week, May 12, 1980, pp. 92-99.

Information Please Almanac 1982. New York: A & W Publishers, 1982.

Ingraham, Mark and James M. Mulanaphy. My Purpose Holds: Reactions and Experiences in Retirement of TIAA-CREF Annuitants. New York: Teachers Insurance and Annuity Association, 1974.

Iowa State University. Phased Retirement Policy. Faculty and Professional and Scientific Staff. Ames, Iowa.

Jenny, Hans. "Can Anyone Afford to Retire in an Age of Inflation?" Paper presented at the Twenty-first Annual Forum of Association for Institutional Research held in Minneapolis, Minnesota, May 17, 20, 1981.

---------- Early Retirement: A New Issue in Higher Education: The Financial Consequences of Early Retirement. New York: Teachers Insurance and Annuity Association, 1974.

----------, Peggy Heim, and Geoffrey Hughes. Another Challenge: Age 70 Retirement in Higher Education. New York: TIAA-CREF, 1979.

Johnson, George E. and Martha H. Hinman. The Age/Rank Composition of the University of Michigan Faculty to 1995: A Simulation. Ann Arbor: University of Michigan, August 1975.

Joughin, Louis, ed. Academic Freedom and Tenure: A Handbook of the American Association of University Professors. Madison, Wisc.: University of Wisconsin Press, 1967.

Kemeny, John G. "What Every College President Should Know About Mathematics." American Mathematical Monthly, October 1973, pp. 889-901.

Kieft, Raymond. "Financial Implications of Early Retirement." College Management, February 1974, pp. 18-19.

King, Francis. "Retirement-Age Experience Under Flexible-Age Retirement Plans, 1930-1970." AAUP Bulletin, March 1970, pp. 14-19.

---------- and Thomas J. Cook. Benefits Plans in Higher Education. New York: Columbia University Press, 1980.

Kutina, Kenneth L. and Edward A. Bruss. "Faculty Flow in a Medical School--A Policy Simulation." Paper presented at the Nineteenth Annual Forum of the Association of Institutional Research. Atlanta, Georgia, May 13-17, 1979.

Ladd, Carl Everett Jr. and Seymour Martin Lipsett. "Many Professors Would Postpone Retirement if Law Were Changed." Chronicle of of Higher Education, November 7, 1977, pp. 7-8.

LaSalle, Joseph P. "Appointments, Promotion and Tenure Under Steady-State Staffing." Notices of the American Mathematical Society. 19, 1972, pp. 69-73.

Linnell, Robert H. "Age, Sex and Ethnic Trade-offs in Faculty Employment: You Can't Have Your Cake and Eat It Too." Current Issues in Higher Education. Washington, D.C.: American Association in Higher Education, 1979.

----------Retirement, Post-Tenure Review and Career Development and Change Programs: A Summary Report. Los Angeles: University of Southern California, 1981.

---------- and Paul Grey. The USC Faculty Model. Los Angeles: University of Southern California, revised September 1979.

Magarrell, Jack. "Colleges Weigh Early-Retirement Plans for Faculty Members." Chronicle of Higher Education, February 11, 1974, p. 9.

---------- "More Faculty Members Wary of Stocks When Investing Their Pension Funds." Chronicle of Higher Education, October 10, 1978, p. 11.

Malpass, Leslie F., James R. Montgomery, and Barbara A. Price. "Dividing Up the Tenure Pie." College and University Business August 1974, pp. 33-35.

Manion, U. Vincent. "Pre-retirement Counseling: The Need for a New Approach." The Personnel and Guidance Journal, November 1976, PP. 119-121.

McLane, Charles B. "The Malaise of Tenure Decisions: A Proposal for Senior Faculty Reassignment at Sixty." Academe, March 1979, pp. 133-136.

Meyer, Mitchell and Harland Fox. Early Retirement Programs. A Research Report from the Conference Board. New York, 1971.

Mitchell, Barbara. Early Retirement in Higher Education. Paper presented at the Association for the Study of Higher Education Annual Meeting, Washington, D.C., March 3-4, 1981.

Morrell, L.R. "Retirement Programs Need Examination in Terms of Benefits As Well as Contributions." College and University Business, February 1974, pp. 36-39.

Morrison, Malcom H. "The Future of Flexible Retirement." The Journal of College and University Personnel Association, Winter 1978, pp. 69-78.

Mulanaphy, James M. Plans and Expectations for Retirement of TIAA-CREF Participants. New York: Teachers Insurance and Annuity Association, 1981.

----------Retirement Preparation in Higher Education. New York: TIAA-CREF, 1978.

Nevison, Christopher. "Effects of Tenure and Retirement Policies on the College Faculty: A Case Study Using Computer Simulation." Journal of Higher Education, 51, No. 2, 1980, pp. 150-166.

Novit, Mitchell S. "The Retirement Amendments: Why the Concern?" Business Horizons, February 1797, pp. 22-32.

Palmer, David D. and Carl V. Patton. "Attitudes Toward Incentive Early Retirement Schemes." Current Issues in Higher Education. Washington, D.C.: American Association for Higher Education, 1978.

Patton, Carl V. Academia In Transition: Mid-Career Change or Early Retirement. Cambridge, Mass.: Abt Books, 1979.

Pennsylvania State University. An Appraisal of Early Retirement Programs and Prospects at Penn State. Principal Analyst: Puring O. MacDonald. Office of Planning and Budget, Penn State University, University Park, Pa. November 1980.

Pifer, Alan. "Fifty Years of TIAA: Its Past and Promise," Educational Record, Fall 1968, pp. 407-413.

"Proposed Retirement Rules Clarify Colleges' Exemptions." Chronicle of Higher Education, December 18, 1978, p. 10.

Purdue University. Executive Memo. No. B-60. Retirement Phase-In for Tenured Faculty.

---------- Executive Memo. No. B-58. University Mandatory Retirement Program.

---------- Executive Memo. No. B-59. Voluntary Early Partial Retirement Program.

Reid, Loren. "How Is It Friend, LIving in the Shadows?" Chronicle Of Higher Education, January 22, 1978, p. 55.

Report of the Faculty Ad Hoc Committee on Faculty Retirement. Princeton, N.J.: Princeton University, 1981.

"Report of the Subcommittee on TIAA-CREF" AAUP Bulletin, June 1973, pp. 259-65.

Report on Early Retirement. New York, TIAA-CREF, 1981.

"Report on Retirement and Academic Freedom." AAUP Bulletin, December 1968, pp. 425-26.

"Retirement Problem: A Positive Approach." AGB Reports, November/ December, 1978, pp. 24-28.

Rones, Philip L. "The Retirement Decision: A Question of Opportunity?" Monthly Labor Review, November 1980, pp. 14-17.

Schier, Richard F. "Raising the Mandatory Retirement Age: Examining the Consequences." Intellect, December 1977, pp. 214-16.

Schroeder, Roger, G. "Resource Planning in University Management by Goal Programming." Operations Research, 22, No. 4, 1974, pp.700-10.

Scott, Jerome E. and Robert H. Taylor. "A Model For Investigating the Effects of Growth Limitations and Alternative Appointment, Promotion, and Retirement Policies on Faculty Flows and Distributions." From the Proceedings of the Fifth Annual Meeting of the American Institute for Decision Scientists, November 14-16, 1973.

Shephard, Ira Michael. A Compliance Guide to the 1978 Amendments to the Age Discrimination in Employment Act. Washington, D.C., College and University Personnel Association, July 1978.

Simpson, W.A. "Steady State Effects of Later Mandatory Retirement Law for Tenured Faculty." Research in Higher Education, 11, 1979, pp. 37-44.

Slater, William T. "Early Retirement: Some Questions and Some Options." Journal of Higher Education, October 1972, pp. 559-567.

Soldofsky, Robert M. "Few Professors Will Retire Early Without a Guarantee of Security." Chronicle of Higher Education, January 20, 1982, p. 27.

"Statement of Principles on Academic Retirement and Insurance Plans." Liberal Education, Summer 1980, pp. 259-65.

Stone, Julia E. "Age Discrimination in Employment Act: A Review of Recent Changes." Monthly Labor Review, March 1980, pp. 32-36.

Survey of Institutional Practices and an Assessment of Possible Options Relating to Voluntary Mid- and Late- Career Changes and Early Retirement for University and College Faculty. Prepared for the National Science Foundation, Washington, D.C. 1977.

"Tenure Seen Imperiled by Retirement Proposals." Chronicle of Higher Education, September 29, 1982. p. 1, 28-29.

TIAA-CREF College and University Retirement Plan Provisions, New York, TIAA-CREF, 1980.

Ullman, Charles A. "Pre-retirement Planning: Does it Prevent Post Retirement Shock?" The Personnel and Guidance Journal, November 1976, pp. 115-118.

U.S. Department of Commerce. Statistical Abstract of the United States. Washington, D.C.: GPO, 1981.

University of California. Phased Retirement. Office of the Vice President for Academic and Staff Personnel Relations Berkley, Calif, 1980.

University of Colorado. Memo. Faculty Retirement Programs. Boulder, Colorado, February 1, 1980.

University of Iowa. Phased Retirement Policy for Faculty. Iowa City, Iowa. January 1982.

---------- Phased Retirement Policy. Iowa City, Iowa, June 1982.

University of Kansas. Actuarial Study of Voluntary Early Retirement Plans. Prepared by Touche Ross and Co., February 1982.

University of Minnesota. Amendment to Policy on Separation Pay. Adopted by the Board of Regents, Minneapolis, Minn. March 12,1982.

---------- Separation Pay, Phased Retirement and Early Retirement Options. Memo to Provosts, Deans, Directors and Department Heads. Minneapolis, Minn. March 15, 1982.

University of Nebraska-Lincoln. Partial Retirement Appointment Policy. Lincoln, Neb., July 16, 1980.

University of Oregon. Tenure Reduction/Relinquishment Program. Eugene, Oregon. February 1982.

University of Pennsylvania. Voluntary Faculty Early Retirement. Philadelphia, Penna. 1975.

University of Pittsburgh. Faculty Early Retirement Plan. Pittsburgh, Penns. Revised May 10, 1982.

University of Texas at Austin. Teacher Retirement in Texas. August 1982.

University of Virginia. Retirement Policy. October 7, 1978 Charlottesville, Va.

---------- Memo. Change in the TIAA-CREF Retirement Program made by the Board of Visitors, January 22, 1977. Charlottesville, Va.

University of Washington. Retirement System. Seattle, Wash. Amemded December 14, 1979.

Walker, George H., Jr. Status of Phased Retirement in Higher. Central Michigan University. Mount Pleasant, Michigan.

Washington State Legislature. Joint Committee on Higher Education. Faculty Retirement Systems. Olympia, Washington, January 1973.

Watkins, Beverly T. "Professors Plan to Delay Retirement When New Law Is Applied to Them." Chronicle of Higher Education. September 15, 1980, p. 12.

----------. "Colleges' Retirement-Law Waiver Ends July 1. Chronicle of Higher Education, February 24, 1982, p. 1.

Weiler, William C. "Simulation of Institutional Incentive Plans for Faculty Early Retirement Using a Behavioral Model of Retirement Decision Making." Research in Higher Education, 15, No. 2 1981, pp. 129-139.

West, David A. Faculty Morale and Career Choice in the 1980's. Columbia, Mo.: University of Missouri.

"When Retirement Doesn't Happen." Business Week, June 19, 1978, pp. 72-89.

Wyatt, Joe B., James C. Emery, and Carolyn P. Landis, eds. Financial Planning Models: Concepts and Case Studies in Colleges and Universities. Princeton: EDUCOM, 1979

Yale University. Phased Retirement Option. New Haven, Conn. 1980.

Zemsky, Robert and Rondall Porter. "A Tenure Model for Resource Allocation at the University of Pennsylvania." Planning for Higher Education, October 1978, pp. 8-12.