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Preparing for the Future:

Latinos' Financial Literacy and Retirement Planning

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Over the past three decades, the burden of responsibility for retirement savings has shifted from employer to employee. Saving for retirement has changed from an insured, employer-provided benefit to an uninsured employee-provided deduction from a paycheck. When retirement planning and investment decision-making is largely relegated to individuals, financial literacy is essential. Financial illiteracy, however, is widespread throughout the population and is of particular concern for Latinos. Closing the gap between what American workers generally and Latino workers, in particular, need to know to prepare for retirement and their current level of preparation is an urgent need. This paper disaggregates ethnic differences between Latinos, both foreign and US born, and non-Latino Blacks and Whites in the analysis of core and supplemental data from the 2004 Health and Retirement Survey (HRS). While other analyses of data from the survey deal with aggregates, this study explains how individual characteristics among ethnic groups affect financial literacy.

Over the past three decades, the burden of responsibility for retirement savings has shifted from employer to employee. Saving for retirement has changed from an insured, employer-provided benefit to an uninsured employee-provided deduction from a paycheck. When retirement planning and investment decision-making is largely relegated to individuals, financial literacy is essential. Financial illiteracy, however, is widespread throughout the population and is of particular concern for Latinos. Closing the gap between what American workers generally and Latino workers, in particular, need to know to prepare for retirement and their current level of preparation is an urgent need.

While researchers have agreed that Latinos' lower relative income is the primary cause of their low savings rates, important questions about the factors that effect their retirement planning have yet to be answered. Among these questions are: Do Latinos plan for retirement? Do Latinos prefer the same learning methods and retirement planning resources as Whites and Blacks? How financially literate are Latinos and how does this relative competence affect their retirement planning behavior? Absent full knowledge about the challenges Latinos face when it comes to acquiring financial knowledge and planning for their retirement, neither policymakers nor educators will be able to devise programs that succeed in increasing Latino's financial literacy and retirement savings behavior.

This paper disaggregates ethnic differences between Latinos, both foreign and US born, and non-Latino Blacks and Whites in the analysis of core and supplemental data from the 2004 Health and Retirement Survey (HRS). While other analyses of data from the survey deal with aggregates, this study explains how individual characteristics among ethnic groups affect financial literacy. The intent of the paper is to help inform policymakers, educators, community leaders, and financial institutions in their efforts to design and implement useful and cost-effective retirement education programs, services and products for Latinos.[1]

What is financial literacy?

Financial literacy is "the ability to read, analyze, manage and communicate about the personal financial conditions that affect material well-being" (Vitt, Anderson et al. 2000, page 1). Financial literacy should not be confused with the more general concept of economic literacy, which pertains to understanding broader macroeconomic contexts, such as productivity and inflation. Financial literacy includes the ability to comprehend banking, credit and investment issues (SEDI 2004). Financial literacy is comprised of financial knowledge and consumer confidence. Financial knowledge concerns whether individuals have access to financial information that can be used to confidently engage in a desired behavior and to distinguish financial myths from financial facts (Devlin 2003; Vitt, Anderson et al. 2000). Consumer confidence pertains to how choices about financial purchases compare with choices about purchasing other types of consumer goods.

Two major findings concerning the financial aspects of retirement emerged from the 2000 Financial Literacy Project led by Steven Devlin, a director for the American Institute for Financial Gerontology. First, very few individuals feel confident about making investment decisions, feeling much more self-assured about the decision to purchase non-financially based products such as televisions and automobiles. Second, almost half (49%) of the respondents who claimed to be either fairly or very knowledgeable about the financial aspects of retirement did not, in fact, possess such knowledge. The dangerous combination of nominal financial confidence and workers' financial illiteracy looms large at the very time when individual workers are increasingly bearing the responsibility for preparing for their own retirement.

Who is financially literate?

Researchers have shown that while certain segments of the United States' population are more knowledgeable about financial matters than others, individuals on the whole tend not to possess the requisite financial knowledge needed for successful retirement planning. For example, White, middle-aged, highly educated, married and wealthy individuals tend to be the most financially literate segments of the population. Lusardi and Mitchell (2004) found that financial literacy is not prevalent among older Americans despite the fact that this segment of the population should be the most prepared. Bernheim (1998) used household data by Merrill Lynch to study financial knowledge and decision-making among American workers. He found that most American workers are poorly equipped to make decisions pertaining to financial planning, that they lack adequate knowledge about financial matters and that they are unaware of their financial vulnerabilities. He demonstrated the need for effective economic and financial education and training programs in order to increase individuals' retirement savings.

1 This research was generously supported by the National Endowment for Financial Education.

The work of behavioral economists is adding to the growing body of evidence that individual investors are not well-equipped to make optimal asset allocation choices. Choi, Laibson and Madrian (2007) draw attention to the shortage of financial literacy among a segment of the population assumed to be the best prepared: students in MBA programs at Wharton and Kennedy Schools of Business. The MBA students participated in a study of the effect of mutual fund fees on investment returns. The study showed that even students attending prestigious business colleges across the country selected funds with the highest fees, and, therefore, the highest adverse effect on their returns. The fees reduced the returns by as much as 50%. Only a small fraction picked the lowest-fee portfolio, a finding that caught the researchers by surprise. When the researchers administered a second round of the study, and this time gave potential investors cheat sheets where the fees where highlighted, less than 20% picked the lowest fee funds. In a public, oral presentation of the results, Laibson concluded that "despite the best efforts of the financial services community to date, the messages about the need to save for retirement and the importance of making sound financial decisions still have not caught on with the public[2]" (Tripoli, 2007).

Defined Benefit Plans versus Defined Contribution Plans

Over the last three decades, "defined benefit plans" have gradually disappeared and have been replaced by "defined contribution plans." A defined benefit plan is provided by the employer and insured by the government. The defined benefit plan promises the participant a specific monthly benefit at retirement, calculated through a formula that considers a participant's salary and service. The employee participant is not required to make investment decisions. Nor is the employee in the private sector required to allocate contributions. Employees in the public sector are required to contribute to their pension.

Unlike defined benefit pension plans, defined contribution plans have the individual participant bear the full responsibility for making investment decisions. Examples of defined contribution plans include 401(K) plans, 403(b) plans, employee stock ownership plans and profit sharing plans.

Participants are required to bear all of the investment risks associated with the plan, balance their own portfolios, decide how much to contribute to each plan and be knowledgeable about the allocation of existing funds. The key difference between the two types of pension plans is that while benefits from the defined benefit plan are fixed, benefits in the defined contribution plan are affected by income, expenses, gains and loses. Neither are contribution funds insured by the government.

The use of defined contribution plans (including 401(k) plans) reduces employer pension costs per worker by 3.5 percent (Ghilarducci and Sun, 2006). According to the Pension Benefit Guaranty Corporation (Statement of Regulatory and Deregulatory Priorities, 2001), there are about 38,000 insured defined benefit plans today compared to a high of about 114,000 in 1985. According to another source, between 1980 and 2004 the percentage of employees who were covered by defined contribution plans increased 43%, from 17% to 60% (Munnell and Perun, 2006) while the percentage of employees covered by the employer-provided pension plan correspondingly decreased. During this period, the savings rate among American workers has declined.

The dramatic increase in defined contribution plans has not been accompanied by a corresponding increase in financial literacy. Individuals are not knowledgeable about "basic financial concepts, particularly related to bonds, stocks, mutual funds and the working of compound interest" (Bernhein, 1995; Hogarth and Hilgerth, 2002; Moore, 2003 and Stango and Zinman 2006). Financial illiteracy remains high across all segments of the population. Individuals are required to make investment choices based on knowledge they simply do not have, at the same time, they are required to contribute to their own retirement programs. Finally, individuals are bombarded with a plethora of financial information which they are incapable of differentiating and evaluating. Choi, Laibson and Madrian (2007:4-5) concluded from their study of MBA students' behavior that even highly educated "investors are swayed by salient but irrelevant returns information."

Financial Planning Behavior, Retirement Savings and Financial Literacy

Retirement planning is defined as "the process of establishing a retirement income goal and gathering information about your potential sources of retirement income. The information is then used to help determine if your projected retirement cash flow is adequate to fund your needs[3]." A study conducted by the Employment Benefits Research Institute (Retirement Confidence Survey, 2007)

2 http://www.nefe.org/pages/ttwhitepaper.html

3 http://www.citibank.com/bahrain/gcb/invest/glossary.htm#R

found that less than half of working individuals report that either they or their spouse attempted to calculate the amount of money needed in order to have a comfortable retirement. Workers who do plan for retirement utilize two methods of information about retirement savings and investment options: informal and formal methods. Informal planning includes relying on friends and family members to provide financial planning advice. Formal planning, on the other hand, refers to seeking information from professional financial sources in planning for retirement.

The method of acquiring financial knowledge has a significant impact on retirement planning and investment decision behavior (Helman, et al., 2006). A study conducted by the Federal Reserve established that among consumers who attempt to make such calculations, the predominant mode of knowledge acquisition is personal experience, followed by friends and family members and finally preferred media such as brochures and home videos (Hogarth, Beverly and Hilgert, 2003). Another report, based on data from the 2006 Retirement Confidence Survey, indicated that 87% of workers saving for retirement asked their spouses for input and found that input very helpful. The majority of individuals relied on information provided by their employer or their employer's retirement plan provider (72%) in order to make important retirement savings decisions.

Approximately two-thirds of workers saving for retirement claimed to have referenced newspapers or magazines (64%), the advice of a financial professional (63%), and the advice of family or friends (63%). Substantially fewer individuals reported that they accessed the Internet (46%), television/radio (35%), computer software (24%), seminars (21%), or online professional advice services (20%) to help them with their retirement planning decisions. Clearly, personal retirement planning behavior is a function of access to investment information, and information provided by employers, financial consultants and family or friends seem to be the most influential components of decision-making.

The economic literature on retirement planning asserts a positive correlation between retirement planning and the ability of households to accumulate wealth. Even when socio-economic status is controlled, however, a strong positive relationship between financial literacy and retirement planning behavior continues to exist (Lusardi and Mitchell, 2004). All else being equal, successful planners, or individuals who are both likely to plan for retirement and follow through with that plan, are significantly more likely to provide correct answers to financial literacy questions such as those defined by the Health and Retirement Survey (HRS). In a similar study, the Federal Reserve found that once socioeconomic status is controlled, the only variables that consistently predicted savings and investment behavior were related to financial knowledge (Braunstein and Welch, 2002). Individuals who lack retirement income goals tend to increase their target retirement income after attending seminars. Experts in the field of financial education, such as B. Douglas Bernheim and Daniel Garret (1996), argue that rates of saving (for retirement and other purposes) increase significantly with the provision of employer-based retirement education.

Two analyses of the impact of financial education on retirement goals and savings drew upon studies of a segment of the population whose overall literacy tends to be higher than the population as a whole: educators. The studies focused on participants in the Teachers Insurance and Annuity Association - College Retirement Equities Fund (TIAA-CREF). Zvi Bodie and Dwight Crane (1997) found that TIAA-CREF participants' decisions were consistent with expert advice regarding the allocation of pension assets. Yet Robert Clark and Madeleine d'Ambrosio's (2003) subsequent study, which delved further into the relationship between declared intention and actual action taken, produced less sanguine results. Clark and d'Ambrosio tracked the relationship between TIAA-CREF participants' stated intent after attending a retirement planning seminar and their behavior. Three months after respondents declared their desire to implement a supplemental retirement plan, less than two-thirds (61%) had done so.

Approach to Latinos' Financial Literacy and Retirement Planning Behavior

While the extant literature on financial literacy and retirement behavior is both noteworthy and informative, the lack of specific findings on ethnic or racial groups leaves us to speculate on how best to design programs that address their retirement planning needs. Most researchers argue that Latinos' lower assets and disfranchisement from mainstream financial markets are caused by their lower income. But, several questions remain unanswered in the literature. Do Latinos plan for retirement? Do Latinos prefer the same learning methods and retirement planning resources as Whites and Blacks? How financially literate are Latinos and does this knowledge or lack thereof affect their subsequent planning behavior? The following analysis utilizes data from the 2004 Health and Retirement Survey (HRS) to disaggregate ethnic differences between Latinos, both foreign and US born, and non-Latino Blacks and Whites.

The analysis begins with exploring descriptive statistics on financial literacy, cognitive skills, and retirement planning using both HRS module and core data. In order to effectively analyze respondents' financial literacy (operationalized by the "cognitive skills" questions discussed above), we adopt a measure of relative performance using continuous data. In addition, multivariate analyses on HRS core data were conducted separately for Latinos, Blacks and Whites to explore the link between financial literacy and retirement planning. Finally, we include a multivariate analysis on household net worth using measures of financial literacy and retirement planning as key independent variables. In this paper, we seek to address the following research questions:

1) How do Latinos compare with Whites and Blacks on the financial literacy and retirement planning questions?
2) Are foreign born Latinos significantly less knowledgeable about financial literacy and retirement planning compared to their native born counterparts?
3) How does financial literacy affect retirement planning and do racial differences in planning behavior exist?

Data and Methodology: Financial Literacy

This study contains data pertaining to an individual's knowledge about savings, inflation and mutual funds. Respondents were asked three questions designed to measure their knowledge of financial matters:

1) Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow: (a) more than $102, (b) exactly $102, or (c) less than $102?;
2) Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, would you be able to buy (a) more than, (b) exactly the same as, or (c) less than today with the money in this account?; and
3) Do you think that the following statement is true or false?: Buying a single company stock usually provides a safer return than a stock mutual fund.

Although the number of financial literacy questions contained in the HRS is limited, economists agree that these three questions are among the most basic. The first two questions evaluate the respondent's knowledge of fundamental economic concepts for saving decisions and "competence with basic financial numeracy"(Lusardi and Mitchell 2004:5). For example, correctly identifying how compound interest rates function is a key component in accumulating savings: this knowledge tends to change consumer financial behavior by helping individuals save earlier and pay acquired debt sooner. The ability to distinguish the risks of investing in mutual funds and single stocks helps investors make wiser investment decisions. More specifically, this question provides a measure of informed investment decision-making by evaluating respondents' knowledge of risk diversification.

Retirement Planning

The 2004 Health and Retirement Survey has a series of retirement planning questions regarding what planning tools and resources people use by race and ethnicity. Talking to family members and friends is considered to be an informal planning tool while attending seminars, consulting with professionals, or using calculators/worksheets is defined as formal planning tool. Retirement planning includes developing a plan, thinking about how much one needs to save for retirement, talking to family and friends (nonprofessional) about retirement savings, attending retirement seminars, using calculators/worksheets, consulting a financial planner, and being able to stick to a retirement saving plan, etc.

Basic Quantitative and Problem-Solving Skills

Understanding simple mathematical concepts and competency with problem-solving techniques are two of many important skills necessary for sound money management. A recent report by the National Endowment for Financial Education (NEFE) on financial literacy provided the following quote from Alan Greenspan in 2002:

> "Focusing on improving fundamental mathematical and problem-solving skills can develop knowledgeable consumers who can take full advantage of the sophisticated financial services offered in an ever-changing marketplace."

It is appropriate to consider how the lack of knowledge about basic mathematical concepts, such as simple percentage calculations and compound interest, affects financial behavior. The HRS provides three measures of basic quantitative and problem-solving skills that are included in our analysis. Respondents were asked to provide answers to the following three questions:

1) If the chance of getting a disease is 10 percent, how many people out of 1,000 would be expected to get the disease?;
2) If 5 people all have the winning numbers in the lottery and the prize is two million dollars, how much will each of them get?; and
3) Let's say you have $200 in a savings account. The account earns 10 percent interest per year. How much would you have in the account at the end of two years?

Importantly, none of these questions was presented to respondents in simple multiple choice terms; instead, the respondents were asked to make the calculations on their own and to provide the interviewer with a "correct" response.

We follow Bernheim's (1998) method in departing from the standard practice of coding responses as simply "right" or "wrong." In making financial decisions there are no right or wrong answers, only degrees of wrong. Such decisions are not "all-or–nothing" but rather depend on one's level of decision-making accuracy. In other words, degrees of mathematical competency matter. In order to capture this difference in the survey data, we assigned a relative knowledge score to each of the above questions. We diverge slightly from Bernheim's method and define this score as the fraction of the population who gave answers that were as far as or further in absolute value from the true answer.

The effect of inflation on savings is a common source of misunderstanding and a good example of the relevance of relative degrees of wrong. In response, for example, to the question, "Say your savings account will earn 5% and the inflation rate will be 10%, what is the effect on your savings?" Some respondents will be more wrong than others. Many will think their return will improve. Others will conclude that their savings will decline, but may not know the exact amount. Some will answer correctly. In our analysis, those who believe that their savings will be improved would receive a lower score than those who believe it will be adversely affected. The responses are therefore used as continuous variables in our regression models. However, for convenience purposes, when reporting descriptive statistics based on these measures, we grouped the data into categories "Correct," "Incorrect," and "DK/Refused" and then performed cross-tabulations by ethnic origin group.

Analysis: Basic Descriptive Statistics

This section presents descriptive findings from the 2004 Health and Retirement Study experimental module that included, $N = 951$ non-Latino Whites, $N = 176$ non-

TABLE 1:
Demographic Characteristics

	Non-Latino Black %	Non-Latino White %	Latino %
Nativity Status			
US Born	94.67	95.23	43.85
Foreign Born	5.33	4.77	56.15
Highest Degree			
No Degree	45.16	21.78	61.26
GED	4.29	4.3	3.6
High School Diploma	37.71	50.33	26.11
Two Year College	2.67	3.77	2.45
Four Year College	5.84	11.65	3.75
Master's Degree	3.84	5.92	2.07
Professional Degree	0.49	2.25	0.77
Gender			
Male	39.4	44.2	42.32
Female	60.6	55.8	57.68
Age Group			
Under 40	0.18	0.15	0.61
Shadow Boomers (40–46)	1.03	0.9	2.02
Baby Boomers (47–59)	18.21	16.15	25.29
Age 60 and Over	80.58	82.8	72.08
Years in US			
Less than or equal to 30			59.37
Greater than 30			40.63

Table 2.
Distribution of Responses to Financial Literacy Questions

	Latino			Black			White			
	Correct	Incorrect	DK/Refused	Correct	Incorrect	DK/Refused	Correct	Incorrect	DK/Refused	p
[JV365]: Savings Account Interest Calculation	39	54	7	60	22	17	74	18	7	.0001
[JV365]: Interest vs. Inflation	54	35	11	48	25	27	83	10	7	.0057
[JV363]: Safer return on stock or mutual fund	48	17	35	45	17	38	58	12	29	.0001

Latino Blacks and $N = 103$ Latinos. We also present data from core modules that are based on a much larger sample ($N = 24{,}228$ non-Latino Whites, $N = 4531$ non-Latino Blacks and $N = 1332$ Latinos). It is important to understand the socio-demographic characteristics of the respondents in the sample. Our analysis reveals large discrepancies in wealth and educational attainment between Whites, Blacks and Latinos. The median household net worth among Latinos is $55,400, which is about 25 percent of the median household net worth of Whites ($222,000). In addition, there are vast differences in educational attainment across ethnic origin groups. Nearly 61% of Latinos do not have a high school diploma compared to 45% of non-Latino Blacks and only 26% of non-Latino Whites. The sample includes a large percentage of US born non-Latinos and a large percentage of foreign-born Latinos, most of who have lived in the United States less than 31 years. The four age groupings represented in the sample are individuals 60 years of age or older, "baby boomers," ages 47 to 59 (born between 1945 and 1957), followed by "shadow boomers" ages 40 to 46 (born between 1958 and 1964), and finally those ages 39 and under.

Table 2 shows the distribution of responses to the financial literacy questions by ethnicity. As can be seen from the table, there are significant differences in the percentage of correct responses by ethnic origin group. Latinos are least likely to provide a correct response to any one of the three questions, but are more likely than Blacks to answer all three questions correctly. More than half of Latinos provided incorrect responses to the savings account versus interest calculation compared to only 22% of Blacks and 18% of Whites. Latinos faired slightly better on the interest versus inflation question: 54% of Latinos, 48% of Blacks and 83% of Whites understood that with a yearly interest rate of 1% and a concurrent 2% inflation rate they would be able to buy less with the money in the account at the end of the year. With respect to the question regarding the riskier investment — a single company stock or a mutual fund — Blacks were least likely to answer correctly, Whites were most likely to answer correctly and Latinos were somewhere in between.

These results presented in Table 2 explain the variation in financial literacy across ethnic groups. The analysis goes beyond those of Lusardi and Mitchell (2004), Bernheim (1995, 1998) Hogarth and Hilgerth (2002), and Moore (2003) by noting that the percentage of correct responses to each question will be lower when ethnic differences are taken into account. Our analysis shows that both Latinos and Blacks skew the distribution of responses to be lower than they are when ethnic differences are not considered. "Race-adjusted" financial literacy scores for Whites appear much higher than they are for other segments of the population.

Turning next to the joint probability of answering X questions correctly for $x \in (0,1,2,3)$ (Table 3) we again note significant differences between Latinos, Blacks and Whites. Latinos are more than twice as likely as Blacks and five times more likely than Whites to answer all three questions incorrectly. Not surprisingly, Whites are twice as likely as Latinos and 3.5 times more likely than Blacks to answer all three questions correctly.

Table 3.
Joint Probability of Answering X Questions Correctly for $x \in (0,1,2,3)$ on the Financial Literacy Questions

	X = 0	X = 1	X =2	X = 3
Latino	30	20	29	21
Black	13	31	43	12
White	6	16	35	44

Lusardi and Mitchell[4] (2004:8) correlated the "DK" responses to each question and found that "financial literacy is systematic across all areas examined." In a similar analysis, we correlated the "DK" responses separately for each ethnic group and found similar results. Among Latinos, the correlation coefficient for the "DK" responses between the stock and savings questions is $\rho=.491(p<.0001)$ the correlation coefficient for the "DK" responses between the stock and inflation question is $\rho=.554(p<.0001)$ and the correlation coefficient for the "DK" responses between the savings and inflation question is $\rho=.880(p<.0001)$ all of which are very high and statistically significant at extremely low levels. The correlation coefficient for Whites and Blacks was comparably high but smaller across all comparison categories thereby substantiating and extending Lusardi and Mitchells' claim that financial illiteracy is systematic across these measures.

Basic Quantitative Skills and Problem-Solving Techniques

Turning next to the "cognitive skills questions," which test respondents' knowledge of basic mathematical skills and competency with problem-solving techniques, we see significant differences between Blacks, Whites and Latinos. Fifty-nine percent of Latinos answered the disease percentage question correctly compared to 88% of Whites and 62% of Blacks. Similarly, only 23% of Latinos gave correct answers to the lottery division question compared to 62% of Whites and 31% of Blacks (Table 3). Our analysis

4 Lusardi and Mitchell's analysis focused on the baby boomer generations (aged 51-56 in 2004) whereas our analysis considered the entire sample of respondents (aged 25-108).

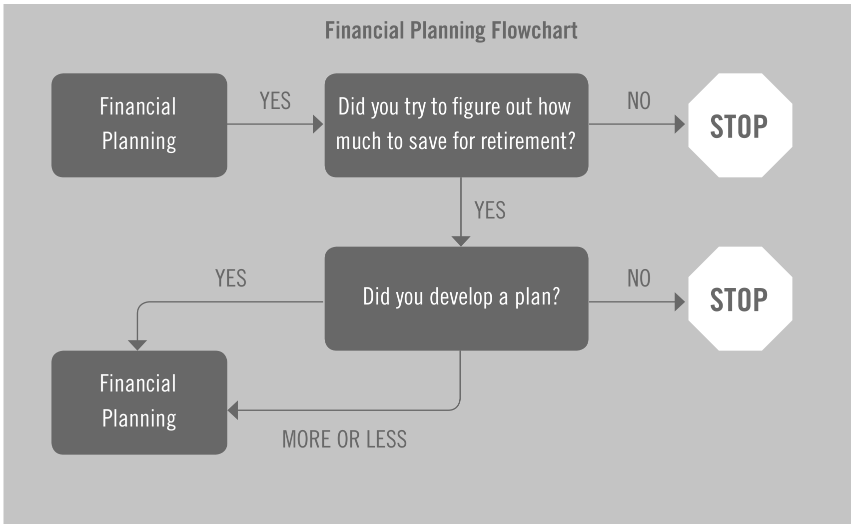

Figure 1. Conceptual Organization of Retirement Planning Questions, HRS 2004.

of the compound interest rate question showed that 44% of Latinos correctly applied the calculation compared to 62% of Whites and 41% of Blacks. If it is true, as the report by NEFE (2002) suggests, that basic mathematical skills are essential in order to take advantage of financial services, then our findings suggest all ethnic groups, especially Latinos, would derive some benefit from a financial education course that includes training in basic mathematics.

Latinos are a heterogeneous group in terms of their nativity, country of origin, and immigration status. One benefit of using the 2004 HRS is that the large sample size of foreign-born Latinos enables us to explore discrepancies in financial literacy by nativity status. As shown in Table 4, foreign born Latinos are only slightly less likely to give correct answers to the literacy questions compared to natives but the results are insignificant at conventional statistical levels. When told that the prevalence of a certain disease in the population is 10%, more than half of Latinos correctly responded that, if the population consisted of 1000 individuals, 100 persons would be at-risk for acquiring the disease (57% of foreign-born and 61% of US born, respectively). On the division question, only about one-quarter of Latinos understood that if five people all have winning numbers in a lottery where the prize was $2 million dollars, each person would receive $400,000: 22% of foreign born Latinos answered correctly compared to 25% of native born Latinos. Finally, when asked to assume that a savings account had $200 and earned 10% interest per year, more than 40% of all Latinos correctly responded that at the end of two years the account would have $242 dollars (46% of native born versus 42% of foreign-born). The differences in the responses of foreign-born and native-born Latinos are not more than 4%. Although this difference may be statistically significant, it is not practically meaningful.

Table 4.

Proportion of Retirement Planners By Ethnicity

	Latino	Black	White	p
[JV351]: Did you try to figure out how much your household would need to save for retirement before you retired?				
Yes	22%	23%	34%	.002
No	78%	77%	66%	
N	105	172	964	
[JV357]: Did you plan for retirement savings?				
Yes	35%	55%	72%	< .000
No	65%	45%	28%	
N	22	40	318	
[JV358]: How often were you able to stick to this plan: would you say always, mostly, rarely, or never?				
Always/Mostly	100%	50%	92%	--
Rarely/Never	0%	50%	8%	
N	8	22	226	

Table 5.

Planning Activity By Ethnicity

	Latino	White	Black
Tried to figure out how much I need to save for retirement	37%	38%	17%
Informal Planning:			
Talked to family about retirement	34%	28%	17%
Talked to friends about retirement savings	24%	29%	32%
Formal Planning:			
Attended retirement seminars	5%	42%	51%
Used calculators/worksheets	25%	52%	62%
Consulted financial planner	52%	51%	24%
Planned for retirement saving	55%	74%	62%
Been able to stick to retirement saving plan	100%	91%	38%

Table 6.

Distribution of Planner and Non-planner by Race and Ethnicity (core data)

	Latino	White	Black
Planner:	38%	52%	46%
A lot	21%	26%	28%
Some	17%	26%	18%
Non-planner:	62%	48%	54%
A little	18%	15%	15%
Not at all	44%	33%	39%

Differences in Retirement Planning Behavior. The Utilization of Retirement Planning Tools by Race and Ethnicity

Individuals who take steps to plan for their retirement are likely to have more savings. Those who report even modest planning activities have been shown to acquire more sizable wealth holdings than non-planners, who display substantially less wealth (Lusardi and Mitchell, 2006). In this paper, we expect that ethnic differences in planning behavior will be correlated with savings and wealth accumulation. Figure 1 depicts how the retirement planning questions are conceptually linked.

Table 4 shows a statistically significant difference between ethnic groups on the question of knowing how much savings is required in order to plan for retirement. For example, among the survey respondents, only 22% of Latinos, 23% of Blacks and 34% of Whites attempted to calculate how much they would need to save for retirement before they retired. Among the Latino respondents who reported planning behavior, 35% developed a plan while 100% of Latinos who planned claimed that their planning behavior was successful either always or most of the time. Compared to Latinos, significantly more Blacks (55%) and Whites (72%) reported planning for retirement, with Whites being nearly as successful in following the plan once it is formed (92%) but Blacks being much less successful (50%).

Despite the fact that Whites are more likely than other groups to possess the financial knowledge that is requisite for successful retirement planning, the percentages are low irrespective of ethnic background. Whites are twice as likely as Latinos to plan for their retirement but

Table 7.
Distribution of Planner and Non-planner by Latino Nativity (core data)

	Foreign-born Latinos	Native-born Latinos
Planner:	36%	39%
A lot	21%	21%
Some	15%	18%
Non-planner:	64%	61%
A little	17%	19%
Not at all	47%	42%

both groups tend to be fairly successful once they have made the initial effort to devise a retirement plan. The fact that Latinos are more likely to stick to retirement saving plans but less likely to develop a retirement plan in the first place suggests that saving for retirement is more passive and less voluntary than it is among other groups. Latinos are less likely to participate in defined contribution plans even when offered by employers. Latinos are more likely to consider and take their own retirement seriously if their employers offer mandatory pension plans. Our analysis demonstrates that once they are actually enrolled in a retirement plan, Latinos are more likely to stay committed to the plan than comparable groups.

Sources of Retirement Planning by Ethnic Group

Latinos tend to rely on informal planning resources (family and friends) than do either Whites or Blacks (Table 5). For example, 34 percent of Latinos talked to family members about retirement compared to only 28 percent of Whites and 17 percent of Blacks. On the other hand, with limited exception, Latinos are significantly less likely to use formal planning measures such as attending retirement planning seminars or using financial calculators and worksheets. With respect to the utilization of formal planning resources, the largest statistically significant discrepancy found was related to attending a retirement seminar: only 5 percent of Latinos reported having attended a retirement seminar compared to 42 percent of Whites and 51 percent of Blacks. Latinos (24%) are also somewhat less likely to use calculators and worksheets than Whites (29%) and Blacks (32%). Interestingly, however, more than half of Latinos consulted a financial planner, which is significantly different from Blacks but not from Whites.

In the formal planning category, we showed that Latinos are more likely to consult with professionals than either Blacks or Whites. Moreover, about one-third of Latinos consulted with their friends and family members, which was larger than any other ethnic group considered here. Latinos prefer a more individualized method of retirement planning and are less likely to attend group meetings. This finding is consistent with Hogarth's and Hilgert's (2002) assessment that individuals who are less financially knowledgeable or people who prefer flexible consulting schedules are more likely to elect individualized consulting services.

Financial Literacy and Retirement Planning by Race and Ethnicity

Table 6 shows that Latinos are less likely to be planners than Whites and Blacks. The difference is significant. Thirty-eight percent of Latinos are planners compared to 52% of Whites and 46% of Blacks. Less variation exists within the Latino population: compared with native-born Latinos, foreign-born Latinos are only slightly less likely to plan for retirement but the difference is not significant (Table 7). While Latino planners are more likely to give correct answers to all three quantitative questions (Table 8), Latino non-planners are more likely to give "Don't Know/Refused" answers and less likely to answer questions about compound interest correctly. These results suggest that Latino non-planners are more disadvantaged relative to Latino planners and to non-planners in the other ethnic/racial groups.

Racial and Ethnic Differences in Financial Literacy and Retirement Planning

In order to measure how financial literacy affects planning for Latinos compared to Whites and Blacks, we developed two methods. One is to run a logistic regression in each individual sample: Latino, Black, and White. Compare the significance of average score and their marginal effects on retirement planning. Another method is to combine two ethnic/racial groups in one sample such as: Latinos and Blacks, Latinos and Whites, and Blacks and Whites and incorporate an interaction term of race dummy multiplied by average score. The dependent variable for both regression models is planner vs. non-planner while the independent variables include demographic variables (age, race, marital status, gender), class variables (education and wealth), and financial score. Table 9 clearly shows that the financial literacy score in the Latino sample has significant effects on retirement planning at the 1% level. On the other hand, there is no significant

Table 8.

Cognitive Skills Questions by Planner and Non-planner and Race and Ethnicity (core data)

	Correct			Wrong			Don't Know or Refused		
Disease Percentage									
	Latino	White	Black	Latino	White	Black	Latino	White	Black
Planner	66%	88%	66%	26%	10%	31%	7%	2%	4%
Non-planner	54%	88%	60%	27%	10%	32%	19%	2%	8%
Lottery Division									
	Latino	White	Black	Latino	White	Black	Latino	White	Black
Planner	34%	63%	28%	55%	30%	53%	11%	7%	19%
Non-planner	21%	55%	27%	49%	33%	52%	30%	11%	20%
Compound Interest Rate									
	Latino	White	Black	Latino	White	Black	Latino	White	Black
Planner	44%	63%	48%	53%	34%	46%	3%	3%	6%
Non-planner	40%	60%	40%	49%	38%	54%	11%	2%	6%

effect in the Black sample and a slightly significant effect at the 10% level in the White sample.

When the average financial literacy score increases by 10 percentage points, the odds of engaging in retirement planning activities increase by more than 50%[5] holding other variables constant. Age is positively related to retirement planning as well: each additional year lived increases the odds of retirement planning by more than 5%. Similarly, the odds of planning for retirement among college educated Latinos are 3.54 times higher than they are for Latinos who have not attended college. Gender and marital status are also significantly related to retirement planning: the odds of participating for males and married Latinos are 1.26 and 2.96 times higher than they are for females and unmarried Latinos, respectively.

Based on the estimated coefficients of each model, we calculated marginal effects for literacy score variable in each sample[6]. For a typical respondent in HRS, a 51-year-old married man with a high school degree and more than $100,000 household net worth, has a score of 45. The marginal effect of literacy on planning is .01 for Latinos but only .001 for both Whites and Blacks. This seems to suggest that the marginal effect of literacy score is 10 times larger for Latinos.

Table 10 shows that the interaction terms in both the Latino and Black samples and Latino and White samples have significant effects on retirement planning. The interaction variable posits that the response to a change in a continuous independent variable such as score differs between classified groups. For example, in the Latino and Black samples, the coefficient of interaction term is the differential effect of a one point change in score on retirement planning status between Latinos and Blacks. Based on the means of the variables, the marginal effect for the interaction term shows that a ten-point increase in the score for Latinos will increase the probability to be a planner by 8 percent.

Discussion

As retirement savings in this country shift from defined benefit to defined contribution plans, workers and retirees are increasingly being made to shoulder the burden of responsibility for their retirement savings. Our study confirms that Americans generally, and Latinos in particular, are woefully unprepared to meet the challenge. Financial illiteracy is an important reason for this growing dilemma. If responsibility for retirement planning and saving is not combined with economic know-how, the outcome could be disastrous as the population ages. The time to take concrete steps to avert this crisis is now. We hope that this report

5 The following formula was used to compute the percent change in the odds: $100\frac{\Omega(\mathbf{x},x_k+\delta)-\Omega(\mathbf{x},x_k)}{\Omega(\mathrm{x},x_k)}=100[\exp(\beta_k\times\delta-1]$
In this particular computation, $\delta=10$.

6 The marginal effect is defined as the partial derivative of the event probability with respect to the predictor of interest. It is usually used in logit model.

Table 9.

Logistic Regression I: Effects of Financial Literacy on Retirement Planning (core data)

	Latino Sample	Black Sample	White Sample
Intercept	-3.3142**	-4.441***	-2.8162***
	(1.526)	(1.080)	(0.471)
Age	0.0539**	0.0790***	0.0488***
	(0.027)	(0.021)	(0.009)
Male	0.2341	0.059	0.2836***
	(0.243)	(0.1555)	(0.074)
Marital Status	1.086***	0.7340***	-0.0040
	(0.318)	(0.151)	(0.084)
Less than high school education	-0.1534	-0.0863	-0.7134***
	(0.250)	(0.287)	(0.168)
College education and above	1.2666***	0.3108*	-0.0818
	(0.350)	(0.164)	(0.075)
Household net worth (Logarithm)	-0.1168***	0.0392**	0.0731***
	(0.040)	(0.016)	(0.010)
Average score on cognition questions	0.0410***	0.0044	0.0078*
	(0.011)	(0.008)	(0.004)
-2 Log Likelihood	486.78	1134.19	4752.67
Number of observations	425	935	4022

* significant at 10% level

** significant at 5% level

*** significant at 1% level

on Latinos' retirement planning and financial literacy will contribute to efforts to mitigate this potential calamity.

Financial illiteracy is widespread and systematic throughout the population but is of particular concern for Latinos. The percentage of Latinos who correctly answered questions related to financial literacy is low and comparable to that of other groups. An important finding of our research is that improving Latinos' financial literacy will have a greater impact on retirement planning than it will for other segments of the population. Latinos are less likely to have a retirement plan but those who do have plans stick to them. This positive indication of Latinos' financial behavior is relevant to programs that work to promote the financial and retirement security of this population.

As for the type of investment programs from which Latinos are most likely to benefit, Latinos respond more to informal planning methods than to formal ones. On average Latinos prefer obtaining retirement planning resources from family and friends rather than through seminars and prepared documents. Latinos' access to financial seminars is limited, moreover, by the fact that many Latinos are beyond the target audience of the providers of such seminars: large-scale employers and banks. Compared to Whites and Blacks, Latinos are less likely to work for large corporations and public sector employers who are more likely to provide their employees with financial education services. As for financial institutions, one in every four Latinos does not have a bank account that would serve as a bridge to the bank's financial and investment educational services.

About one-third of Latinos consulted with their friends and family members, which was larger than any other ethnic group considered here. Clearly, Latinos prefer a more individualized method of retirement planning and are less likely to attend group meetings. Our finding that Latinos are less likely to attend seminars has some important implications.

The only formal retirement planning tool Latinos prefer is personal consultation with professionals. This observation is consistent with results of other surveys. A National Council of La Raza report (2004) demonstrated Latinos rated both direct investment advice and individual access to a financial planner as "very effective." Latinos, according to our analysis, are more likely to consult individually with professionals than either Blacks or Whites. In light of this finding, we recommend the expansion of financial education resources targeting Latinos, including hiring and training bicultural and bilingual staff who can provide one-on-one counseling to Latinos. Culturally appropriate, personal methods that inspire trust will help increase Latinos' financial literacy.

Social Security is a mandatory retirement savings program that requires contributions from both the employer and the employee. Our findings about the pervasiveness of financial literacy generally and among Latinos in particular underscore the risks of putting more responsibility for retirement investment on individual employees. We urge caution regarding initiatives to give individuals decision-making responsibility for their Social Security funds.

Our findings further lead us to recommend that measures be taken to ensure that Social Security will continue to be viable for future generations. Many people in this country live in poverty and have such low incomes that planning and saving for retirement is not a practical option. This problem is even greater for Latinos, whose poverty rate in 2004 was 22 percent compared to 25 percent for Blacks and 9 percent for Whites and whose median income in 2004 was $34,241 compared to $46,697 for Whites and $30,134 for Blacks (U.S. Census Bureau 2004).

In addition, we recommend encouraging employers to provide pension plans. Our policy recommendation is that government should create strong incentives for employers to provide defined benefit packages for employees. We recommend that employers automatically enroll workers in retirement plans. If the plans shift the responsibility for investment decision-making onto the employee, we strongly urge that the employer provide their employees with help in their investment choices.

The success of policies to increase financial literacy among Latinos is and will be tied to progress in improving Latinos' overall educational levels. This population's need for formal education in math is especially important. Policies to boost Latino adults' core math skills will reap broader benefits that extend beyond financial planning. We recommend support for adult educational programs such as GED preparation. Obtaining a high school diploma is especially desirable for Latino immigrants, only 57% of whom have high school diplomas and 11% of whom have college bachelors' degrees (U.S. Census 2004 American Community Survey). Increasing Latino's academic levels yields an equally important economic benefit, as educational levels are directly linked to levels of earnings. Increasing Latinos' education will boost the earnings potential of workers, and income, as we have shown, a basic factor in retirement saving.

Potential benefits of strengthening Latinos' financial literacy extend even further. Improved financial literacy will have a positive impact on Latinos borrowing behavior. As Raul Yzaguirre, president of National Council of La Raza (NCLR) argues, "even a modest degree of financial literacy helps families to stay away from harmful personal debt, fight discrimination, avoid predatory practices, and invest wisely and purchase and accumulate assets" (NCLR, 2002). Latinos' low financial literacy and income levels also make them vulnerable to risky home mortgage loans. Home ownership is an important method of accumulating wealth in this country and Latinos are increasingly buying homes (Ready 2006). The

Table 10.

Logistic Regression II: Effects of Financial Literacy on Retirement Planning (core data)

	Latino and Black Sample	Black and White Sample	White and Latino Sample
Intercept	-4.0718***	-3.1108***	-2.8284***
	(0.860)	(0.4340	(0.450)
Race dummy	Latino:	Black:	Latino:
	-1.1943**	0.2084	-1.1275***
	(0.438)	(0.290)	(0.0.381)
Age	0.0748***	0.0538***	0.0508***
	(0.016)	(0.008)	(0.008)
Male	0.1199	0.2408***	0.2718***
	(0.130)	(0.066)	(0.070)
Marital Status	0.6839***	0.1792*	0.0483
	(0.132)	(0.072)	(0.079)
Less than high school education	-0.0747	-0.5358***	-0.5189***
	(0.179)	(0.1438)	(0.136)
College education and above	0.5388***	-0.0022	-0.0098
	(0.144)	(0.068)	(0.0726)
Household net worth (Logarithm)	0.0094	0.0627***	0.0575***
	(0.014)	(0.009)	(0.010)
Average score on cognition questions	0.0057	0.0078*	0.0082**
	(0.0076)	(0.004)	(0.004)
Interaction term of score and race dummy	0.0375***	-0.0060	0.0387***
	(0.013)	(0.008)	(0.011)
-2 Log Likelihood	1640.96	5915.07	5280.53
Number of observations	1360	4957	4447

* Significant at 10% level
** Significant at 5% level
*** Significant at 1% level

durability of that wealth-building asset is threatened by Latinos' involvement in sub-prime and variable rate mortgages. Improving Latinos' financial literacy is a must for sustaining Latinos' recent strides in home ownership.

This study highlights the pressing need for financial education for Latinos and for bolstering their participation in retirement planning and savings. Our study of Latinos' financial and retirement behavior and understanding is nonetheless limited by the sample size and questionnaire design of the existing national scale data sets. Quantitative and qualitative information is needed to assess Latinos' financial knowledge, attitudes, behavior and activities relevant to retirement savings. Such in-depth factual information and analysis will help financial, social policy and decision makers to meet the challenges of increasing Latinos' retirement security, their participation in the United States financial market, and their financial incorporation in American society.

Findings Summary

- Americans generally, and Latinos in particular, are woefully unprepared to meet the challenge of individually planning and saving for retirement.
- Financial illiteracy is a key reason for this lack of preparedness.
- Financial illiteracy is widespread and systematic throughout the population but is of particular concern for Latinos.
- Improving Latinos' financial literacy will have a greater impact on retirement planning than for other populations. Latinos are less likely to have a retirement plan but those who do have plans stick to them.
- Latinos' preferred methods of investment learning are individual and informal.

Recommendations Summary

- Expand financial education resources targeting Latinos, including hiring and training bilingual staff.
- Increase investment planning programs for Latinos that provide for individual investment counseling.
- Government should create strong incentives for employers to provide defined- benefit packages for employees that both automatically enroll workers in retirement plans and include investment and financial education.
- Support adult education programs that boost core math skills and lead to high school equivalent diplomas. Outcomes include increased financial literacy and higher earning potential.
- Increase Latinos' financial literacy through culturally appropriate, personal methods that inspire trust. Such approaches may include
- Financial literacy programs at banks and credit unions. As a model of best practice, Xion Bank's Su Banco program in Salt Lake City is exemplary.
- Partnerships with organizations that are trusted among Latinos, including churches, national Latino organizations such as LULAC, and other non-profit agencies are also recommended for promoting Latinos' financial literacy.
- Programming on Spanish language radio stations, especially shows with a personable, respected host can also be effective ways of increasing Latinos' financial knowledge and literacy. Examples of such programming include Juli Stav y Su Dinero, Dra. Isabel and Carina, Su Mejor Amiga.
- Promote financial education on university campuses through curriculum development that includes both academic learning and practical training.
- Support programs that bolster Latinos' math competence and educational attainment.
- Take action to ensure that social security will continue to be viable for future generations.
- We do not recommend initiatives that would give individuals decision-making responsibility for their social security funds. ■

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