

## FACULTY RETIREMENT ISSUES at UW-MADISON

The number and rate of faculty retirements have become areas of increasing interest on campus this year. At its March meeting, the Board of Regents addressed the topic of "The Graying of the Faculty" within the UW system. A study prepared for the Board concluded that about 28 percent of the UW System faculty (and 26 percent of Madison faculty) would likely retire in the next ten years.

In part, the rate of retirements has attracted notice because it may be increasing. Furthermore, there are financial implications to faculty turnover - from salary savings when senior faculty retire to recruitment costs and start-up packages for new hires. Retirements can also provide opportunities for a change of focus in academic programs or development of new curricular areas. This analysis shows only a modest increase in retirements is predicted for the next ten years. Of greater concern may be the changing age profile of the faculty, particularly the decline in the number of faculty who are under 40 compared with a decade ago.

### HISTORICAL DATA ON RETIREMENTS FROM OCTOBER 1986 THROUGH SEPTEMBER 1996

The following report is based on an analysis of UW Madison faculty from October 1986 through September 1996. For this analysis, all faculty who were age 55 and over and left the university during the period will be referred to as "retired". (In fact, over 96 percent of the faculty in this age group who left the university either retired or died.)

[Chart I](#) reports the number and percentage of faculty age 55 and over who have retired in each year from 1986-87 to 1995-96. A total of 673 faculty retired during the ten year period. Note that the rate of retirement has increased in the past decade -- from 6 percent of faculty 55 and older in 1986-87 to 13.8 percent in 1995-96. The higher retirement rate is due primarily to an increased number of faculty retiring between the ages of 55 and 64. From 1986-87 to 1990-1991, about 4 percent of faculty between the ages of 55 and 64 retired, compared to 6.6 percent of faculty during the most recent five year period. In the last two years, almost 9 percent of faculty in this age group retired. About 26 percent of all faculty age 65 and over retire per year throughout the ten years studied.

About 28 percent of the faculty who were here in October 1986 retired by October 1996. The average age at retirement was 64.4; on average, those who retired had worked 28.6 years as members of the faculty at UW. If all faculty retired after 30 years of service, we would expect an equilibrium retirement rate of about one-third of the faculty every ten years. Since many faculty leave before reaching retirement age, the actual faculty turnover rate for all reasons (including retirements) over the ten year period is about 50 percent.

The distribution of retirees by age at retirement is provided in [Chart II](#). The proportion of faculty who wait until they are older than 65 to retire has declined in the period studied. From 1986-1989, almost 50 percent of those who retired were over 65. In the last three years, however, only about a third of retirees were over 65.

[Chart III](#) compares the distribution of faculty by age in October 1986 and October 1996. The distribution of faculty age 65 and over is similar in the two years. However, the proportion of faculty who are under 40 is much less in 1996 than in 1986 (18 percent and 26 percent, respectively). UW-Madison's faculty roster has declined by a total 185 over the ten year period. The total number of faculty under the age of 40 has declined even more -- by 229 individuals.

## REGRESSION ANALYSIS OF RETIREMENT PATTERNS

In the past, we have looked only at faculty age to predict future retirements. This study also used a logistic regression analysis to examine retirement patterns. Variables measuring the following characteristics were included in the regression: age, years as a faculty member, whether the individual held a UW position prior to their faculty appointment, divisional committee affiliation, school or college, race, gender, rank, department size, whether held a terminal degree, and the ratio of the individual's salary to average faculty salary.

As expected, age was the most important factor in explaining the likelihood of retirement in a given year. Other variables which were significant in the equation were years as a faculty member, divisional committee affiliation, school or college, department size, race, whether held a terminal degree, and salary ratio. Having 30 or more years as a faculty member increased the likelihood of retiring, particularly for faculty under 65 years of age. (This is not surprising since the retirement benefit formula is actuarially reduced for individuals under 65 years old with less than 30 years of service.) Certain colleges had higher than average retirement rates in the period from 1986 to 1996 (after controlling for other variables): Human Ecology, Agricultural and Life Sciences, Business, Education, and Engineering. Faculty in the Social Studies and Biological Sciences divisions were more likely to retire than faculty in the Physical Sciences or Humanities. Higher paid faculty were less likely to retire. Non-minority faculty members were more likely to retire than minority faculty; there were no differences in retirement rates between women and men.

## PREDICTING FUTURE RETIREMENTS

Results from the logistic regression model were used to predict retirements over the next ten years. In addition, a "standard" model using only retirement rates by age category from the past ten years was computed. The standard model was estimated from the entire 1986-87 through 1995-96 period and was further divided into two five year periods: one for the most recent five years as well as one based on retirements from 1986-87 through 1990-91 only. The results of all the methods were similar in the aggregate: each predicted about 640-700 retirements over the next decade. The highest predicted retirement rate resulted from the age model using only data from the last five years; the lowest rate resulted from the age model using only data from 1986-87 through 1990-91. Based on these models we could conclude that 29-31 percent of today's faculty will retire in the next ten years. Please note these models assume that recent historical patterns of retirement will continue in the future. Changes in the state retirement system, faculty compensation issues, other job opportunities, etc. could influence retirement decisions and render these predictions invalid.

As noted earlier, UW System Administration recently prepared an analysis of faculty retirements for all UW institutions. Their study predicted about 612 retirements at UW Madison from 1994-95 through 2004-05. (Their prediction is lower for several reasons. First, they did not include deaths of faculty age 55 and older with retirements. In addition, their model was based only on the years 1990-91 through 1994-95. The number of retirements in 1995-96 was higher than in any of the preceding nine years.)

[Chart IV](#) contains the proportion of faculty over 55 and the proportion over 65 in each school or college and department on campus. The list of departments is arranged in descending order by percentage of faculty age 55 and over. Campus-wide, about 30 percent of faculty are 55 and older; five percent are at least 65 years old. Four schools and colleges have more than five percent of their faculty aged 65 and over: Law, Letters and Science, General Library and Medicine. Schools with more than a third of their faculty aged 55 and over include: Nursing, Pharmacy, Continuing Studies and General Library. (Note that we no longer use faculty titles for our library staff. The current faculty in the General Library system were hired in the 1960's and early 1970's before the policy changed.)

The [final Chart](#) provides a summary of the predicted retirements for the next ten years by school or college and divisional committee. Please note that these predictions are simply a best guess based on the age of current faculty and historical retirement patterns. Particularly for smaller units, the estimates have large variances associated with them. The retirement rates by college vary from a low of 19 percent of faculty in the School of Veterinary Medicine to over 50 percent for IES, the General Library system, and the School of Nursing. Over a third of faculty in the Humanities and Physical Sciences divisions are predicted to retire in the next ten years. The number of retirements predicted for a given school or college varies from 2 in IES to 279 in Letters and Science.

Prepared by: [Margaret Harrigan](#)  
Office of Budget, Planning and Analysis  
March 31, 1997

Links to [CHARTS](#)

---

■ Academic Planning & Analysis	■ Budget, Planning & Analysis
■ University of Wisconsin - Madison	■ University of Wisconsin System