University of Pennsylvania
ScholarlyCommons

Wharton Pension Research Council Working
Papers

Wharton Pension Research Council

1-1-2000

Intangible and Tangible Retirement Incentives

John Keefe

Keefe Worldwide Information Services, Inc

Follow this and additional works at: https://repository.upenn.edu/prc_papers

Part of the [Economics Commons](#)

Keefe, John, "Intangible and Tangible Retirement Incentives" (2000). *Wharton Pension Research Council Working Papers*. 500.

https://repository.upenn.edu/prc_papers/500

The published version of this Working Paper may be found in the 2001 publication: *To Retire or Not*.

This paper is posted at ScholarlyCommons. https://repository.upenn.edu/prc_papers/500

For more information, please contact repository@pobox.upenn.edu.

Intangible and Tangible Retirement Incentives

Disciplines

Economics

Comments

The published version of this Working Paper may be found in the 2001 publication: *To Retire or Not*.

To Retire or Not?

Retirement Policy and Practice
in Higher Education

Edited by
Robert L. Clark and P. Brett Hammond

Pension Research Council

The Wharton School of the University of Pennsylvania

PENN

University of Pennsylvania Press
Philadelphia

Pension Research Council Publications

A complete list of books in the series appears at the back of this volume

Copyright © 2001 The Pension Research Council of the
Wharton School of the University of Pennsylvania
All rights reserved

Printed in the United States of America on acid-free paper
10 9 8 7 6 5 4 3 2 1

Published by
University of Pennsylvania Press
Philadelphia, Pennsylvania 19104-4011

Library of Congress Cataloging-in-Publication Data

To retire or not? : retirement policy and practice in higher
education / edited by Robert L. Clark and P. Brett Hammond.

p. cm.

"Pension Research Council publications"—T.p. verso.

Includes bibliographical references and index.

ISBN 0-8122-3572-X (cloth : alk. paper)

I. College teachers—Pensions—United States—Congresses.

I. Clark, Robert Louis, 1949– II. Hammond, P. Brett.

III. Wharton School. Pension Research Council.

LB2334 .T6 2001

331.25'2913781'20973—dc21

00-055218

Chapter 8

Intangible and Tangible Retirement Incentives

John Keefe

A large number of colleges and universities have designed programs that provide incentives for faculty to retire earlier than they might otherwise choose. Other chapters in this volume offer surveys and case studies of retirement plan features and behavior, including how they were developed as well as statistics on faculty acceptance. This chapter takes a different tack by examining the early retirement decision primarily from the employee's perspective—that is, how an individual might weigh the choice between full-time professorship and part-time work or full retirement. We find that in designing retirement incentive programs, administrators and faculty should place an equal emphasis on how the intangible aspects of retirement will compare to the accomplishment and collegiality of teaching life. The importance of these intangibles varies from person to person and will likely be different from institution to institution. Nonmonetary factors are difficult to sort out, and may require more flexible offerings than administrators are accustomed to making. Nevertheless, the lifestyle and self-esteem factors are often as important to a plan's success as are the cash incentives.

The process of identifying the relevant nonmonetary variables, and then measuring the value or level of utility they provide to different individuals, is problematic. Consider, for instance, differences in lifestyle preferences and other factors expressed in national retirement statistics. Americans are retiring, on average, at younger and younger ages. As Dora Costa points out in her important work on the history of retirement, people no doubt have monetary justifications for retiring sooner, but, monetary factors being equal, nonmonetary factors help explain why some people retire sooner than others (Costa 1998).

The Decision of the Early Retiree

One approach is to think about how a faculty member might evaluate his or her own well being. Typical early retirement offers result in a mix of factors that are both monetary (such as the value of a lump sum incentive payment for early retirement, part-time salary, or ongoing health insurance) and non-monetary (such as the rewards of pursuing hobbies or travel earlier than would otherwise be the case). The retiree's challenge is to weigh the prospective value of the mix of the new options against the expected value of full-time employment.

Predicting how an employee will react to an early retirement offer is complicated. Individuals have different economic situations, lifestyle preferences, and views of the future. To an individual who has saved enough to fund a comfortable retirement, the monetary options of early retirement—or even a continuing salary from full-time employment—may have less influence on the retirement decision than the nonmonetary options. For a person for whom working is a hardship, due perhaps to illness, the non-monetary value of continuing to work full time may be relatively small, or even negative. On the other hand, a person who has few interests outside academia, or who has particularly strong attachments to the university, may place a relatively low value on the nonmonetary aspects of retired life.

Not only will the estimate of the future value of an early retirement choice vary across individuals, but also a given individual's view of the decision to retire early may change over time. Between the ages of 60 and 70, the relative importance of salary, collegiality, and career achievement can vary substantially. Moreover, there is great uncertainty surrounding the retirement decision. Most people can only guess at how well they will adapt to leaving their institutions, whether they will enjoy the sudden abundance of free time, and what standard of living their retirement income will provide over the long run.

A Complete Example: Incentive Payment

To consider a hypothetical example, assume that a professor age 62 years and who has planned to retire at 65, is offered a lump sum cash incentive to retire early. How can she determine her "best" alternative?

By simplifying what is almost always a complex personal decision, we can examine the question in a more rigorous way. The pertinent period of time is only the three years subject to early retirement; our professor had planned to retire at 65 anyway. Therefore, during the prospective early retirement years of 62 to 64, how can the professor estimate the future value of continuing to work, versus taking the early retirement package?

Her first option is staying in her job full time for three more years, earn-

130 John Keefe

Table 1. Retirement Versus Continued Work

	<i>Full-time work</i>	<i>Retirement</i>
<i>Primary income</i>	Salary Saving for retirement	Lump-sum payment
<i>Secondary income</i>	Consulting	Consulting
<i>Work life</i>	Teaching and research	Postuniversity study
<i>Nonwork life</i>	"Being a professor at the university" Community Prestige	Time with spouse and family Travel, hobbies, etc.

Source: See text.

ing the monetary value of salary and retirement contributions from the university, plus any consulting or other nonteaching income, and enjoying the personal satisfaction of teaching, research, and service to the faculty and students. Her alternative is to accept the university's early retirement offer and retire immediately. In so doing she would collect the lump sum retirement incentive and gain the nonmonetary value of increased leisure time. However, she would forgo the salary to be earned until 65, and her pension account would be smaller, having missed three years of contributions (a possible indirect effect is that consulting and other outside income might drop off if she were no longer affiliated with her institution). She would also give up the nonmoney benefits of teaching and research. Table 1 details the monetary and nonmonetary options of this example.

A little more background is needed to evaluate such a decision. First, we have to know the standing of the professor's retirement account, to determine whether retirement is even a realistic choice. Can she retire at 62—living on the lump sum plus savings until 65—and then have an adequate income for the rest of her life? If not, her decision is straightforward. She needs to keep working until 65, and perhaps beyond.

Let's assume that the professor does have sufficient savings and retirement funds. The relative values of factors she has to trade off are her salary versus the lump sum, and the value of work versus retirement. To express the point more formally, we can hypothesize that the professor will accept early retirement when the total estimated future value from early retirement in the years 62 through 64 is greater than the value of being a full-time professor. We then decide by comparing the monetary and nonmonetary aspects of working and retirement, as illustrated in Tables 2 and 3.

During the years of age 62 to 64, the professor would receive after-tax payments worth \$180,000 were she to continue working, and \$75,000 were she to accept the early retirement offer. The nonmonetary value of working

Intangible and Tangible Retirement Incentives 131

Table 2. Value of Working Until 65

<i>Monetary assumptions:</i>	
Three years salary	\$250,000 before taxes
	\$150,000 after taxes
Three years of institution's retirement contributions	\$ 30,000 after taxes
Total monetary value	\$180,000 after taxes
<i>Nonmonetary assumptions:</i> value of teaching, scholarship, service = $3W$	

Source: See text.

 W = nonmonetary value of working.

Table 3. Value of Early Retirement, 62–64

<i>Monetary assumptions:</i>	
Early retirement lump sum	\$80,000 before taxes
	\$50,000 after taxes
Medical insurance	\$25,000 after taxes
Total monetary value	\$75,000 after taxes
<i>Nonmonetary Assumptions:</i>	
Value of retirement activities = $3R$	
Uncertainty of benefits of retirement = ϵ	

Source: See text.

 R = nonmonetary value of retiring.

for one year is represented by W , and the nonmonetary value of retiring is represented by R .

In addition to creating variables to represent the nonmonetary values of work and retirement, we have introduced an uncertainty factor, ϵ , to represent the uncertainty of the benefits of retirement. Although this uncertainty cannot be quantified and varies from person to person, it is important to recognize. Retirement is a decision a person makes only once, and the cost of a bad choice is very high. The value of ϵ is negative in many cases, but because it is not quantifiable, we have assigned it a zero value and left the variable in the expressions simply as a reminder of its importance.

Two additional monetary variables might be considered in the case of early retirement. First, our professor might be able start drawing social security payments at age 62, and thus receive an additional monetary benefit for retirement in the years 62 through 64. We have ignored this income for the sake of simplicity, but we note that in many cases it might be an important cash flow to the early retiree, and thus tilt the analysis in favor of selecting early retirement. Second, we have ignored the value of a retirement account or other savings on which she might draw before age 65. In drawing down a retirement account she would be better off by the amount of the income,

132 John Keefe

but worse off by the amount of the reduced savings, so again for simplicity we omit this from the analysis.

Should our professor accept the offer? The arithmetic says that she should retire early if

$$3R + \$75,000 + \epsilon > 3W + \$180,000.$$

That is, the prospective retiree should accept this offer if the intangible value of being retired for three years, $3R$, discounted for uncertainty, ϵ , is worth \$105,000 or more than the intangible value of continuing to work for three years. Looking at the expression in terms of one year gives this relationship:

$$\text{Intangibles of Retirement} = \text{Intangibles of Work} + \$35,000.$$

Thus the structure of this offer puts a very high implicit cash value on retiring. Our example professor should accept only under unusual circumstances. One case is where the value of retirement is especially high to her, for instance, if an attractive job offer has happened to come along at the same time as the early retirement offer. Similarly, she should accept if, for some reason, the value of hobbies or travel in those three years is especially high (in most cases, however, she would be able to hike the Appalachians or collect snails at age 65, and come out ahead financially through continuing to work). Another case where she should accept the early retirement offer is where the value of work is especially low, or even negative. This offer might prevail where the professor or her spouse is suffering an illness, or where the professor has completely lost her taste for teaching.

The arithmetic tells us that to make the offer of early retirement as attractive as continuing to work, the school's lump sum payment has to make up for (1) the lost salary and pension contribution in years 62 to 64; (2) the difference, if any, between the intangibles of work and the intangibles of retirement; and (3) the uncertainty of retiring three years early. (A professor who thinks in plain English might express the offer this way: "They are asking me to give up the work I like and have done well for thirty years, and to start a retirement I am not sure I am ready for. Maybe I'm better off working for the three years and earning the extra \$100,000.")

Adding a Phased Retirement Option

We now examine the decision to accept or reject a "phased retirement" offer. Instead of the lump sum incentive offer, let's assume the same professor receives an offer where she would work half-time for the years 62 to 64 and receive 50 percent of her salary. Pension contributions would be made on the reduced salary, and she would retain health benefits at the same cost as under full-time employment.

Intangible and Tangible Retirement Incentives 133

Table 4. Phased Retirement Until 65

<i>Monetary assumptions:</i>	
Three years salary	\$125,000 before taxes \$ 75,000 after taxes
Three years retirement contributions	\$ 15,000 after taxes
Total monetary value of phased retirement	\$ 90,000
<i>Nonmonetary assumptions:</i>	
Value of teaching, scholarship and service	$= (3 \times 0.5W) = 1.5W$
Value of retirement activities	$= (3 \times 0.5R) = 1.5R$
Uncertainty of retiring	$= 0.5 \times \epsilon$

Source: See text.

R = nonmonetary value of retiring.

W = nonmonetary value of working.

In this case, our professor is enjoying a portion of the nonmonetary benefits of both working and retired life, and she faces only part of the uncertainty of retirement. (For the moment we have assumed that each factor is reduced by half, but we will demonstrate later that the proportions of work, salary and retirement are crucial to the analysis). Table 4 summarizes the assumptions.

Under these assumptions the decision-making expression becomes:

$$1.5W + 1.5R + \$90,000 + (0.5 \times \epsilon) > 3W + \$180,000.$$

That is, if the sum of the nonmonetary attributes of a half-working and half-retired life, plus the \$90,000 to be received from working part time, are greater than the value of working plus salary, then our professor should accept phased retirement. Working through the arithmetic gives this result in terms of one year's worth of retirement:

$$\text{intangibles of retirement} = \text{intangibles of work} + \$60,000.$$

Assuming these proportions, this offer is *less* attractive than the previous lump sum example by the amount of the incentive payment. That is, to a person who accepts this offer, the implicit cash value of retiring is \$60,000 over the value of working. However, if the assumptions are altered so that (1) the arrangement calls for 50 percent of full-time pay for 33 percent of full-time teaching, and that (2) the balance between the intangible benefits is changed—so that we assume that our professor manages to give up *less* of the value of work and get *more* benefit from retirement—the decision equation becomes:

$$2W + 2R + \$120,000 + (0.5 \times \epsilon) > 3W + \$180,000.$$

134 John Keefe

In terms of one year, this expression becomes:

$$\text{intangibles of retirement} > 0.5(\text{intangibles of work}) + 30,000.$$

Under the assumption that the phased retiree can keep more of the benefits of work (perhaps due to participation in a special senior faculty advisor program, or other measures that place an emphasis on the contributions of retiring professors) and at the same time add more of the benefits of retirement (due to a lighter teaching load), the option of early retirement becomes more attractive. Accepting early retirement is twice as valuable in the second phased example as in the first, and more than twice as valuable as the incentive payment example.

Prospective Retiree “Types”

We can categorize the decisionmakers according to their preferences—grouping them into “types”—and thus account for the consequent range of decisions (Harsanyi 1967, 1968). Four different types within the population of prospective academic retirees may be identified, according to individuals’ utility for the nonmonetary aspects of work life and retired life. Prospective retirees who assign a high value (or low value) to teaching, research, school service and collegiality are ranked “high *W*” (or “low *W*”). Prospects who place a high value (or low value) on travel, hobbies or time spent with family are ranked “high *R*” (or “low *R*”). Other determinants of a potential retiree’s *R* status, as noted earlier, would be his or her employment options outside the university, or a personal or spouse health limitation that would make working full-time less attractive.

Table 5 lays out the four types in this analysis. A person who is satisfied with working full time and has little interest in travel or hobbies—at least during the years 62 to 64, the time subject to consideration for early retirement—would be ranked “high *W*, low *R*.” A professor with both a high level of current job satisfaction and excellent work prospects outside the university would be ranked “high *W*, high *R*.” As mentioned earlier, the shifting of a person’s preferences over time could mean that an individual’s type could change as well.

In general, prospective retirees with low *W* values would probably be attracted to incentive payment plans, as they are giving up little job satisfaction. Those with high *W* values, on the other hand, would likely want to keep a hand in teaching or research, and might thus be more attracted to offers involving part-time teaching assignments. People with high *R* values are more likely to accept early retirement offers than those with low values.

Two analyses examining the early retirement offerings made to professors in the University of California (UC) system have used a similar typology:

Table 5. "Types" of Faculty by Nonmonetary Values

	<i>Low W</i>	<i>High W</i>
Low <i>R</i>	Low value to working Low value to retirement	High value to working Low value to retirement
High <i>R</i>	Low value to working High value to working	High value to retirement High value to retirement

Source: See text.

W = the nonmonetary value of working.

Switkes (this volume) and Pencavel (1997). From personnel dossiers of faculty eligible for three waves of early retirement incentive offers, Pencavel developed profiles on those likely to participate in UC's early retirement programs. He found that individuals who accepted the offers tended to be older and earned lower salaries. Both Pencavel and Switkes indicate that the UC plans hit their mark, by encouraging retirement by less productive faculty while not causing the more productive faculty to leave. In particular, in one wave of offers, only 6 percent of faculty in their late 50s accepted, versus nearly 60 percent of those in their late 60s. They also found that individuals turning down early retirement offers tended to earn much higher salaries than those who accepted, suggesting that the more accomplished and active scholars (the high *W* group) stayed while their less productive colleagues (the low *W* group) chose to retire. Last, faculty rejecting the early retirement incentives were entitled to pensions averaging only 62 percent of final salary, while those accepting were slated for a replacement rate of 75 percent. A higher replacement rate would reduce some of the financial uncertainty surrounding retirement (the ϵ term in the expressions above).

When an institution is designing an early retirement plan, identifying types among the targeted faculty is crucial. Once the needs and preferences of the targets are understood, administrators can then create incentives that will encourage the redundant professors to leave or cut back, while reducing the risk of adverse selection (that is, losing key senior faculty as a result of offering the wrong incentives).

What Does All This Mean?

Our analysis suggests three conclusions that may be useful to administrators in the real world:

- The size of incentive payments is *not* the most important variable in an early retirement decision.
- The most important variables are the prospective retiree's intangible re-

136 John Keefe

wards from work and retirement. In most circumstances, these factors are not under the administrator's control.

- Early retirement is not an effective form of performance management.

Money by itself—at least, in amounts affordable to most institutions—will likely have little impact on the early retirement decision. If a tenured professor is unwilling to retire because he needs the money, then an institution probably will have to pay the professor at least as much as his salary to leave. If he has already provided for retirement, but cannot imagine a life without teaching, the institution will be at a disadvantage in encouraging his retirement if its only tool is a payment incentive.

While it is difficult to place dollar values on the intangibles of work, it is clear from the low acceptance rates of most programs that faculty value these as highly as cash. Thus if an institution can meaningfully enhance the status of retired professors, design an appealing part-time program, or otherwise make retirement into a “win-win” situation for both the professor and the institution, a greater acceptance rate may result.

Some institutions have undertaken unconventional strategies to encourage early retirement, with the goal of reducing the nonmonetary value of professorship, including enforcing tenure review, appropriating office space, and otherwise making life difficult for prospective retiree. We would not recommend these approaches, however, as they are harsh for the employee and may send undesired signals to the next generation of senior faculty. Another option—one requiring a long-term view on the university's part—would be to carefully study professor demographics, share the information and the university's goals with the faculty, and encourage them to contemplate retirement or part-time teaching well before any bottlenecks occur. With a better understanding of the university's reasons for the early retirement transaction, and a clearer vision of the retired life five or ten years in advance, academics would suffer less uncertainty and might possibly welcome early retirement offers.

Conclusion

In designing a retirement plan, administrators must place an equal emphasis on how the intangible aspects of retirement will compare to the attractions of teaching life. In developing retirement offers, administrators should take into account what factors will appeal to different groups, or “types,” within the population of prospective retirees. Nonmonetary factors are difficult to sort out, and may require more flexible offerings than administrators are accustomed to making, but the lifestyle and self-esteem factors are as important to a plan's success as the cash incentives.

By their nature, however, these techniques have limitations, and they must be developed and applied carefully. It is difficult for administrators to

Intangible and Tangible Retirement Incentives 137

assess an objective value for the nonmonetary factors embedded in an offer, or predict how employees will react to them. Nonetheless, the intangibles are an important part of each person's retirement decision, and should be considered alongside retirement income and incentive payments.

Dr. Yaw Nyarko of New York University contributed to the game theory analysis in this essay.

References

- Costa, Dora L. 1998. *The Evolution of Retirement: An American Economic History, 1880–1990*. Chicago: University of Chicago Press.
- Harsanyi, J. C. 1967, 1968. "Games with Incomplete Information Played by Bayesian Players." Parts I, II, III. *Management Science* 3, 5, 7, 14.
- Pencavel, John. 1997. "The Response of Employees to Severance Pay Incentives: Faculty of the University of California, 1991–1994." Working paper, Stanford University, July.
- Switkes, Ellen. This volume. "The University of California Voluntary Early Retirement Incentive Programs."
- U.S. Department of Education, National Center for Education Statistics. 1997a. *Digest of Education Statistics, 1997*. NCES 98-015. Washington, D.C.: NCES.
- . 1997b. *Retirement Plans and Other Departure Plans of Instructional Faculty and Staff in Higher Education Institutions*. NCES 98-254. Washington, D.C.: NCES.
- Von Neumann, John and Oscar Morgenstern. 1947. *Theory of Games and Economic Behavior*. 2nd ed. Princeton, N.J.: Princeton University Press.
- 1998 *Higher Education Directory*. 1998. Falls Church Va.: Higher Education Publishers.