

## **FINANCIAL EDUCATION AND RETIREMENT SAVINGS**

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## **INDIVIDUAL RESPONSIBILITY FOR RETIREMENT SAVINGS**

Over the past 25 years, the structure of retirement plans has changed substantially and this evolution of employer-provided pension plans has significantly increased the role of workers in the determination of their retirement income. During this period, the proportion of the labor force covered by any type of pension plan has remained relatively stable at around 50 percent; however, the coverage rate in basic or primary pensions by defined benefit plans has plummeted, while participation in primary defined contribution plans has grown rapidly. In 1979, the share of primary pension coverage attributed to defined benefit plans was 83 percent. By 1998, primary coverage by defined benefit plans as a percent of all pension participants had fallen to less than 50 percent. Thus, defined contribution plans have become the dominant plan type for primary employer-provided pensions in the United States (Pension Benefit Guaranty Corporation, 1999).<sup>1</sup>

In addition to their basic pension, many workers, especially those in large organizations, are covered by supplemental pension plans. These plans are almost exclusively some type of defined contribution plan. The rapid transition to defined contribution plans that include individual accounts has been driven by changes in government regulations and tax policy that have increased the administrative costs of defined benefit plans and made defined contribution plans more desirable (Clark and McDermed, 1990; Husted, 1998). In addition, changes in the composition of the labor force that have increased the demand for more portable pensions, reduced likelihood of lifetime employment with the same firm, and shifts in the composition of employment toward those sectors that have traditionally offered defined contribution plans have

accelerated the growth of defined contribution plans (Gustman and Steinmeier, 1992; Ippolito, 1997).

In most defined benefit plans, full-time employees are automatically included in the plan after meeting minimum participation standards. Future retirement benefits for participants in defined benefit plans typically depend on earnings histories and years of service. Thus, participants in defined benefit plans are not required to make any participation, contribution, or investment decisions. In contrast, defined contribution plans are based on individual accounts into which the company and employees contribute funds. Participation in many defined contribution plans, especially 401(k) plans, is typically voluntary. Therefore, each worker must decide whether to make any annual contribution and the size of annual contributions. In addition, the participant must decide how to invest the annual contributions and how to invest all of the assets in their individual accounts.

The expanding use of employer-provided defined contribution plans has placed increased responsibility on many individuals to set retirement goals and decide on how to save sufficient funds to achieve these goals. Potential changes in the Social Security system may further increase the need for individuals to have a better understanding of financial markets and the retirement savings process. Some proposals to reform the Social Security system include the introduction of individual accounts as a component of retirement benefits. If adopted, the inclusion of self-directed individual accounts would place even greater responsibility on individual workers in the determination of their retirement income goals. Other reform proposals would retain the current benefit structure but would reduce future Social Security benefits. Lower replacement ratios

from Social Security would also mean that individuals would be responsible for saving a greater portion of their retirement income.<sup>2</sup>

Economic theory provides a structure for considering the allocation of time and resources over the lifetime. Under certain restrictive conditions, lifecycle models can yield predictions of the age of retirement, annual savings rates, and the level of income in retirement compared to pre-retirement earnings. Most of these models assume that individuals understand the financial markets and know the risk-return distribution of all assets. With this knowledge, individuals can make consumption and savings decisions that determine their expected retirement income at their chosen retirement age. In truth, most individuals seem to have extremely limited knowledge of financial markets, the level of risks associated with specific assets, and how much they need to save to achieve a retirement income goal.<sup>3</sup>

In the twenty-first century, individuals will have greater responsibility for their own retirement income. In this new environment, financial knowledge may be the key to successfully achieving one's retirement objectives. Recently Federal Reserve Chairman, Alan Greenspan (2002) commented that helping Americans understand basic concepts about budgeting and financial markets through financial education programs should enable them to make more appropriate short and long-term savings decisions. Greenspan stated that

...education can play a critical role by equipping consumers with the knowledge required to make wise decisions when choosing among the myriad of financial products and providers. This is especially the case for populations that have traditionally been underserved by our financial system.... In addition, comprehensive education can help provide individuals with the financial knowledge necessary to create household budgets, initiate savings plans, manage debt, and make strategic investment decisions for their retirement or children's education. Having these basic financial planning skills can help

families to meet their near-term obligations and to maximize their longer-term financial well being. While data available to measure the efficacy of financial education are not plentiful, the limited research is encouraging.

Greenspan's remarks suggest that financial education would be helpful to workers engaged in retirement planning and that such programs would be most useful to lower and middle income families. His observation of limited research on the link between financial education and retirement savings is correct and can be viewed as an implicit call for additional research on this important topic. Lusardi (2000) agrees that financial literacy is a key to effective retirement savings and concludes that lack of planning and a lack of understanding the savings process is one of the primary reasons that Americans have such a low savings rate.

It seems obvious that increased financial awareness would be beneficial to individuals considering how to save for their retirement. However, the linkage between financial education and the setting of retirement goals and the impact of enhanced financial education on the likelihood of achieving the necessary savings to reach these goals has gone virtually unexplored. Very few studies have examined the link between financial education and retirement savings.

This paper examines the impact of participation in financial education seminars offered by TIAA-CREF on retirement goals and retirement savings behavior.

Specifically, we determine whether participants in these seminars revise their expected retirement age and the level of income they desire in retirement after participation in a seminar that provides an overview of the retirement savings process. In addition, we observe whether the participants indicate that they expect to change their savings behavior by making specific changes in the amounts they save, how they invest their

retirement assets, and whether they intend to acquire additional information about their retirement income needs and the retirement savings process.

## **DOES FINANCIAL EDUCATION INFLUENCE RETIREMENT SAVINGS: WHAT DO WE KNOW NOW?**

If individuals have insufficient knowledge concerning the retirement savings process, they are unlikely to be able to make optimal retirement savings decisions. A lack of financial education may result in workers starting to save too late in life and saving too little to achieve their stated retirement goals. As a result, they are unlikely to achieve an optimal balance between current consumption while working and future consumption in retirement. In addition, a lack of information concerning the risk-return distribution of various investments might lead workers to misallocate their retirement portfolios.

Bernheim (1998) presents evidence that questions whether the typical household has enough financial literacy to make appropriate savings decisions in their employer-provided pension plans.

Recognizing this lack of financial knowledge, many employers now provide financial-education programs for their workers. Employer-provided financial information consists of written communications that explain company retirement savings options, general information about financial markets and economic conditions, and financial education or retirement seminars led by pension providers or in-house staff. Other firms provide monies so that their employees can purchase a financial plan.<sup>4</sup> Some of the programs are provided with the specific goal of increasing participation and contribution levels to help the company meet nondiscrimination standards.

Relatively few studies have attempted to estimate the effectiveness of these programs in altering retirement goals or retirement savings behavior. Using the KPMG Peat Marwick Retirement Benefits Survey, Bayer, Bernheim, and Scholz (1996) estimated that workers employed by firms that offered financial education programs had higher participation rates in and contribution rates to 401(k) plans compared to firms that did not provide this type of program.<sup>5</sup> Their analysis indicated that seminars were the most effective type of communication. Sponsorship of financial education seminars was associated with a 12 percentage point increase in the participation rate of nonhighly compensated workers and a six percentage point increase among highly compensated employees. Company sponsored retirement seminars produced a one percentage point increase in the contribution rate of the nonhighly compensated and no significant increase among highly compensated employees. This increase in the contribution for nonhighly compensated is quite large given that the average contribution rate for these employees is only 3 percent.

Clark and Schieber (1998) examined employment records gathered by Watson Wyatt Worldwide from 19 firms covering over 40,000 employees. They estimated the effect of company-provided written communications describing the retirement savings process, the need for workers to save, the national economic environment, and the characteristics of the company retirement plan. This type of financial information played a significant role in increasing the probability of participating in a 401(k) plan and in increasing the contribution rate to that plan. Providing written documents to workers about retirement savings increased the probability of participating in the 401(k) plan between 15 and 21 percentage points. In addition, they found that the provision of

information concerning the company's 401(k) plan increased the annual contribution rate by two percentage points while generic financial and economic information did not have any significant influence on the contribution rate.

Muller (2000) estimates the effect of financial education seminars on the allocation of investments in defined contribution plans using the Health and Retirement Survey (HRS). She employs only the 1992 wave of the HRS that asks whether the respondent has ever attended a retirement seminar. She reports no general effect of seminar attendance on the allocation of retirement funds. However, her measure of investment allocation is very broad. The question in the HRS asks whether the household's assets are mostly or all in stocks, mixed, or mostly or all in bonds. This measure would obviously miss small and even medium-size adjustments to pension investments. She does find that individuals with high degree of risk aversion do tend to adjust their portfolios after participation in a seminar. This finding is somewhat odd since "high degree" of risk aversion is the second highest of four risk aversion categories used in the analysis and individuals with "extreme risk aversion" (the highest category) did not have any significant reaction to financial education.

Lusardi (1999, 2000) also examines data from the Health and Retirement Survey. Her focus is on the role of planning and the lack of financial literacy in the retirement savings. She finds that individuals who do not plan for retirement have lower net wealth and are less likely to invest in assets with higher expected returns such as equities. She argues that existing studies of retirement savings are based on models that assume that there are no planning costs associated with retirement savings and little or no differences in how households obtain and use information needed to establish an optimal savings

plan (Lusardi, 2000). Lusardi (1999) states that extensive information is needed to plan adequately for retirement and the financial education programs are important to the planning process. Finally, she argues that more research is needed “to determine why households do not plan for retirement, and whether the provision of information ... can play a role in affecting household decision making and, ultimately, the financial security of many American households.” (Lusardi, 2000).

Madrian and Shea (2001) examine the administrative records of a large employer in the health care and insurance industry. The only retirement plan offered by this company is its 401(k) plan. In 2000, the company offered one-hour financial education seminars at 42 different sites. Madrian and Shea examine participation and savings behavior in the 401(k) plan before and after the seminar. Their estimates indicate that there are small but statistically significant effects of attendance at financial education seminars. Attendees tend to have increased rates of participation in the 401(k) plan and they tend to have greater diversification in their retirement plan portfolios. However, most seminar participants made no changes in their savings behavior. It is important to note that the authors had a very short post-seminar period of observation.

The general conclusion of this limited literature is that financial education provided by employers can increase retirement savings and potentially alter the investment of assets in retirement accounts. The mechanism for how education alters retirement savings and investment decisions is unclear. Maki (2001) provides three possibilities. First, financial education could increase household savings by causing the family to reduce its discount rate. Second, increased knowledge could lead the household to become less risk averse and thus increase investment in assets with a greater level of

risk and expected return. Finally, financial education programs could change the household's knowledge of its investment choice set. For example, the information may reveal to workers that it is impossible to achieve the current goal of retiring at a specific age with a certain level of income using the existing saving and investment strategy. Maki dismisses the first two possibilities and argues that greater knowledge of what is possible is the primary mechanism through which these programs alter household decision-making.

### **TIAA-CREF FINANCIAL EDUCATION SEMINARS**

Throughout the year, the Consulting Services division of TIAA-CREF conducts Financial Education Seminars at educational institutions and other non-profit organizations. Seminars are open to all employees of these institutions. Thus, participants at colleges and universities may include administrative, technical, clerical and service workers as well as faculty. Coverage in other nonprofit institutions also tends to include the full range of employees. The basic pension plan of seminar participants may be TIAA-CREF, a defined contribution plan from another pension provider, or a defined benefit plan. Seminars are also given in community settings with participants coming from many different institutions. These seminars are presented all across the country. Thus, respondents in our study are not limited to college faculty.

TIAA-CREF consultants present a variety of seminars aimed at audiences in different lifestages including newly-hired employees, mid-career workers, and pre-retirees. They also conduct special seminars developed for female employees. The objective of all of these seminars is to provide financial information that would assist

individuals in the retirement planning process. Consultants discuss retirement goals such as the amount of money needed in retirement to maintain the same level of consumption as during the working years and the relationship between the age of retirement and the annual amount of savings needed to achieve the retirement income goal. Consultants also devote considerable time in the seminars to examining the risk-return characteristics of alternative investments. Although they differ somewhat in content, all of the seminars provide this basic information concerning retirement savings and retirement income goals. Brief descriptions of the primary types of seminars included in this analysis are presented below.

The Investment Education Seminar is designed to establish the importance of identifying personal financial goals and ways to utilize employer provided retirement plans as well as voluntary saving plans to meet these goals. Participants are educated on developing an investment strategy, including discussions of diversification, risk tolerance, time horizon, and investment preferences. The Retirement Education Seminar is designed to answer questions about how much money is needed in retirement, sources of retirement income, income distribution options available, tax considerations, and the effects of inflation. The Women's Investment Forum is designed to provide women with the tools, resources and information necessary to manage their own finances. Women examine differences in life expectancy, career interruptions and the impact of marriage, divorce, death of a spouse and other variables impacting retirement planning.

## **RESEARCH METHODOLOGY**

The primary objective of this research is to examine how financial education affects retirement goals and retirement savings behavior. The age of expected retirement and the ratio of retirement income to gross earnings prior to retirement are used to measure individual retirement objectives or goals. In order to achieve these objectives, individuals must make certain savings and investment decisions. Optimal decision making requires that individuals understand the savings process, the expected risk-return distribution of various investments, and the magnitude of annual saving necessary to accumulate sufficient wealth to retire at the expected age with the desired level of income. Without adequate information or financial education, individuals will have an inadequate knowledge base to make important decisions for retirement.

This study attempts to measure the impact of financial education on retirement goals and savings behavior by analyzing the responses by participants in TIAA-CREF Financial Education Seminars described in the previous section. This section describes the three surveys used to measure individual response to information provided in the seminars and the key questions addressed in the research. This paper represents an interim assessment of data obtained thus far in a two-year research project. By the conclusion of the project, we anticipate that approximately 100 seminars and over 1,000 respondents will be included in the study.

### **Survey Content and Procedures**

The analysis of retirement savings is based on information obtained in three surveys of participants in TIAA-CREF Financial Education Seminars. Survey One is

given to participants at the beginning of the seminar, Survey Two is completed at the end of the seminar before participants leave the room, and Survey Three is sent to participants about three months after the seminar.<sup>6</sup> Survey One asks participants to indicate the age at which they hope to retire and the annual retirement income as a percent of their final working years' earnings that they hope to have in retirement. Respondents are asked to indicate the likelihood that they will achieve this goal, how strongly committed they are to this goal, and whether other priorities might make it difficult for them to attain this goal.

Individuals are asked whether their basic pension is a defined benefit or a defined contribution plan. Those in a defined contribution plan are asked to report their account balance, annual contributions, and their allocation of funds in their account between equities and bonds. All respondents are asked if they have a supplemental retirement account and if so, its current account balance, annual contributions, and investment allocations. Finally, individuals are asked to report their age, gender, employment, years of service, marital status, education, earnings, income, number of children, and occupation. The objective of Survey One is to provide baseline information on retirement goals and savings behavior prior to the educational intervention.

After completing the survey, individuals participate in a financial educational seminar for approximately one hour. These seminars include information on setting retirement goals, employer-provided savings plans, the risk and return properties of various assets, and the amount of annual savings needed to achieve certain retirement income objectives. At the conclusion of the seminar, participants are asked to complete Survey Two. In this survey, respondents are asked to indicate whether on the basis of the

information provided in the seminar, they have changed their retirement age goal or revised the level of retirement income they desire. In addition, individuals are asked whether they intend to change their allocation of invested funds in their basic defined contribution plan to include more equities or more bonds. If respondents have a supplemental retirement plan, they are asked if they intend to increase their contributions or change their investment allocation. Individuals who do not have a supplemental plan are asked if they plan on establishing one.

A risk preference question asks whether individuals would describe themselves as conservative investors, moderately conservative investors, moderately aggressive investors, or aggressive investors. Finally, participants are asked a series of questions concerning other actions that they might take on the basis of their newly acquired financial information. Possible actions include using telephone services to amend investment decisions, telephone services to contact counseling centers, use of the world wide web to make financial decisions, and hire a financial planner. In addition, respondents are asked if they plan to establish passwords to allow on-line access to their accounts, purchase long-term care insurance, open an IRA or increase contributions to an existing IRA, or engage in other non-tax deferred savings plans.

Survey Three is sent to participants about three months after their participation in the seminar either by e-mail or through the U.S. mail. The survey will be similar in content to Survey Two but asks what actions have actually been taken. The final research project will be based on seminars conducted throughout 2001 and 2002. The present paper is limited to the first round of surveys completed between March 15 and December 31, 2001. A total of 32 seminars at 22 institutions along with 12 community-based

seminars in 6 different locations have been completed thus far. A total of 408 usable surveys have been obtained. This paper analyzes the responses to Survey One and Survey Two of these respondents.<sup>7</sup>

Table 1 presents the mean values for demographic and economic variables for the sample of respondents who have already participated in the research project. The sample is reasonably diverse. The average age of the sample is 55 and 47 percent of the respondents are female. The distribution of educational attainment is 11 percent with a high school degree, 22 percent with a college degree, 30 percent with a masters degree, 32 percent with a doctoral degree, and 6 percent with a professional degree. Mean annual household income is \$103,096 with \$59,338 coming from the respondents' earnings. Average number of years of service with the current employer is 16 years and the average number of children of the respondents is 1.8. About half of the respondents expect to continue working after retirement. Respondents indicated that they on average have a goal of retiring at age 64 and they hope to have about 80 percent of their final working year's income in retirement. Respondents indicated that they were about 75 percent sure that they would achieve these goals before the seminar.

About one third of the sample was engaged in teaching and research while slightly over one fourth of respondents were in administrative and management. Secretarial and clerical workers comprised 8 percent of respondents, other professional and technical employees 18 percent, and maintenance and service workers 3 percent. Among those in teaching and research 64 percent were tenured, 12 percent tenure track, and 24 percent non-tenure track. The rank of those in teaching and research positions was 14 percent

instructor, 10 percent assistant professor, 26 percent associate professor, and 50 percent professor.

Approximately 30 percent of the sample was currently working with a financial advisor but many had previously attended some type of financial seminar. In describing their investment behavior, 13 percent stated that they were aggressive, 41 percent moderately aggressive, 38 percent moderately conservative, and only 8 percent were self-described conservative investors. The basic pension plan for 82 percent of the respondents was a defined contribution plan and they had an average account balance of \$390,472 with 63 percent of the balance invested in equities. The mean employee contribution to these plans was 7.4 percent while the average employer contribution was 8.7 percent. New contributions were also almost 60 percent invested in equities. More than 43 percent of the respondents were making contributions to a supplemental tax deferred retirement plan. The average account balance for those with a supplemental plan was \$109,168 with 69 percent of these assets invested in equities. The mean contribution to these plans was \$5,056 or 8.6 percent of salary.

### **Key Questions**

Workers must decide at what age they want to retire and how much income they desire in retirement relative to their final earnings. In order to achieve these retirement goals, individuals must decide how much to save and how to invest their retirement funds. The key question that we examine is whether financial education results in workers altering their retirement goals and/or their retirement savings behavior. Comparing the survey responses in Survey Two to those in Survey One we are able to

determine whether individuals alter their expected age of retirement or their desired level of income in retirement after participating in the seminar. Using these data, we are able to estimate how changes in retirement goals vary across individual characteristics. Next, we examine whether individuals alter their savings plans by increasing voluntary contributions to existing supplemental plans, opening new supplemental plans, and changing the investment mix of new contributions and account balances. Finally, we explore whether individuals expect to engage in other actions in response to the knowledge gained in the seminar. Actions include being more active in the investment process by using the Web or consulting a financial planner, opening an IRA or increasing contributions to an existing IRA, or by purchasing long term care insurance. Once again, we estimate how these actions vary across individuals.

### **RETIREMENT SAVINGS RESPONSES TO FINANCIAL EDUCATION**

After completing the seminars, respondents indicated whether they were likely to change their retirement goals and savings behavior (see Table 2). The response of individuals obviously depends on how they viewed the quality of the information they received. In general, participants thought they had been part of a high quality financial education program with 37 percent rating the seminar excellent and 51 percent good. In response to the statement that the seminar had improved their understanding of the need for retirement savings, 30 percent strongly agreed with the statement and 61 percent agreed with the statement. Respondents also indicated that they now had a greater likelihood of achieving their retirement age goal and their retirement income goal.

Some respondents changed their retirement goals. Almost 6 percent of the sample increased their retirement age goal by an average of three years and 3 percent of respondents reduced this goal by an average of 4 years. There was a much greater tendency to adjust retirement income goals with 16 percent increasing this goal and nearly 8 percent decreasing the income objective. The mean retirement income goal for those increasing the goal was only 70.6 percent before the seminar. These respondents increased their goal by an average of 15 percentage points. The mean retirement income goal for those decreasing their goal was 80.2 percent before the seminar. These respondents lowered their income goal by an average of 15.3 percentage points. In general, these responses represent a movement toward the income goal that would allow the respondent to have the same consumable income in retirement as in the final working year. This concept is discussed in the seminars.

On the basis of the information provided in the seminar, respondents indicate they plan to be more active in planning for their retirement. About 38 percent of respondents that currently do not have a supplemental pension plan are now planning on establishing such a plan with their employer. Among respondents that currently have a supplemental plan 34 percent stated that they would increase their contribution rate to these plans. In addition, 12.0 percent indicated that they will increase the proportion of their investment held in equities while 17 percent reported that they intended to increase their investment in bonds. Other actions that are now being planned by seminar participants include monitoring their accounts on the Web (58 percent of respondents), using a financial planner (33 percent), planning to contact a telephone counseling center (36 percent), and increasing other forms of non-tax deferred savings (34 percent). After completion of the

seminar, 19 percent of the respondents stated that they are planning to open a new individual retirement account (IRA) or increasing contributions to an existing IRA.

Examination of the data by gender and level of income produces some interesting differences in the impact of financial education on retirement savings and retirement goals. A larger proportion of women change their retirement age goal (13 percent to 5 percent for men) and a higher proportion alter their retirement income target (30 percent to 18 percent). Women also indicate that upon completion of the seminar they are more likely to establish new supplemental plans, increase contributions to existing plans, alter the proportion of their portfolio invested in equities, and increase other forms of savings. Logit estimates of response to the information provided in the seminar indicate statistically significant differences between men and women. These estimates also indicate that lower income participants report that they are more likely to change their retirement savings behavior after attending the seminar.<sup>8</sup>

## **CONCLUSIONS AND IMPLICATIONS**

This paper presents preliminary results from a research project designed to determine the impact of financial education on retirement savings. Early findings indicate that high quality financial education can be effective in altering retirement income goals. Specifically, we find that after receiving information on the level of income in retirement needed to continue pre-retirement consumption, seminar participants amend their income goal toward this level. Individuals with relatively low retirement income goals (between 50 and 60 percent of final year's income) tend to increase their target retirement income while those with income goals in excess of 90

percent tend to decrease their stated income targets. In addition, a high proportion of seminar participants indicates that they plan on being more active in determining their retirement savings. Close to forty percent without supplemental pension plans expect to establish such a plan, one third of those with existing supplemental plans expect to increase their contributions, about one fifth expect to open an IRA or increase contributions to an existing IRA, and one third indicate a desire to increase other forms of non-tax deferred savings. Based on the information in the seminar, many participants report that they will reallocate the investment of their account balances and new contributions. These results suggest that financial education is an effective mechanism for improving the retirement savings process.

In the twenty-first century, American workers are being required to assume greater responsibility for determining their retirement income. Many workers will have to decide whether to participate in a company pension plan, how much to contribute, and how to invest these funds. In addition, workers may also have to respond to reductions in Social Security benefits or the introduction of individual accounts as part of Social Security. Such changes will place even greater responsibility on individual workers. Finally, individuals who feel that their expected income from Social Security and employer pensions is insufficient must consider other forms of savings. In order to achieve the desired level of retirement income, workers must make appropriate savings and investment choices. Similar choices are facing workers in many other countries as national retirement plans are restructured in response to population aging.

This study illustrates how financial education can help individuals make better choices including decisions about when to start saving for retirement, how much money

needs to be saved each year, and how retirement accounts should be invested. Financial education leads to a greater understanding of financial markets, the risk-return properties of investments, the level of savings needed to achieve target levels of retirement income, and how various savings programs can be more appropriately utilized. In a world of defined contribution retirement plans, companies and governments have an obligation to provide better financial education to their employees and citizens.

**Table 1. Sample Means**  
(Number of Observations: 408)

<b>Variable</b>	<b>Survey One</b>	<b>Survey Two</b>
Age	54.9	
Percent Female	47.0	
Years of Service	15.9	
Number of children	1.8	
Education Attainment		
Percent with High School Degree	10.9	
Percent with College Degree	21.7	
Percent with Masters Degree	29.7	
Percent with Doctoral Degree	31.9	
Percent with Professional Degree	5.5	
Annual Household Income (dollars)	103,096	
Earnings from Primary Employer (dollars)	59,338	
Type of Investor		
Conservative		7.8
Moderately Conservative		38.2
Moderately Aggressive		40.6
Aggressive		13.2
Retirement Age Goal	63.6	63.7
Likelihood of Achieving Retirement Age Goal (Scale 1 to 10)	7.3	7.6
Retirement Income Goal: Percent of Final Working Year's Income	79.8	81.9
Likelihood of Achieving Inc. Goal (1 to 10)	6.5	6.8
Percent Who Plan to Work after Retirement	51.0	
Financial Seminars Previously Attended	2.3	
Percent Currently Working with Financial Advisor	29.4	
Basic Pension Plan		
Percent with Defined Contribution Pension	82.1	
Account Balance (dollars)	390,472	
Investment Allocation in Equities (percent)	63.3	
Employee Contribution Rate	7.4	
Employer Contribution Rate	8.7	
Allocation of Contribution to Equities	58.9	

**Table 1. (continued) Sample Means**

<b>Variable</b>	<b>Survey One</b>	<b>Survey Two</b>
Supplemental Pension Plans		
Percent Currently Making Contribution	43.1	
Account Balance in dollars	109,168	
Percent in Equities	68.8	
Annual Contribution in dollars	50.6	
Contribution as a Percent of Salary	8.6	
Allocation of Contributions to Equities	66.5	
Type of Employment (Percent of respondents)		
Secretarial/Clerical	7.9	
Teaching/Research	33.9	
Administrative/Management	24.2	
Maintenance/Service	3.4	
Other Professional/Technical	17.8	
Other	4.4	
Retired	5.4	
Not Currently Employed	2.7	
Tenure Status of Teaching/ Research (Percent of those responding)		
Tenured	63.8	
Tenure-Track, non-tenured	12.1	
Non-tenure Track	24.1	
Rank of Teaching/ Research (Percent of those responding)		
Instructor	13.5	
Assistant Professor	9.7	
Associate Professor	26.3	
Professor	50.4	

**Table 2. Response to Seminar**

<b>Variable</b>	<b>Mean Response</b>
Evaluation of Seminar (percent)	
Excellent	36.5
Good	51.3
Fair	11.4
Poor	0.5
Seminar Improved Understanding of Need for Retirement Savings (percent)	
Strongly Agree	29.9
Agree	60.5
Disagree	7.3
Strongly Disagree	2.2
Changes in Retirement Age Goal	
Percent that Increased Goal	6.1
Mean Increase in Years	3.1
Percent that Decreased Goal	3.4
Mean Decrease in Years	4.0
Changes in Retirement Income Goal: Respondents Who Increased Their Goal after the Seminar	
Percent that Increased Goal	16.1
Mean Retirement Income Goal (Percent of final year's income)	70.6
Mean Increase in Goal (percentage point)	14.9
Changes in Retirement Income Goal: Respondents Who Decreased Their Goal after the Seminar	
Percent that Decreased Goal	7.8
Mean Retirement Income Goal (Percent of final year's income)	80.2
Mean Decrease in Goal (percentage point)	-15.3
Respondents with Basic Defined Contribution Plan	
Percent Who Now Plan to Increase Investment in Equities	11.2
Percent Who Now Plan to Increase Investment in Bonds	12.5
Respondents without Supplemental Plan Who Now Plan to Establish One	38.1

**Table 2. (continued) Response to Seminar**

<b>Variable</b>	<b>Mean Response</b>
Respondents with Supplemental Retirement Plan	
Percent Who Now Plan to Increase Their Contribution Rate	33.5
Percent Who Now Plan to Increase Investment in Equities	12.0
Percent Who Now Plan to Increase Investment in Bonds	16.5
Respondent Now Plans to Use	
Automated Telephone Service	8.6
Telephone Counseling Center	36.0
The Web	58.1
Financial Planner	32.8
Increased Probability of Taking Action:	
Purchase Long term Care Insurance	9.8
Open an IRA or Increase Contributions	19.3
Increase Other Forms of Non-tax Deferred Savings	34.3

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## ENDNOTES

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<sup>1</sup> The most rapidly growing type of defined contribution plan is the 401(k) plan. These plans, which were begun in the 1980s, now account for one quarter of all primary pension coverage (Pension Benefit Guaranty Corporation).

<sup>2</sup> For a discussion of possible Social Security reforms, see Advisory Council on Social Security (1997) and President's Commission to Strengthen Social Security (2001).

<sup>3</sup> Hearing before the U.S. Senate Committee on Banking, Housing, and Urban Affairs, February 6 focused on the state of financial literacy in America. For example, see the testimony by Greenspan, O'Neill, and Blandin.

<sup>4</sup> Bernheim and Garrett (2000) and Bayer, Bernheim, and Scholz (1996) provide an assessment of employer-provided financial education programs.

<sup>5</sup> Other studies using this survey include Bernheim (1998), Bernheim and Garrett (1996), and Bernheim and Garrett (2000).

<sup>6</sup> Copies of the surveys can be obtained from the authors upon request.

<sup>7</sup> Surveys have been completed at Campbell University (two seminars), Duke University (three seminars), Center for Creative Leadership (two seminars), Furman University (two seminars), University of North Carolina at Charlotte (two seminars), Phillips Academy (two seminars), Northeastern University, Iowa State, Des Moines Area Community College, Kirkwood Community College, New York City Technical College, Fort Hays State University (two seminars), North Carolina State University (two seminars), Groton, Head Royce School, University of North Carolina at Chapel Hill, Kansas University, Wake Forest, Loyola LA, Appalachian State University, Methodist College, and Washburn University (two seminars). In addition, 12 community-based seminars were held in New Jersey, Puget Sound, Portland, Palo Alto, Oakland, and one in Boston. In total, 1350 people attended part or all of these seminars and 461 individuals completed some parts of the two surveys. The sample included in the analysis contains 408 usable surveys in which participants completed both survey one and survey two. It is important to recognize that some individuals arrive after the seminar has begun and are not given either of the surveys. In addition, some participants who have completed Survey One leave the seminar early and do not complete Survey Two.

<sup>8</sup> The authors are currently preparing a paper examining the gender differences in response to financial education along with differences by income status.