

TRENDS AND ISSUES

FEBRUARY 2011

FINANCIAL LITERACY AND PENSION FUND FEES

Justine Hastings
Yale University

Olivia S. Mitchell
University of Pennsylvania
TIAA-CREF Institute

Eric Chyn
Yale University

EXECUTIVE SUMMARY

The research discussed here evaluates the relationship between financial literacy and economic outcomes and explores how the presentation of fees and charges for financial services can help people make the most cost-effective saving decisions. The findings suggest that people with lower levels of education, income, and financial literacy rely far more heavily on employers, coworkers, and friends, as opposed to cost fundamentals, when choosing pension funds. Those who do not understand such concepts may make poor fund choices that can seriously prejudice their retirement security. These same types of individuals are also more responsive to fund fee framing when identifying the relative attractiveness of pension fund managers. Moreover, the impact of viewing information in terms of gains as opposed to losses is sizable relative to the impact of various economic and demographic factors. Specifically, seeing investment choices as gains rather than losses is as important as the impact of having a post-secondary education and twice as large as the impact of having above-median income. These findings should interest policymakers who seek to determine how to better shape the environment in which workers make retirement saving choices. The research is also relevant to the broader issue of whether consumers benefit from having more choice when it comes to products offered in financial markets.



FINANCIAL SERVICES
FOR THE GREATER GOOD®

INTRODUCTION

Research examining the nexus between financial literacy and household saving is important for several reasons. First, financial literacy levels in the general population are remarkably low, both in the United States and elsewhere which poses grave concern about whether consumers are capable of making sensible saving and investment decisions. Second, financial products are growing increasingly complex (e.g. “teaser rates” in credit cards and “no-income-no-down-payment mortgages”) which would seem to undermine the long-term trend toward asking individuals to assume greater control over their retirement accounts and other investments. Indeed, prior research finds that many people tend to be overly sensitive to the framing of saving and investment decisions, chase past returns even in passively managed index funds, and take out too much debt. Furthermore, those who prove to be least financially literate also tend to be among the most economically vulnerable, such as minorities, the least-educated, women, and low-earners. Consequently, those who most need financial skills and tools with which to make optimal financial decisions also prove to be the least well-equipped, rendering the already-disadvantaged even more vulnerable and potentially impairing the efficient functioning of financial markets.

This study offers a unique opportunity to evaluate the relationship between financial literacy and economic outcomes, exploring how the presentation of fees and charges for financial services can help people make the most cost-effective saving decisions. Specifically, it evaluates the role of framing in shaping peoples’ awareness of fees and commissions associated with retirement saving. The study examines whether people are more or less sensitive to pension fee information presented as gains versus losses, and it also evaluates whether less financially literate individuals are more or less sensitive to the way in which fees and commissions are presented.

This paper is based on a new study conducted in cooperation with the Chilean Social Protection Survey (EPS or Encuesta de Protección Social) to examine the factors that influence worker selection of pension fund managers and to assess how framing of pension costs might further influence this retirement choice. The particular focus is to assess the degree to which financial illiteracy can be overcome via different ways of presenting pension fund fees and charges. The question of how people select pension fund managers and integrate fees into this decision process is particularly important in Chile, a nation that mandated private defined contribution pensions in 1981.¹ Yet even after almost 30 years of the AFP system (Asociación de Fondos de Pensiones), many participants appear to have only a rudimentary understanding of how these costs affect their pension accumulations.

Results indicate that individuals with lower levels of education, income, and financial literacy depend more on employers, friends, and coworkers, than on cost fundamentals when selecting a pension fund from a menu of possible offerings. The study also finds that these same types of individuals are more responsive to information framing when interpreting the relative benefits of different investment choices.

APPROACH

Chile’s national retirement system was privatized in 1981, and today pension accruals are substantial since contributions total 10 percent of wages for workers in the formal sector. Pension fund managers charge a front-end load fee on contributions and invest the assets following a defined contribution approach; these fees have a small but economically significant impact on investment returns. Workers must select which pension fund manager they wish to hire to manage their retirement accumulations and only one manager can be selected at a time. Statistics on each fund manager’s load and past return experience appear on the Chilean Government’s Pension Superintendency website and are provided to participants in annual statements mailed to their residence. At present, the official government website reports monthly fees in pesos for each AFP relative to the cheapest, while participant statements received annually present fees in annual percentage terms. Both of these approaches depict the data in terms of one-year results.

1 More than two dozen other Latin American countries have followed Chile’s lead in adopting funded individual-account pensions; that nation’s pension system has also drawn substantial attention in the United States and elsewhere.

Despite the fact that the defined contribution pension system has been in place in Chile for several decades, there is evidence that many people still do not understand the system's contribution and benefit structures. Many people do not know what contribution requirements are under the system, how much they pay in commissions, and how they have their funds invested. In fact, few Chileans are aware of what commissions or fees are charged on their pension accruals, and this lack of understanding is concentrated among women, the lowest-paid, and the least-educated, the very groups most at risk of falling short in terms of their retirement saving.

For this reason, there is substantial interest in determining how to enhance participants' understanding and awareness of how fees and charges influence pension accumulations. One way to accomplish this is to determine whether people become more price-sensitive to fees when these are depicted in alternative formats. Earlier work in Mexico suggested that giving workers information in pesos rather than annual percentage fees can alter how workers rank their pension fund options. That study did not, however, explore whether behavior is influenced more strongly when the *long-term* impact of investment gains and losses is illustrated. Accordingly this research was designed and implemented in to determine whether showing workers in the Chilean EPS different information on pension fund fees alters respondents' responses regarding their ranking of pension funds on a menu of possible choices.

Specifically, in the 2009 survey, interviewees were randomly presented two choices, showing hypothetical pension outcomes in terms of gains and losses in pesos over a 10-year period. For each of the five AFPs in the system at the time of the survey, the expected balance for each surveyed individual was calculated using the past returns and commissions of the AFPs and each individual's wage, balance, age and gender responses in the demographic section of the survey.² It was hypothesized that individuals will be better able to understand the impact of higher AFP fees when these fees are reported as influencing the gains from contributing to a pension versus losses. To test this hypothesis, one set of respondents received a document showing how hypothetical AFP account balances would be anticipated to grow depending on each AFP's actual fees, where the results were projected over a 10-year period. The second group received a document showing the difference between the largest account that one might anticipate from selecting the lowest-cost AFP versus the likely accumulation in the more expensive AFPs over the same period. After receiving a randomly assigned fee information sheet, each respondent was then asked to rank three AFPs to recommend to a hypothetical close friend who wished to figure out where to invest his pension money. This recommendation was recorded by the interviewer and the sheets were left with the respondents post-interview.

The nationally representative sample of individuals surveyed in the EPS also includes a rich set of information on individual-level characteristics that is used to determine which individuals are most influenced by how pension fund fees are presented. Beginning in 2002, and following up in 2004, 2006, and 2009, the University of Chile's Microdata Center has included in the EPS a wide range of questions similar to those used in the U.S. Health and Retirement Study (HRS); this includes extensive information on schooling, labor market history, health, pension system participation, and investment behavior, as well as wealth. The EPS also asks several questions from the HRS measuring financial literacy and risk. Two sets of questions are the focus in this study. The first set is "basic" financial literacy questions—

- *Chance of Disease*: If the chance of catching an illness is 10 percent, how many people out of 1000 would get the illness?
- *Lottery*: If five people share winning lottery tickets and the total prize is two million Chilean pesos, how much would each receive?
- *Numeracy in Investment Context*: Assume that you have \$100 in a savings account and the interest rate you earn on this money is 2 percent a year. If you keep this money in the account for five years, how much would you have after five years? Choose one: more than \$102, exactly \$102 or less than \$102.

2 Respondents were presented with projected balances based on AFP-specific returns because this calculation is very close to the official calculation the government uses. The study also tested for persistence in AFP performance and found some evidence that some AFPs persistently outperform others, and that this persistent outperformance was present in all funds within the outperforming AFP.

The second set covers more “sophisticated” financial literacy concepts such as compound interest, inflation, and risk diversification—

- *Compound Interest:* Assume that you have \$200 in a savings account, and the interest rate that you earn on these savings is 10 percent a year. How much would you have in the account after 2 years?
- *Inflation:* Assume that you have \$100 in a savings account and the interest rate that you earn on these savings is 1 percent a year. Inflation is 2 percent a year. After one year, if you withdraw the money *from the* savings account you could buy more/less/the same?
- *Risk Diversification:* Buying shares in one company is less risky than buying shares from many different companies with the same money. (True/False)

Using these questions, individual differences in financial literacy are first evaluated and then individuals’ responses to the distinct formats for pension fees in terms of selecting the lowest-cost pension fund manager are assessed.

FINDINGS

Table 1 reports summary statistics for the total number of financial literacy questions answered correctly arrayed by respondent demographics. On average, younger individuals and men were more likely to correctly answer a greater number of financial literacy questions. Similarly, financial literacy rises strongly with education levels; those answering over one-half of the questions correctly were more likely to have completed at least their secondary schooling. Average monthly income levels were also strongly positively correlated with financial literacy, as was the propensity to have some form of saving and to be a member of an AFP plan.

TABLE 1
FINANCIAL LITERACY AND OTHER CHARACTERISTICS OF 2009 EPS INTERVIEWEES

# OF CORRECT FINANCIAL LITERACY QUESTIONS (OF 6)	AGE (YRS)	MALE (%)	SECONDARY-PLUS EDUCATION (%)	AVG. MONTHLY INCOME (CPS)*	ANY SAVINGS (%)**	AFP MEMBER (%)	OBSERVATIONS
0	57	42	11	177,729.60	15	47	3,551
1	51	44	0	212,408.30	20	65	2,788
2	48	49	0	264,283.40	26	72	2,781
3	46	52	40	349,339.70	28	79	2,588
4	45	58	52	398,305.70	30	83	1,792
5	45	62	64	557,379.40	36	85	675
6	45	75	85	932,039.00	31	87	68
<i>Total</i>	50	49	29	287,731.00	24	68	14,243

Notes: * Average monthly income calculation excludes those with zero income. ** This statistic is built from Question D27 in the EPS. Interviewees have savings if they respond that they have any of the following: (1) Savings for a Home (at a bank), (2) AVF Savings (Housing Fund Admin.), (3) Voluntary Pension Savings, (4) Account 2 AFP Savings, (5) Bank Savings Account, (6) Term Deposits, (7) Mutual Fund Investments, (8) Company Shares or Bonds, (9) Third Party Loans, (10) Other Savings (Cash, Dollars, “Polla”, etc.).

Table 2 examines how AFP participants performed on specific financial literacy questions. Those who answered each question correctly were more likely than those who did not to have higher monthly income, to have secondary education, and to have some form of saving. Only 154 respondents out of more than 8,000 correctly answered the *Compound Interest* question; these respondents were substantially wealthier and more educated than the sample as a whole.

TABLE 2
FINANCIAL LITERACY RESPONSES AND RESPONDENT CHARACTERISTICS OF PENSION SYSTEM PARTICIPANTS

FINANCIAL LITERACY QUESTION	AGE (YRS)	MALE (%)	SECONDARY-PLUS EDUCATION (%)	AVG. MONTHLY INCOME (CP\$)	ANY SAVINGS (%) [*]
Chance of disease	43	58	48	397,895	31
Lottery	44	58	48	403,792	30
Simple Interest	44	56	46	386,233	32
Compound Interest	43	79	84	750,137	39
Inflation	45	59	50	427,395	32
Risk Diversification	44	56	43	377,870	31

Notes: * This statistic is built from Question D27 in the EPS. Interviewees have savings if they respond that they have any of the following: (1) Savings for a Home (at a bank), (2) AVF Savings (Housing Fund Admin.), (3) Voluntary Pension Savings, (4) Account 2 AFP Savings, (5) Bank Savings Account, (6) Term Deposits, (7) Mutual Fund Investments, (8) Company Shares or Bonds, (9) Third Party Loans, (10) Other Savings (Cash, Dollars, "Polla", etc.).

FINANCIAL LITERACY AND REASONS FOR AFP CHOICE

Questions were also included in the EPS to elicit the major factors influencing participant fund choice. People indicated that the most popular rationales for selecting their current AFP include a friend's recommendation, the AFP's net returns (profitability), and an employer's suggestion or recommendation. Older respondents were significantly less likely to say that they depended on friends' or employers' recommendations when choosing an AFP, but they were more likely to select an AFP to 'help a salesman' or because of the institution's perceived 'financial stability.' Respondents having above median income were substantially more likely to select an AFP based on the fund's higher past returns; in fact, those with above median income have a 63 percent greater likelihood of offering this reason. The higher income group was also much less likely to rely on employer advice when making an AFP selection and more likely to seek perceived financial stability.

Examining the links between financial literacy and education as influences on AFP choice, participants who had more than a secondary-level education (technical training or university attendance) were more likely to say they elected their AFP based on past returns, and less likely to say they depended on employer recommendations. The same holds for financial literacy; the likelihood of listing returns as important rose with the number of correct financial literacy answers, while the odds of relying on one's employer fell for the more financially literate. Correctly answering four financial literacy questions has the same positive impact on the probability of choosing an AFP as having above median income.

FINANCIAL LITERACY AND SENSITIVITY TO INFORMATION FRAMING

The fact that less-financially literate, less-educated, and lower-paid participants rely more on their employers and less on fund return characteristics when choosing an AFP suggests that such individuals may also be more sensitive to information framing when making a pension choice decision. To explore this further, respondent-reported income levels were combined from the 2006 EPS with historical returns and fees data for each fund manager to estimate an anticipated 10-year fund balance net of fees for each EPS respondent under all AFPs in the marketplace. These hypothetical account balances were then reported to respondents receiving the 'gains' version of the fee information worksheet used in the experiment. To construct the 'losses' version of worksheets, the difference between the largest 10-year account balance

for an individual and each of the other four AFPs in the menu was computed. After fielding these experimental worksheets, each respondent's 'top three recommended AFPs were matched to the study's own ranking of the AFPs for that individual.

Among the more than 8,000 participants who received this information, 53 percent of the respondents who saw the gains sheet elected the lowest-cost AFP compared with 48 percent of those receiving the loss sheet, indicating that people are more responsive to behavioral change when presented with rewards as opposed to confronted with losses. Also, men, the better-educated, and the higher-paid were more likely to elect the lowest-cost AFP, particularly when shown the 'gains' sheet.

The study also controlled for potential interaction effects of information framing and financial literacy. When this was done, receiving a gains sheet boosted the likelihood of choosing the most profitable AFP by 26 percentage points. In fact, showing participants the gains worksheet has a measured impact as large as the impact of having a post-secondary education and twice as large as the impact of having above-median income. The measured effect is slightly larger than the impact of a one unit increase in the financial literacy index. In assessing whether there is an interaction effect between literacy and framing, the results indicate that less financially literate respondents are more affected by information framing. Specifically, the results show that a one-unit increase in the financial literacy index reduces the impact of information framing by approximately 10 percentage points. Further, it appears that education is a determinant of how sensitive respondents are to viewing information in gains rather than losses.

DISCUSSION

The findings discussed here suggest that people with lower levels of education, income, and financial literacy rely far more heavily on employers, coworkers, and friends, than they do on cost fundamentals, when choosing pension funds. These same types of individuals are also more responsive to the framing of fee information when identifying the relative attractiveness of pension fund managers. Moreover, the impact of viewing information in terms of gains as opposed to losses is sizable relative to the impact of various economic and demographic factors. Specifically, seeing investment choices in terms of gains rather than losses is as important as the impact of having a post-secondary education and twice as large as the impact of having above-median income.

The policy implications of these findings are profound. Specifically, participant awareness of higher net-return funds can be greatly enhanced when information on fees is simplified in terms of likely gains from selecting higher net-return funds. The impact of fund fee framing is largest for the least financially literate and the lowest-educated groups. By contrast, choices made by the financially well-informed tend to be less responsive to the framing of information, likely because those individuals tend to better understand the financial concepts necessary to translate annual percentage rates into costs and benefits.

These findings should interest policymakers who seek to determine how to better shape the environment in which workers make retirement saving choices. The research is also relevant to the broader issue of whether consumers benefit from having more options when it comes to products offered in financial markets. Recent research suggests that significant cognitive costs shape consumer decisions in a wide range of such markets from education to credit cards to Medicare Part D to savings and retirement investment choices, implying that market outcomes may be inefficient when greater choice and consumer autonomy is introduced. For example, decision-making costs might induce consumers to place more weight on brand names versus price in a world where product prices are not easy to understand. If such decision-making costs were negatively correlated with education, income, and wealth, such dynamics could arouse adequacy and equity concerns. The framing of relevant price information could in turn improve choice outcomes in such situations.

REFERENCE

Hastings, Justine, Olivia S. Mitchell, and Eric Chyn. (2010). "Fees, Framing, and Financial Literacy in the Choice of Pension Managers." Pension Research Council Working Paper. Summer.

ACKNOWLEDGEMENTS

This discussion is drawn from Hastings, Mitchell, and Chyn (2010). The work is part of the NBER programs on Aging and Labor Economics, and it was supported by grants from the US Social Security Administration (SSA) to the Michigan Retirement Research Center (MRRC) and the TIAA-CREF Institute, as well as the Boettner Center/Pension Research Council at The Wharton School and Yale Institution for Social and Policy Studies. The authors also acknowledge support from and NIH/NIA grant AG023774-01, NIH/NIA Grant # P30 AG12836, and NIH/NICHHC Population Research Infrastructure Program R24 HD-044964, all at the University of Pennsylvania. The authors thank David Bravo, Fabian Duarte, Raissa Faibregas, Peter Frerichs, Daniela Fuentes, Carolina Orellana, Sandra Quijada, and Javiera Vasquez for helpful comments. Opinions and errors are solely those of the authors and not of the institutions providing funding for or with which the authors are affiliated.