



**CAEL**  
Linking Learning and Work

## Financial Literacy and Retirement Decisions:

**The Choices Facing Older Workers**

*by Robert L. Clark, North Carolina State University*



*A Tapping Mature Talent Publication*

Published by CAEL with support from The Atlantic Philanthropies

2012

# *The Tapping Mature Talent Paper Series:* *POLICIES FOR A 21<sup>ST</sup> CENTURY WORKFORCE*

Demographic and other trends indicate that the U.S. will be seeing more mature workers actively engaged in the labor market, whether out of financial need or out of continued ability and preference. These workers are, and will continue to be, an important part of the labor force upon which our economy depends. Yet many of these mature workers will need help navigating a complex labor market, identifying career pathway opportunities, and determining needed education and training for greater employability and contributions to the workplace.

Recognizing these challenges, the U.S. Department of Labor supported a three-year Aging Worker Initiative (AWI) between 2009 and 2012. This initiative acknowledged the importance of mature workers to the economy and the need to provide them with help in preparing for new jobs and careers. The AWI funded 10 sites to test new models of serving mature workers (see box).

Over the course of this three-year initiative, the Council for Adult and Experiential Learning (CAEL) has overseen technical assistance to these sites under a grant from The Atlantic Philanthropies. The experiences of the 10 sites have underscored for us the importance of supporting the labor force participation of mature individuals in a deliberate way.

As this initiative comes to a close, CAEL invited leading experts on the mature workforce to help us showcase the work of the AWI grantees alongside their own research findings. Collectively, the papers contributed by these experts address the factors that are causing more mature individuals to continue working, the range of occupations currently held by mature workers, the value of the mature workforce to our economy, the factors that most influence employer retention and hiring as they face changing workforce demographics, the difficulties workers face as they make often irreversible decisions about when to retire, and public sector strategies that support mature workers. In addition, the conclusions reached by the authors help to inform a set of recommendations for policy makers and employers.

This publication presents the second in a five-part series of papers we are calling Tapping Mature Talent: Policies for a 21st Century Workforce. In “Financial Literacy and Retirement Decisions: The Choices Facing Older Workers,” North Carolina State University’s Robert Clark examines the value of financial literacy programs in influencing the decision-making of mature workers on future work and retirement plans.

## *The 10 Aging Worker Initiative Sites*

Tecumseh Area Partnership, Inc., Indiana

Quad Area Community Action Agency, Inc., Louisiana

Coastal Counties Workforce, Inc., Maine

Baltimore County Office of Workforce Development, Maryland

Macomb/St. Clair Workforce Development Board, Inc., Michigan

South Central Workforce Investment Board, Pennsylvania

Goodwill Industries of Houston, Inc., Texas

Vermont Associates for Training and Development, Inc., Vermont

Seattle-King County Workforce Development Council, Washington

Fox Valley Workforce Development Board, Wisconsin

The full series is as follows:

1. *New Approaches for Supporting the Mature Worker: The Experiences of the U.S. Department of Labor's Aging Workforce Initiative Grantees*, by Rebecca Klein-Collins, Council for Adult and Experiential Learning

2. *Financial Literacy and Retirement Decisions: The Choices Facing Older Workers*, by Robert L. Clark, North Carolina State University

3. *Occupational Profiles for the Mature Worker: Finding and Using Detailed Information About Occupations with the Largest Share of Mature Workers*, by Neeta P. Fogg and Paul E. Harrington, Center for Labor Markets and Policy, Drexel University

4. *Workplace Action Steps for Leveraging Mature Talent: Findings from the Talent Management Study*, by Jungui Lee, Tay McNamara, and Marcie Pitt-Catsouphes, The Sloan Center on Aging & Work at Boston College


5. *Older Workers, Rising Skill Requirements and the Need for a Re-envisioning of the Public Workforce System*, by Maria Heidkamp, John J. Heldrich Center for Workforce Development, Rutgers University

The five papers suggest several new policy ideas to consider, both for employers and for public policy leaders, that can support the mature worker in the U.S. At a national summit on May 3, 2012 held at the National Press Club and co-sponsored by CAEL and the National Governors Association, these and other policy ideas were discussed by more than 120 attendees representing organizations focused on aging issues, workforce development organizations, federal agencies, workforce investment boards, economists, and other advocates for the mature worker. These discussions helped to identify priority areas for policy change and other action at the national, state and local levels.

To read a summary of all the papers in this series, please see <http://www.cael.org/pdfs/TMT-Executive-Summary>

To read a summary of the policy recommendations from this paper series, please see [http://www.cael.org/pdfs/TMT\\_Summary\\_Policy\\_Recs\\_2012](http://www.cael.org/pdfs/TMT_Summary_Policy_Recs_2012)

For additional TMT publications, please visit <http://www.cael.org/How-We-Help/Older-Workers>



*The transition from full-time work to complete retirement involves many complex decisions concerning income needs in retirement, the management of retirement wealth, employer pensions, national retirement programs, and whether one plans to phase into retirement or abruptly exit the labor force. Many of these decisions are irreversible and have long-term implications for economic well-being in retirement. In order to make the best choices, individuals need a sufficient level of financial literacy and a detailed understanding of the characteristics of their retirement plans. This paper examines the role of financial literacy in retirement and investment decisions and illustrates how enhanced literacy can lead to more appropriate decisions for older workers as they transition into retirement.*

# Financial Literacy and Retirement Decisions:

## The Choices Facing Older Workers

by Robert L. Clark, North Carolina State University

### Introduction

Older workers face a series of decisions that will affect their economic well-being in retirement. They must decide when to retire from their career jobs, whether to work after retirement, whether they need to continue to invest in their skills and productivity, when to start pension and Social Security benefits, whether to accept lump-sum distributions, and how to invest their retirement wealth. To make decisions that are in their own best interest, workers must have a basic level of financial literacy and knowledge of the retirement benefits available to them (Liebman & Luttmner, 2011; Berheim, 1995). Without such knowledge, it is likely that many workers will make bad choices that reduce their overall well-being in retirement.

The importance of financial literacy and understanding retirement programs cannot be overstated. In order to achieve their desired retirement plans, older workers need to understand certain components of financial mathematics and investment concepts, including the power of compound interest, discounting of future income, the eroding effect of inflation on consumption, risk and return tradeoffs, and the need to diversify. Without a basic understanding of these concepts, one is unable to make sound financial decisions. In addition, one must discern and interpret key elements of retirement plans, such as the age at which benefits can be started, how the value of the benefits change with continued work, and whether they are able to choose an annuity or a lump-sum distribution (Mitchell, 1988; Mitchell, Utkus, & Yang, 2007; Gustman & Steinmeier, 2004). As workers plan for retirement, they must consider their life expectancy (how many years of retirement must they finance) and the uncertainty of one's lifetime. Better comprehension of these concepts is essential if individuals are going to have the level of retirement income that they desire.

A fundamental principle in retirement planning is that younger retirement ages and higher retirement incomes require more saving and less consumption throughout the working life. In order to prepare for retirement and achieve their desired level of well-being, older workers need to make sure they understand the decisions that they face, have sufficient financial literacy to manage their assets, and continue to invest in their own human capital so they will remain competitive in their career job and in the labor market for subsequent employment opportunities.<sup>1</sup> Continued employment on a career job and being competitive for subsequent employment require that older workers evaluate their current skills and consider opportunities for maintaining or improving their productivity.

Older workers should regularly review their retirement plans and reevaluate how they anticipate transitioning from full-time work to complete retirement. Key retirement objectives include the age of retirement from one's career job, whether one wants to work at another job (either full- or part-time), and the level of desired income in retirement. In order to achieve these retirement goals, workers select saving and investment behaviors consistent with their objectives. This entails managing the accumulation of resources prior to retirement and managing the drawdown of these assets in retirement. As new information becomes available or as workers learn more about their retirement programs, people should reconsider their consumption and saving patterns. Periodic reviews may lead workers to alter their retirement plans.

Available evidence suggests that American workers do not have sufficient knowledge of available retirement benefits or the financial literacy needed to make the varied and complex decisions necessary for



their transition from work to retirement (Clark, Morrill, & Allen, 2012 forthcoming; Gustman & Steinmeier, 2004; Lusardi & Mitchell, 2007).<sup>2</sup> Incorrect or insufficient knowledge can lead to poor decisions on the timing of retirement, starting pension and Social Security benefits, and annuitizing retirement savings (Lusardi & Mitchell, 2007, 2011b).<sup>3</sup> Programs that increase financial literacy and retirement program knowledge can improve retirement decisions and produce better retirement outcomes. Workers can acquire the knowledge needed to make these key decisions in various ways. One invaluable resource often available to workers is an employer-sponsored pre-retirement planning program.<sup>4</sup>

Workplace financial education programs can be very important in enhancing financial literacy, and many employers provide retirement planning programs for older employees. Research has shown that participants in employer-sponsored financial education programs increase their financial literacy and, on the basis of this new knowledge, often alter their retirement plans. A better understanding of these programs and their effects would provide guidance to decision makers, employers, and policy makers. A review of the financial literacy literature as it affects retirement decisions highlights the role of financial literacy in saving decisions, developing financial plans, the timing of retirement, and accepting pension and Social Security benefits. In order to plan effectively, older workers must understand the importance and cost of health insurance provided by their employers and Medicare. This paper will present research findings from studies that examine financial literacy of older workers, workplace financial education programs, and how these programs can increase financial literacy and improve retirement planning.

Key questions addressed include:

- Do employer-provided retirement planning programs increase financial literacy and knowledge about company and national retirement programs?
- If financial literacy is increased, how does this enhanced knowledge affect worker retirement behavior?
- Do more informed workers make better retirement saving decisions and are they better able to respond to the incentives that are embedded in employer pensions and Social Security?
- Does financial literacy increase the likelihood that older workers will invest more to maintain and enhance their skills and productivity so they can remain competitive in the labor force?

Many large employers offer some type of planning seminar for retirement-eligible employees. Relatively little is known about the effectiveness of employer-provided financial education programs in enhancing the knowledge of, and altering the retirement decisions of, employees. Research by Clark, Morrill, and Allen (2011b), however, has shown that participants in these programs effectively increase their financial knowledge and, in response to enhanced financial literacy, often alter retirement behavior. Knowledge gained varies with age, sex, income level, education, tenure, and wealth. Changes participants make to retirement plans include altering their expected retirement ages, their plans to take lump-sum pension payouts, and when they anticipated claiming Social Security benefits. The research by Clark et al. also concludes that workers appreciate these employer-sponsored programs. Employees value these programs and report that the programs enhance their opinion of their employers.

Related research from Japan indicates that older workers with a higher level of financial literacy have a greater understanding of the need to increase their human capital (Clark, Ogawa, & Matsukura, 2010). The Japanese respondents to the 2010 National Survey on Work and Family who showed higher levels of financial literacy also indicated the importance of engaging in on-the-job training in order to remain competitive for future promotions and for employment after retirement from their career job. If financial

literacy, or the lack thereof, affects American workers in a similar manner, we can expect that enhanced financial literacy will increase the demand for on-the-job training and result in older workers remaining more competitive in the labor market. Together, both reports indicate that financial education is directly linked to better management of financial assets and the choices concerning continued investment in one's own human capital.

## Methodology and Data

This paper reviews evidence from two research projects examining the relationship between financial literacy and the work/retirement decisions of older workers. The first project examined employer-provided pre-retirement planning programs at five large U.S. employers ranging in size from 8,000 to 40,000 employees. Each of the employers offers defined benefit plans (three employers have cash balance plans<sup>5</sup>), each offers health insurance to active and retired workers, and each offers supplemental defined contribution plans (although not all have an employer match). The employee populations of these companies vary by gender, education, earnings, and geographic location. The details of this study are reported in Clark, Morrill, and Allen (2011b and 2012 forthcoming).

The impact of pre-retirement planning programs on the financial knowledge of participants was evaluated. Each of the employers invited retirement-eligible employees to participate in these programs. The methodology included surveying each participant prior to the start of the seminar. The first survey provided baseline socioeconomic data about the individual and his or her household, as well as information concerning retirement plans and investment strategies. Employees also completed questions about their financial literacy and their knowledge of employer and national retirement programs.

At the conclusion of the seminar, participants were asked to complete a second survey. This time, participants answered questions concerning the program, the employee's assessment of the seminar, and its value. The knowledge and literacy questions were repeated, to see if the participants' overall knowledge of retirement programs and financial markets had improved. Seminar participants were also asked if they had changed any of their retirement decisions. The results discussed below are based on these surveys as incorporated into 85 seminars between June 2008 and December 2009. Seminars varied in size and duration across the employers; the shortest was four hours and the longest was two-and-a-half days in duration. During the 18 month period, over 1,500 individuals attended the seminars of these five employers. A total of 1,181 completed responses were received for a response rate of 75%. This analysis focuses on workers aged 50 to 65 at the time of the seminars.

The second research project examined in this paper is the 2010 National Survey on Work and Family of Japanese workers. The survey covered a wide range of topics related to work and family life, including information about the demographic and socioeconomic characteristics of respondents and their spouses, marriage decisions, childbearing and childrearing, care for the elderly, birth history, working conditions, knowledge of financial and investment products, contraceptive use, experience of infertility, and sexual activity. The target population was both men and women aged 20 to 59. A two-stage cluster sample design was used to select 9,000 potential respondents. Questionnaires were left for potential respondents to complete and later collected by members of the survey team. The respondents were also given the option of mailing in the questionnaire themselves. The details of this study are provided by Clark, Ogawa, and Matsukura (2010).

There were 5,162 completed surveys for a response rate of 57.4% (number of returned questionnaires divided by the number of cases contacted). In order to focus on the demand for on-the-job training by

older workers, the sample herein has been restricted to individuals aged 40 to 59. This yields a sample of 2,872 individuals. Focus on the demand for additional training and skill acquisition on the job further limits the analysis to only those individuals who were working at the time of the survey: 2,339 respondents.

## Analysis

Although the studies differ in methodology, scope, and culture, similar findings across the analyses suggest several fundamental elements that span these differences. First, consistent with other studies, financial literacy is relatively low and the lack of financial knowledge can lead to poor retirement plans and decisions. For example, older workers who do not understand the parameters of their pension plan or Social Security may retire too early and thus have permanently lower income in retirement. Individuals who do not understand financial markets may think that they can successfully manage their retirement wealth and make periodic withdrawals; however, these individuals may exhaust their wealth prior to death and thus have insufficient assets in their final years.

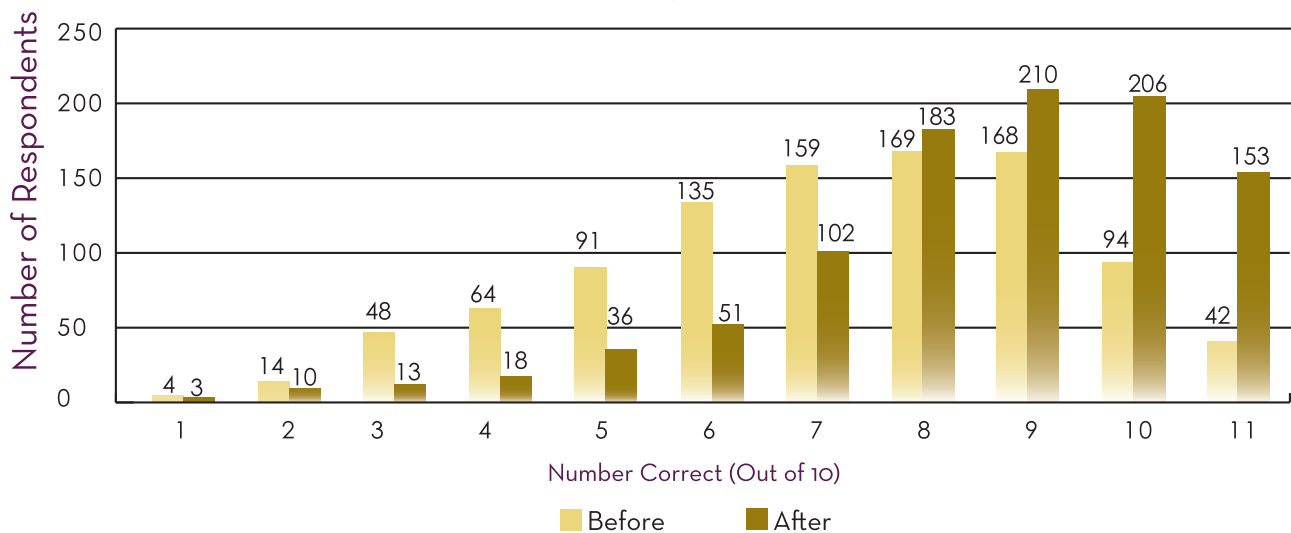
Second, older workers can increase their financial literacy by participating in financial planning seminars provided by their employers, attending classes at community colleges, or hiring financial advisors. Those who increase their financial literacy often alter their retirement decisions, including investment decisions, demand for on-the-job training, age of retirement from career job, and whether to seek post-retirement employment.

Third, older workers are interested in retirement planning and financial literacy programs and are willing to participate in employer-provided seminars that are targeted to retirement decisions.

## Employer-Provided Financial Literacy and Retirement Planning Programs

The primary objective of the study of employer-provided financial education programs for older workers was to answer two key questions concerning workplace financial education programs. First, do employer-provided retirement planning programs increase financial literacy and knowledge about company and national retirement programs? Second, if financial literacy is increased, how does this enhanced

**FIGURE 1. Knowledge Score Pre- and Post-Seminar**



Source: Clark, R. L., Morrill, M. S., & Allen, S.G. (2011b). *Evaluating employer-provided financial education programs for pre-retirees*. Final report prepared for the FINRA Investor Education Foundation.  
<http://www.finrafoundation.org/web/groups/foundation/@foundation/documents/foundation/p124011.pdf>



knowledge affect worker retirement behavior? To examine the level of financial literacy and knowledge of retirement programs prior to the seminar, the participants were asked a series of financial literacy and retirement program questions. The following analysis is based on 10 of these questions.

The average number of correct responses prior to the seminar was 6.2; afterwards, the average number of correct answers rose to 7.6, indicating a substantial level of learning among program participants of about 23% in the knowledge index. Figure 1 illustrates the increase in knowledge gained during the programs, shown by the fact that the entire distribution of knowledge scores shifts to the right toward higher scores.

Overall, 671 participants, or 68% of the sample, improved their knowledge scores. The knowledge score was unaffected for 193 individuals (20% of the sample) while 12% of the sample showed a slight decrease in their financial knowledge. Most importantly, those with low financial knowledge scores achieved substantial increases in their knowledge of retirement plans. Of the 514 individuals with pre-seminar knowledge scores of six or fewer correct answers, 429 improved their knowledge scores, with almost half achieving increases of three or more additional correct answers. It seems clear that the pre-retirement planning seminars did increase financial literacy for almost all participants, with large gains among those most at risk who had relatively little knowledge prior to participation in the seminar.

Table 1 illustrates that improvements in financial knowledge were observed across all economic and demographic groups who participated in the seminars. There was an average increase of 1.3 correct answers among the participants. Women had larger gains in knowledge than men but still had a lower knowledge score after the program. Individuals with lower self-assessed knowledge prior to the seminar had a much larger gain in their knowledge index than those with a higher initial self-assessed level of knowledge (1.5 compared to 1.0). This is another indication that the programs were beneficial to those

**TABLE 1. Participant Index of Knowledge Pre- and Post-Seminar**

Participant Characteristic	Categories	Before Seminar*	After Seminar*	Difference
Full Sample		5.72	6.98	1.26
Age	50-58	5.62	6.99	1.37
	59-65	5.89	6.97	1.08
Gender	Male	6.30	7.46	1.16
	Female	4.99	6.38	1.39
Education	HS or Less	4.73	5.90	1.17
	Some College	5.94	7.22	1.28
Earnings	50K or Less	4.47	5.68	1.21
	More than 50K	6.12	7.40	1.28
Years of Service	20 or Less	5.30	6.59	1.29
	More than 20	5.88	7.13	1.25
Self-Assessed Knowledge	1-4	5.32	6.79	1.47
	5-7	6.28	7.26	0.98
Years from Planned Retirement	Less than 5	5.94	6.95	1.01
	5 or More	5.45	7.03	1.58
Number of Observations with Valid Index		996		

Notes: Entries in these columns are mean number of questions answered by the participants in each category. Sample sizes may vary for particular rows due to missing information on some characteristics.

Source: Clark, R. L., Morrill, M. S., & Allen, S.G. (2011b). *Evaluating employer-provided financial education programs for pre-retirees*. Final report prepared for the FINRA Investor Education Foundation.

<http://www.finrafoundation.org/web/groups/foundation/@foundation/documents/foundation/p124011.pdf>

with relatively little knowledge of their retirement plans. Improvements in knowledge scores for the entire sample and for each of the various demographic characteristics are statistically significant. These data indicate that workplace education is effective in increasing financial literacy for older workers and that the gains are often greater for those with the lowest levels of financial literacy.

The finding that employer-provided financial education enhances the financial knowledge of older workers raises the following important question: Does enhanced knowledge result in changes to planned retirement behavior and the management of retirement wealth? Greater understanding of retirement programs may alter retirement behavior in several important ways. For example, older workers might alter their plans to work after retirement from the current employer, their plans to start Social Security benefits, their desires to annuitize account balances in supplemental retirement plans, or their expectations concerning lump-sum distributions from defined benefit plans.

**TABLE 2. Respondents' Retirement Plans Pre- and Post-Seminar**

<b>Response</b>	<b>Before Seminar</b>	<b>After Seminar</b>
<i>35.2% of Respondents Changed Planned Retirement Age</i>		
<b>Median Retirement Age</b>		
Median Change in Planned Retirement Age	62	62
<b>Mean Retirement Age</b>		
Mean Change in Planned Retirement Age	62.4	62.6
<i>37.9% of Respondents Changed Planned Age to Start Receiving SS Benefits</i>		
<b>Median Age SS Benefits Begin</b>		
Median Change in Age SS Benefits Begin	65	65
<b>Mean Age SS Benefits Begin</b>		
Mean Change in Age SS Benefits Begin	64.2	64.5
<b>Plans for Working after Retirement</b>		
Expect to Work after Retiring	40.8%	50.8%
Have Not Decided on Working after Retirement	36.1%	26.1%
<b>Annuitization or Lump-Sum Distributions</b>		
Planning to Annuitize Some or All 401(k) Balance	19.4%	26.7%
Have Not Decided on Annuitization of 401(k) Balance	56.7%	46.0%
Plan to Take Lump-Sum Distribution of Entire Pension	34.5%	31.1%
Have Not Decided on Lump-Sum	50.4%	48.7%

Source: : Clark, R. L., Morrill, M. S., & Allen, S.G. (2011b). Evaluating employer-provided financial education programs for pre-retirees. Final report prepared for the FINRA Investor Education Foundation.  
<http://www.finrafoundation.org/web/groups/foundation/@foundation/documents/foundation/p124011.pdf>

Table 2 shows the proportion of workers that altered their retirement plans following the seminar. Although the mean planned retirement ages and the ages for starting Social Security benefits did not change, over one-third of all seminar participants changed the age of their planned retirement. The unchanged average retirement age is due to movements in both directions: some participants altered their retirement plans by raising retirement ages while others lowered these ages. The relationship between knowledge and retirement plans is complex and depends on the direction of knowledge errors. For example, some employees believe that they can start employer retirement benefits or social security benefits or are covered by Medicare at younger ages than is realistic. On learning that their expectations are wrong and that benefit receipt must be delayed, these employees are now likely to plan to retire at older ages. In this way, an improvement in knowledge leads to later retirement. Conversely, if an employee previously believed that benefits were only available at older ages, learning that he could retire younger may lead to earlier retirement. In this way, an improvement in knowledge would lower the planned retirement age (Clark, Morrill, & Allen, 2012 forthcoming).

Interestingly, after the seminar there is a 10-percentage-point increase in the proportion of employees planning to work after retiring from their current employer. This may be due to a better understanding of retirement income needs and their total retirement wealth. This finding is similar to that observed in the study of Japan examined below. Additionally, prior to the seminar there was considerable uncertainty concerning whether to annuitize account balances in supplemental retirement plans or to take lump-sum distributions from the defined benefit plans, with about half the respondents indicating that they had not yet decided on which of these options to take. Before the seminar, only 19.4% of the sample planned to annuitize some or all of their supplement plan funds. This number increased to 26.7% after the seminar, with the proportion that had not decided declining by 10 percentage points. Nevertheless, almost half of the participants were still undecided on annuitization. Nearly one-third of the employees planned to take a lump-sum distribution prior to the program; afterwards, this percentage increased slightly. Once again, half of the participants were undecided on the choice of a lump-sum. This implies that only about one-quarter of these employees were certain that they want to receive a lifetime benefit from their 401(k) plan.<sup>6</sup>

Employers who offer financial education programs as an employee benefit are naturally seeking to ensure that these programs are effective and valued by employees. Some 95% of respondents stated that the programs provided all or most of the information needed for them to make important retirement decisions (see Table 3). Next, 86% of respondents rated the programs very good or excellent, and 93% found the presenters and program leaders to be very good or excellent. Finally, 87% of employees believed that they would be able to make better retirement choices after participating in the seminar. Importantly, for companies considering whether to provide such programs to their employees, 72% of individuals reported that the programs raised their awareness of the benefits provided by their

**TABLE 3. Demand for Program and Evaluation**

Question	Response
The program provided all or most of the information needed for retirement.	94.9%
Overall very good or excellent program.	86.3%
Overall very good or excellent presenters and program leaders.	92.8%
Will be able to make better choices.	87.2%
Plan to change some retirement plans because of program.	76.9%
Participation raised awareness of benefits provided.	72.2%

Notes: The response column indicates the percent of participants that gave the indicated response to various questions about the seminar.

Source: Clark, R. L., Morrill, M. S., & Allen, S.G. (2011b). *Evaluating employer-provided financial education programs for pre-retirees*. Final report prepared for the FINRA Investor Education Foundation.  
<http://www.finrafoundation.org/web/groups/foundation/@foundation/documents/foundation/p124011.pdf>



employers. Accordingly, participants gave high marks to the quality of the programs, believing that the programs provided the information they needed, and gave their employers credit for offering these programs.

### Financial Literacy and Demand for On-the-Job Training in Japan

Equally interesting findings concerning the importance of financial literacy are found in the 2010 survey of Japanese workers. This survey reveals how greater financial literacy influences plans for continuing to build work skills and remaining in the workforce. In order to remain in their career jobs until mandatory retirement and to continue to receive promotions, older workers need to consider their current skill set and whether they need to enhance their productivity to remain in good standing with their current employer. The National Survey on Work and Family asks three questions concerning the need for further employment-related skills in order to remain competitive in the labor force. Almost half of the older workers in the survey indicated that they needed additional skills to remain competitive in their current job, and over two-thirds stated that they needed to acquire additional training and skills to find a job after they leave their career employer (see Table 4). Thus, additional investment in human capital appears to be an important decision for older workers in Japan. At the macro level, keeping older workers in the labor force and maintaining or increasing their productivity is essential to economic growth in a low fertility country like Japan. These are also important issues in the U.S. even though the aging of the population is much slower than in Japan.

How does financial literacy affect the demand for further investment in human capital? To answer this question, the responses to each of the three survey questions on the need for investing in human capital (Table 4) are examined relative to the number of correct responses to the three financial literacy questions (Table 5). Only 29% of the sample was able to correctly answer all three of the financial literacy questions while 37% correctly answered no more than one of the questions. Older Japanese workers seem to understand that they have a low level of financial knowledge. In response to a question to rate their knowledge on a 7-point scale from very low (1) to very high (7), over 60% rated their knowledge at the bottom of the scale (1 or 2), and only 7% gave themselves high marks (5, 6, or 7).

**Table 4. Demand for Investment in Human Capital in Japan**

<b>Do you think that in order to continue your current work you need additional education or training? (unit: %)</b>			
a. Yes	44.8	b. No	55.2
<b>Do you think that in order to get promoted at your current workplace you need additional education or training? (unit:%)</b>			
a. Yes	41.9	b. No	58.1
<b>Do you think that it is necessary to acquire special qualifications or skills in order to find a job with good conditions after the mandatory retirement? (unit:%)</b>			
a. Yes	67.9	b. No	32.1

Source: Clark, R. L., Ogawa, N., & Matsukura, R. (2010). *Low fertility, human capital, and economic growth: The importance of financial education and job retraining*. Paper presented at Optimal Fertility in Ageing Societies, Vienna, Austria.

**Table 5. Financial Literacy of Old Workers in Japan**

<b>Question 1: Understanding of compounded interest (%)</b>	
If you have savings of 10,000 yen and the interest rate is 2% per year, how much savings will you have in 5 years?	
a. More than 10,200 yen.	<b>67.2</b>
b. 10,200 yen.	5.4
c. Less than 10,200 yen.	13.1
d. Do not know.	14.3
<b>Question 2: Understanding of inflation (%)</b>	
If the current interest rate on your bank deposit is 1% per year and the inflation rate (the rate at which commodity prices rise) is 2% per year, how much do you think will be the value of the things you can buy with those savings in a year from now in comparison with the present value?	
a. Larger than now	3.8
b. Exactly the same	3.0
<b>c. Smaller than now</b>	<b>66.0</b>
d. Do not know.	27.2
<b>Question 3: Understanding of risk and diversification (%)</b>	
Do you think that buying stocks of a single company is safer in terms of dividend yield than a stock mutual fund?	
a. Yes	3.8
<b>b. No</b>	<b>42.4</b>
c. Do not know	53.8
<b>Total number of correct answers (%)</b>	
0	15.7
1	21.7
2	33.2
3	29.4
<b>Question 4: Self assessed level of financial literacy (%)</b>	
We wish to ask you how much you know about general investment, portfolio management and financing. How would you assess your knowledge about investment and finances on a seven-item scale ranging from “very low” to “very high”?	
1	35.0
2	26.1
3	19.1
4	13.1
5	4.5
6	1.7
7	0.5

Source: Clark, R. L., Ogawa, N., & Matsukura, R. (2010). *Low fertility, human capital, and economic growth: The importance of financial education and job retraining*. Paper presented at Optimal Fertility in Ageing Societies, Vienna, Austria.

Table 6 shows that in each case, workers with more financial literacy as measured by the number of correct answers on the literacy questions were more likely to indicate that they recognized a need to develop their own human capital (or skills and competencies) to remain competitive in the job market. Half of the workers that answered all three literacy questions correctly felt that there was a need for additional training to continue on their current job. In comparison, only one-third of those that failed to give a single correct answer recognized this need. Respondents who answered two or three of the financial literacy questions correctly were about 10 percentage points more likely to indicate that they needed to make additional investments in human capital in order to continue on their current job compared to those who were unable to answer any of the financial literacy questions successfully. Respondents with a greater number of correct answers were also predicted to think that they needed more investment in their skills to get promoted on their current job or to find a good job after being mandatorily retired from their current employer; however, this difference was not statistically significant. The greater recognition of the need for additional investment in human capital may be due to a better understanding of the returns to this investment and/or a better understanding of the need for income in retirement.

**Table 6. Financial Literacy and Demand for Human Capital in Japan**

Demand for human capital	Number of correct answers			
	0	1	2	3
Need training to continue current job	33.4	39.3	45.8	49.7
Need training for promotion current employer	33.1	37.2	40.3	46.9
Need skills for new job	59.8	61.7	67.2	72.5

Source: Clark, R. L., Ogawa, N., & Matsukura, R. (2010). *Low fertility, human capital, and economic growth: The importance of financial education and job retraining*. Paper presented at Optimal Fertility in Ageing Societies, Vienna, Austria.

These findings suggest that additional education that improves financial literacy could lead to greater investment in human capital and the improvement in the productivity of older workers, thus making older workers more competitive in the Japanese labor market. Older workers in the U.S. have been delaying withdrawing from the labor force and extending their work life. If this trend is to continue, individuals must evaluate the rewards of continued employment and the role of additional on-the-job training to keep a competitive edge on employment opportunities.

## Conclusions

Many older workers lack the information and financial literacy needed to make optimal retirement decisions. Many important choices are complex, difficult, and irreversible. The lack of adequate knowledge may lead workers to allow their skills to erode, save too little, begin Social Security benefits too early, retire too soon, accept lump-sum distributions when an annuity would be a better option, and make poor investment choices. Financial literacy is essential to making optimal financial, investment, and retirement decisions. The level of financial literacy in many countries is very low and the lack of appropriate knowledge will adversely affect key lifecycle decisions.

Employer-provided financial education is one method of increasing financial literacy among older workers and giving them the knowledge to make better retirement decisions. The choices that individuals

make as they transition from full-time work to complete retirement will determine their economic well-being throughout retirement. Workers must understand the choices they face and the impact of these decisions on their retirement income. Financial education in the workplace can increase financial literacy and allow older workers to make better choices. Employees clearly benefit from these programs, and there are compelling incentives in offering retirement planning events for businesses themselves.

The research described here shows that financial literacy is positively related to the perceived need by older workers for additional on-the-job training in order to remain competitive on their current job and in the post-retirement labor market. Recognizing the need for additional skills is the first step in developing a demand for additional training. In a country such as Japan that faces a demographic future of population decline and super population aging, giving older workers opportunities to remain in the labor force and to enhance their skills is essential if living standards are to be maintained. Older workers in the U.S. must also consider ways of maintaining and enhancing their skills if they are to remain competitive in the labor market. Adapting skills is necessary if older workers are to retain the option of working longer. An important step in this process may be to develop financial literacy programs to assist workers in developing their own plans for human capital investment. Ultimately, from this analysis it is clear that employer-provided financial literacy programs can perform an important service through their positive impact on the lives and futures of many.

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## Notes

- 1 Planning for retirement is not a job that begins in old age. Instead, workers beginning a career should consider the value of contributing to retirement saving accounts and building retirement wealth. Individuals with a higher level of financial literacy and those that understand the power of compounding returns are more likely to begin saving at earlier ages (Clark & Morrill, 2010; Clark, Morrill, & Maki, 2011). There is emerging literature on the importance of framing choices and defaults associated with retirement saving decisions (Madrian & Shea, 2001).
- 2 Low levels of financial literacy are not just an American problem, as studies have found a similar lack of understanding of financial concepts in countries around the world (Lusardi & Mitchell, 2011b).
- 3 An annuity is a periodic payment over a specific period of time. For example, a person can buy an annuity that will pay her \$1,000 per month for the rest of her life. The cost of the annuity will depend on age, life expectancy, and current interest rates. Annuitization refers to an individual taking the funds in a 401(k) plan and purchasing an annuity with these monies. The retirement benefit from a defined benefit pension plan or Social Security is a form of annuity. Clark, Morrill, and Allen (2011a) discuss the role of financial literacy on the choice workers face in either accepting a lump-sum distribution or a life annuity from their retirement plans.



- 4 Discussion of types of employer provided financial education and retirement planning programs is provided by Wray (2008) and Clark, Morrill, and Allen (2011b).
- 5 Cash balance pension plans are legally defined benefit plans; however, the benefit is typically shown as an account balance rather than as a monthly payment. In most cash balance plans, the employer promises to contribute a specified percentage of salary into an account for the individual; and the account balance grows each year by a rate that is often linked to certain financial instruments, such as government bonds. The funds in cash balance plans are managed by the employer, and the employer is responsible for maintaining sufficient funds to pay promised benefits.
- 6 Clark, Morrill, and Allen (2011a) provide a detailed assessment of the changes in distribution choices after the seminar and examine the causes of these changes in retirement plans.

## Additional CAEL Resources for Tapping Mature Talent

### **For Employers:**

Just Add the Seasoning: A Business Case for Tapping Mature Talent - by CAEL (supported by The Atlantic Philanthropies), 2012. [http://www.cael.org/pdfs/2012\\_TMT\\_Employer\\_Paper](http://www.cael.org/pdfs/2012_TMT_Employer_Paper)

### **For State Policy Leaders:**

State Strategies to Support the Maturing Workforce: A Paper for CAEL's Tapping Mature Talent Initiative - by CAEL (supported by The Atlantic Philanthropies), 2011. [http://www.cael.org/pdfs/2011\\_TMT\\_State\\_Policy\\_email](http://www.cael.org/pdfs/2011_TMT_State_Policy_email)

### **For Those Interested in the Direct Experience of Mature Workers:**

Maturity in the Workplace: Stories of Workers Aged 55+ on Their Journeys to New Work and Careers - by CAEL (supported by The Atlantic Philanthropies), 2011. [http://www.cael.org/pdfs/2011\\_TMT\\_Profiles\\_for\\_email](http://www.cael.org/pdfs/2011_TMT_Profiles_for_email)

### **Earlier Publications from Tapping Mature Talent:**

Developing the Workforce as It Matures - by CAEL and the Council on Competiveness (supported by The Atlantic Philanthropies), 2011. This monograph describes the work of the U.S. Department of Labor's Aging Worker Initiative grantees and emerging practices at the mid-point of the project. <http://www.cael.org/pdfs/TMT-Monograph>

Regional Economic and Workforce Strategies: A Focus on the Mature Workforce New Opportunities for Meeting Skill Needs - by CAEL and the Council on Competiveness - (supported by Atlantic Philanthropies), 2009. [http://www.cael.org/pdfs/115\\_regionaleconomicandworkforcestrategies\\_final](http://www.cael.org/pdfs/115_regionaleconomicandworkforcestrategies_final)



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