FINANCIAL LITERACY AND RETIREMENT PLANNING: EVIDENCE FROM PUERTO RICO

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ABSTRACT

This study evaluates knowledge regarding financial and retirement planning in Puerto Rico. Most people seem to be unprepared to take charge of financial decisions and retirement. Lusardi and Mitchell (2006) study shows that many households are unfamiliar with even the most basic economic concepts needed to make savings and investment decisions. This study uses a questionnaire to evaluate financial knowledge and retirement planning in Puerto Rico. For the most part, this questionnaire was developed using Lusardi and Mitchell (2007, 2001a, 2011b) questionnaires. The results suggest a lack of knowledge in these matters; although respondents answered they get informed about financial and retirement matters. Most of them state they prepare a household budget but results suggest they do not use them appropriately. Many respondents are unfamiliar with even the most basic economic concepts needed to make savings and investment decisions. When asked about retirement, near 60 percent have tried to estimate the amount needed for retirement but less than 50 percent of them have tried to design a plan for their retirement. Of those who have made plans, less than 40 percent have met their goals and only 14 percent are very confident that they will have enough resources at retirement.

JEL: D140, J260

KEYWORDS: Retirement Planning, Financial Literacy

INTRODUCTION

In March of 2006, the Special Commission on Puerto Rico Government Pension Systems published a report that describes how knowledgeable government employees are about the services and benefits of the retirement system. Some questions in the survey asked whether the employees knew about financial planning, pension benefits, social security benefits and health costs during retirement. Between 64 and 79 percent of the employees assured they did not have information about these matters. Years later, in October 21, 2010 the Commission on Puerto Rico Government Pension Systems Reform submitted for the consideration of the Governor of Puerto Rico a report on the situation of the Puerto Rico Government Retirement Systems. It discussed issues such as the actual funding and cash flow situation, factors that are contributing to the actuarial liability cash flow problem and their recommendations.

The members of the Commission included recommendations such as changes in the employers and employees contribution requirements, modifications to special laws that enhanced retiree benefits, changes to the benefit structure and retirement age, to stop temporarily early retirement programs, to modify personal and mortgage loans made against the retirement savings funds, changes in governance and other ideas. Ironically, in the last section, the section called "Other Ideas"; the commissioners recommended that education for retirement planning should be given on a regular basis to employees.
This suggestion made clear that there is a need to educate people about retirement and other financial matters. This study evaluates knowledge regarding financial and retirement planning in Puerto Rico. First, past literature about the existence and effectiveness of retirement planning programs in Puerto Rico, the United States and other countries are reviewed. Also, studies presenting a model on how to evaluate knowledge concerning financial and retirement planning was reviewed. Then, based on the results and suggestions of past studies, a questionnaire was be design and distributed to the employees of the University of Puerto Rico-Río Piedras to assess their knowledge in financial and retirement related matters. Based on those results, a description on the level of knowledge is be presented and analyzed.

At this stage of the study, the results suggest a lack of knowledge in this matters, although respondents answered they look for information regarding financial and retirement matters. The results and findings of this study can be used as starting point for a more comprehensive endeavor, a study of the governmental and private sector employees' knowledge about planning for retirement. The results of this study may help in the recollection of part of the data that will serve as evidence to support or not the development of a personal finance education project. The paper proceeds as follows: first, there is a presentation of the relevant literature regarding this topic. Second, after the literature review, there is a description of the sample selection procedure, data analysis and methodology. Finally, the conclusion and a list of references are presented.

RELATED LITERATURE

Retirement Systems Evolution and Issues

This study is born out of real concerns regarding the future of retirement plans, especially in Puerto Rico. There are five main groups of employees targeted separately under our retirement systems: employees of the University of Puerto Rico, teachers working for the Department of Education of Puerto Rico, employees working for the Justice Department, employees working for the Electric Energy Authority and the rest of the government employees. The Employees Retirement System of the Commonwealth of Puerto Rico is a trust created by Act 447 of May 15, 1951 to provide pension and other benefits to retired employees of the government of Puerto Rico and its instrumentalities. Since its creation, this system and the decisions made to maintain or improve its funding status have reflected a lack of appropriate planning. On the one hand, the Center for the New Economy (CNE) (2010) argues that the main problem has been that the level of employer and employee contributions has been relatively low and was not actuarially determined. On the other hand, the level of benefits was statutorily defined with no relation to employee contributions or to the investment yield of the systems assets.

In a review of the decisions made throughout the years regarding the retirement systems, the CNE summarizes part of the obviously wrong path that it was taking. In 1973 the benefit structure was changed to increase benefits without enacting a corresponding increase in contribution levels. Adding to this decision, during the next years the number of government employees increased partly in response to the general economic slowdown. As a result, funding levels began to decrease and deteriorate. Almost two decades later, a decision that seemed to be going partially in the right direction emerged. In 1990 the Puerto Rico legislature enacted Act 1 of 1990, it mandated a reduction in some benefits (a decision that might be two-fold because it might diminish retirees quality of life) and increased the retirement age from 55 to 65. Other changes also emerged, for example Act 447 of 1951was amended to require that any future proposals to increase benefits be supported by an actuarial analysis and to include a financing source for the benefits proposed. These few changes prove to be insufficient and by the year 2000 the large accrued unfunded actuarial liability of the system required a very difficult and not necessarily positive decision for future employees. The defined benefits plan was closed to new employees joining after January 1, 2000. New employees will participate in a defined contribution plan known as System 2000. The government will continue making contributions but are intended to fund the defined benefit liability that has been accumulated. Under System 2000, the employees are funding the system by themselves. This change transfers the risk from the employer to the employee.

Those new employees are at risk that the funds that will accumulate through their working years are appropriately managed and invested to accumulate the amounts necessary to live during their retirement. So, they bare the risk of accumulating sufficient funds. There are no guarantees as to the amount they will receive at retirement. Hence the importance of saving and managing other sources of funds wisely.

After the changes mentioned above the retirement systems can be described in three types of plans. The first type is described in Act 447 of 1951 as a contributory and defined benefits plan. This plan covers employees of the Government of Puerto Rico (excluding teachers), employees of public corporations (except employees of the Puerto Rico Electric Power Authority and the University of Puerto Rico), municipal employees and mayors, employees of the Puerto Rico Police Department, employees of the Puerto Rico Fire Department, and irregular personnel fulfilling the requirements of a regular employees, who were hired prior to April 1, 1990.

The second type is described in Act 1 of 1990 as a contributory and defined benefits plan. This plan covers employees of the Government of Puerto Rico (excluding teachers), employees of public corporations (except employees of the Puerto Rico Electric Power Authority and the University of Puerto Rico), municipal employees and mayors, employees of the Puerto Rico Police Department, employees of the Puerto Rico Fire Department, and irregular personnel fulfilling the requirements of a regular employees, who were hired on or after April 1, 1990 and before January 1, 2000. This plan changes retirement age to 65 and modifies some benefits. The third type, called System 2000, is described as a hybrid plan and defined contribution plan. This plan covers employees of the Government of Puerto Rico (excluding teachers), employees of public corporations (except employees of the Puerto Rico Electric Power Authority and the University of Puerto Rico), municipal employees and mayors, employees of the Puerto Rico Police Department, employees of the Puerto Rico Fire Department, and irregular personnel fulfilling the requirements of a regular employees, who were hired on or after January 1, 2000.

These changes have proved to be insufficient since the system's unfunded actuarial obligation continues to increase. Factors such as the continuous increase in the pensioner population, the increased longevity of beneficiaries, and the fact that incoming pensioners have higher salaries and are entitled to even higher annuities, negatively impacts and neutralizes any measures taken to battle the funding problem of the systems. The future of the system seems gloomy and at the present moment the government is to change dramatically the existent system by changing the benefits and contributions structure. It is important for government employees to understand the characteristics of the system, how it works, its status, the alternatives to improve its situation and also other alternate plans that they can put into action in case their future pension proves to be inadequate to fund their retirement living expenses.

Financial Literacy and Retirement Planning Programs

Studies have found that retirement planning is lacking among different groups. Not just among Puerto Ricans but among people around the world. Most people seem to be unprepared for the future. Lusardi and Mitchell (2006) study shows that many households are unfamiliar with even the most basic economic concepts needed to make saving and investment decisions. They found that this is not a matter of age. Young and older people in the United States and other countries appear inescapably under informed about basic financial computations necessary to make savings, retirement planning, mortgages and other decisions. They also point out that governments and non-for-profit organizations are starting to play an important role in developing initiatives regarding financial education.

In a recent study Lusardi and Mitchell (2011a) report on a purpose-built survey module on planning and financial literacy for the Health and Retirement Study. It measures how people make financial plans, collect the information needed to make these plans, and implement the plans. They show that there is a lack of knowledge among older Americans. Women, minorities and the least educated tend to be the most lacking but the financially savvy are more likely to plan and succeed in their planning. They found that this last group relies on formal methods such as retirement seminars, retirement calculators and financial experts not family or co-workers.

Using the National Financial Capability Study, Lusardi and Mitchell (2011b) examine financial literacy in the United States by ethnicity and demography. They demonstrate that financial literacy is particularly low among the young, women, and the less-educated. Two groups, Hispanics and African-Americans score least well on financial concepts. Interestingly enough, before answering the study's questions, these groups assured they had vast knowledge in financial matters. In addition, the authors found a relation between higher scores and the probability of retirement planning. In an earlier study they also found similar results but for older groups of women. Lusardi and Mitchell (2008) examine the level of financial literacy in women and how they plan for retirement. They found evidence that shows that older women demonstrate much lower levels of financial literacy than the older population as a whole. Also, women who are less financially educated are less likely to plan for retirement and be successful planners.

As for other countries, Bucher-Koenen (2011) examines financial literacy in Germany. Results seem similar. They found that knowledge of basic financial concepts is deficient among women, less educated, and those living in East Germany. Compared to West Germans, East Germans have little financial literacy, especially those with lower income and low education. Differences based on gender were not observed in the East. They also found a positive impact of financial knowledge on retirement planning. Alessie, Lusardi and Van Rooij (2011) results for the Netherlands concur. Also, Almenberg and Säve-Söderbergh (2011) found similar results for a study conducted in Sweden.

The current state of the economy and its impact on future retirees raises concerns about financial planning and security, but especially for those who are not aware of the implications that it may have in the future and how to address them today. For this reason other studies examine financial literacy and retirement planning programs structures and effectiveness.Hathaway and Khatiwada (2008) provide a comprehensive critical analysis of past studies that examine the impact of financial education programs on consumer financial behavior. Of what they examined, they recommend that for these types of programs to be highly targeted towards a specific audience and area of financial activity (e.g. credit card counseling, retirement planning). About the timing of this training, they suggest it should be offered before the related financial event. Finally and as an integral part of any developed program, they suggest a program evaluation and for it to be included as part of the design of the program.

Lusardi and Mitchell (2007) introduce a new dataset called the Rand American Life Panel that offers a set of features for the analysis of literacy and retirement planning. It helps in assessing financial knowledge during workers' prime earning years. This period might be characterized key financial decision making. So they offer detailed financial literacy and retirement planning questions to better identify or asses their financial knowledge. An important finding is related to financial literacy as a key determinant of retirement planning. Adding to this finding, respondents that were exposed to economics in school and to company-based financial education programs seem to have a better understanding of retirement planning than other respondents. Garman, Kim, Kratzer, Brunson and Joo (1999) found that employees who attended financial education workshops sponsored by the employer reported positive changes in their financial behavior and stated that their financial decision making had improved.

Accordingly, Martin (2007) reviews past literature on the effectiveness of financial education. The author found that in general financial education is necessary and that the programs available at the time were effective. The findings suggest that some households make mistakes with personal finance decisions, specifically, low income and less educated households. The author identifies areas that benefit of financial education and that include retirement planning, savings, homeownership, and credit use. In particular, they expand on the importance of stressing financial planning for retirement because of the impact or implications and changes to defined contribution plans. Schuchardt, Hanna, Hira, Lyons, Palmer and Xiao (2009) discuss what financial literacy and education research priorities should be. Along with twenty-nine scholars from public and private universities, non-for-profit organizations, and the federal government participated in identifying critical research questions that could inform outcomesbased financial education, relevant public policy and effective practice leading to personal and family financial literacy. Huston (2010) outlines the meaning and measurement of financial literacy and its limitations to assist researchers in determining or creating a standardized financial literacy and measurement instruments. Dvorak and Hanley (2010) designed and administered a financial literacy test designed specifically for a particular contribution plan and found that participants show fairly good knowledge of the basic mechanics of the plan but are unable to differentiate among various investment options. Specifically, women, low income and low education employees were the most deficient. Apparently, personal contributions lead to more knowledge. Finally, they suggest that plans should be design with few investment options and encourage personal contributions.

Stawski, Hershey and Jacobs-Lawson (2007) examine the extent to which goal clarity and financial planning activities predict retirement savings practices. The models used, path analysis techniques, were design to predict savings contributions. The results support the notion that retirement goal clarity is a significant predictor of planning practices, and planning, and as a result, helps predict savings tendencies. Age and income were found to be important variables. They suggest age-based models may be useful for retirement planning. Elder and Rudolph (1999) examine the level of satisfaction of retired individuals that spent time thinking about retirement and attended retirement planning seminars during their productive years. The evidence suggests that it had a positive impact on satisfaction even when income, wealth, marital status and health are included as explanatory variables. The importance, effectiveness and the appropriate design of financial and retirement planning seminars or workshop might be supported by past studies. They concur in that there is a lack of knowledge about basic financial concepts appropriate for healthy retirement planning. Based on these results, this study expects to find similar results for Puerto Rico.

RESEARCH DESIGN

Sample and Methodology

One of the main objectives of this study is the assessment of financial literacy in Puerto Rico. It required the collection of data regarding peoples' knowledge about basic financial and retirement matters. As a consequence, a questionnaire was design. It includes the necessary questions for discovering how knowledgeable people are about financial concepts and retirement planning. As a starting point in evaluating the degree of knowledge among Puerto Ricans, the intended audience was composed of the employees of the University of Puerto Rico-Río Piedras (UPRRP). A random sample of 300 out of 3,133 employees was selected out of the total number of employees working for the campus between August 2012 and March 2013. A total of 146 questionnaires have been collected and tabulated. Regarding the questionnaire, some of the studies mentioned above (Lusardi and Mitchell 2007, 2011a, 2011b) offer some guidelines as to the appropriate questions that should be included in this type of questionnaire. These studies have been published as a series of papers regarding financial literacy by the Organisation for the Economic Cooperation and Development (OECD). The questionnaire that was used in this study consists of 37 questions. It includes 11 questions that are used to design a profile of the participants, 17 questions regarding their knowledge about general financial matters and 9 questions related to retirement and retirement planning. These questionnaires were handed to employees personally. After collecting the questionnaires, they were tabulated and the results were summarized for the purpose of analysis. The next section describes the sample and discusses the results.

RESULTS

Sample Description

A total of 146 questionnaires were tabulated at this point of the investigation. Out of the people surveyed, 25.5 percent are men and 74.5 percent are women. When they were asked about how they describe the community they live in, 34.9 percent answered that they live in a city that has a population between 100,000 and a million inhabitants; 20.5 percent lives in a town with a population between 15,000 and 100,000 people; 16.4 percent lives in a rural area that has less than 3,000 inhabitants; 11 percent lives in a city that has more than a million inhabitants; 6.8 percent lives in a town that has between 3,000 and 15,000 residents; 5.5 percent answered they do not know how to describe the place where they live; and 4.8 percent refused to answer. About 39 percent of the sample is married, 32.2 percent is single, 17.1 percent is separated from their spouse or divorced, 6.2 percent has a partner, 0.7 percent answered they do not know their marital status and 4.8 percent refused to answer this question.

Regarding their household composition, 64.4 percent of the households have 0 members under 18 years old; 15.8 percent have 1 member under that age; 12.3 percent have 2 members; 2.7 percent have 3 members and 4.8 percent refused to answer. When asked how many members are more than 18 years old, including their spouse or partner, 15.7 percent of the households have 0 members over 18 years old; 31.5 percent have 1 member under that age; 28.8 percent have 2 members; 17.8 percent have 3 members; 2.7 percent; 17.8 percent have 3 members; 2.7 percent have 4 members; 0.7 percent, respectively have 5 and 6 members; and 2.1 percent refused to answer. On average, these households are composed of 2 to 4 people. The average age of the people surveyed is 43.3 years old. About 13.7 percent is between 20 and 29 years old; 17.1 percent is between 30 and 39; 26 percent is between 40 and 49; 34.2 percent is between 50 and 59; 2.1 percent is between 60 and 69; and 0.7 percent is between 70 and 79. Some refused to answer this question, 4.8 percent. Others left it blank.

In terms of educational level, most of the sample has a bachelor's degree, about 42 percent. About 24 percent has a master's degree, about 11 percent has a doctorate, 1.4 percent finished high school and has technical or vocational education, 4.9 finished high school, the rest of the sample refused to answer, left it blank or their response was irrelevant as for this question. The majority of the sample, almost 69 percent, owns the house they live in, either by themselves or jointly with their partner. About 22 percent of the people surveyed lives in a house that is owned by their parents, grandparents or other member of their family. About 4 percent lives in a rented house, 1.4 percent lives in a house that there are planning on buying, 0.7 lives in a house that is not owned by a family member, government, employer or a private owner. The rest of the sample refused to answer.

Concerning their main source of income, 84 percent considers salaries or wages as their main source; 5.5 percent from salaries, wages and pension or retirement funds; 2.7 percent pensions or retirement funds; 1.4 percent from their business or from self employment; 1.4 percent from other sources; 0.7 percent from government subsidies; the rest of the sample left it blank or refused to answer. Question 30 asked about the number of years left for the respondents to retire. On average, they can retire in 13.2 years. About 14 percent can retire between less than a year and 5 years. Almost 7 percent can retire between 6 and 10 years from now. About 25 percent can retire in between 11 and 15 years. Approximately, 34 percent can retirement between 16 and 20 years, 9 percent in between 21 and 25 years, 0.7 can retire between 26 and 30 years from now and 1.4 percent in more than 30 years. The rest chose not to answer. Interestingly, three respondents answer that they will never retire. This can be interpreted as an answer that reflects real financial needs and that for that reason they will not be able to retire. The next two sections present the results for questions related to financial literacy and retirement planning. For the complete version of the questionnaire and the results, please see the Appendix.

Financial Literacy Questions

The questionnaire included 17 questions related to general financial knowledge. The questions that are included in the survey are related to household budget, knowledge, ownership and selection of financial products, conduct and attitude towards financial decisions, expense and debt management, savings and financial calculations. First, in question 6 participants were asked about who was responsible for making daily financial decisions in their household. Around 40 percent indicated that they make those decisions by themselves and 39 percent make decisions with their partner. About 11 percent make those decisions with a family member other than their partner, almost 9 percent answered that other members of the household make those decisions and 0.7 percent answered that other people make those decisions. The majority of the respondents either decide by themselves or with a partner.

Then, in question 7, participants were asked if they have a family budget. Near 64 percent states they have a family budget. However, about 31 percent do not have one. Some of the participants, 3.4 percent, do not know if they have a budget and the rest refused to answer. Questions 8, 9 and 10 ask questions regarding knowledge, ownership and selection of financial products. Question 8 asked if the participant has heard of any of the financial products that were in the list (e.g. pension fund, mortgage, bonds, stocks, and others). About 72 percent of the participants have heard of pension funds, near 75 have heard of mortgages, about 82 percent knows about credit cards, savings accounts and cellular phone accounts, about 80 percent have heard about checking accounts, about 77 percent about insurance accounts and 73 percent knows about non-bank financial loans. Near 63 percent have heard of prepaid cards and between 50 and 60 percent of the sample have heard of loans with collateral (other than home mortgages), loans without collateral, corporate stocks and bonds. Concerning investment accounts, such as trusts, only about 47 percent have heard about them.

Question 9 asked about ownership of any of these instruments. Near 80 percent have a checking account and a cellular phone account. About 69 percent have a savings account and 66 percent have a credit card. Near 54 percent have a mortgage and/or insurance account. About 43 percent have a pension fund. Near 18 percent have shares in a business and about 8 percent owns bonds. In regards to the other financial instruments less than 12 percent of the participants own them. Question 10 inquired if they have owned or chosen these financial products in the past two years. About 42 percent has chosen or owned a cellular phone account. About 30 percent has chosen or owned a credit card, savings or current account. About 21 percent has chosen or owned a mortgage or an insurance account. Around 10 percent of the participants has owned or chosen the rest of the products in the list.

Question 11 asked how the participants would describe the way they chose the financial products listed in questions 8 through 10. Most of them, about 62 percent, considered different alternatives from different institutions or companies. About 14 percent considered different products offered by one institution, near 7 percent did not considered product alternatives, 0.7 percent did not find other products that could have been considered and 4.8 did not know the answer. The rest of the participants refused to answer, answered that the question did not apply or left it blank. Question 12 asked the participants about information sources that influenced their decisions the most. About 50 percent of the participants were influenced by newspaper articles. Near 45 percent states that family or friends that are not working for financial institutions influenced their decisions. About 44 percent were influenced by a representative working for the financial institution selling those products. Near 43 were influenced mostly by newspaper advertisement. Between 29 and 33 percent of the participants answered that radio and television programs, information found in the Internet about the best financial instruments, information obtained at the branch and guidance from family or friends that are working for financial institutions, influenced their decisions. Question 13 tries to assess the participant's conduct and attitude towards financial decisions. They are presented 8 statements and were required to indicate the degree of agreement with the statement. The participant was given a range or score from one to five, one meaning "completely agree" and five meaning "completely disagree". About 77 percent agrees with the statement: "Before I buy something, I carefully consider if I have enough money to buy it". Only 1.4 percent completely disagrees with it. About 49 percent completely disagrees with the statement: "I live in the present; the future will take care of itself". Only 6.2 percent completely agrees with it. More than 47 percent completely disagrees with the statement: "I prefer to spend my money than saving it". Only 4.1 percent completely agrees with it. About 74 percent agrees with the statement: "I pay my expenses and debts on time". Only 4.1 percent completely disagrees with it. About 36 percent completely disagrees with the statement: "I am ready to risk my money saving or investing". Near 14 percent completely agrees with it. ". About 60 percent agrees with the statement: "I paid attention to my financial matters". Only 2.7 percent completely disagrees. Near 32 percent agrees with the statement: "I establish financial goals for the long-term and I try to reach them". Only 8.2 percent completely disagrees. About 37 percent completely disagrees with the statement: "Money exits to spend it".

About 10 percent completely agrees with it. Questions 14 and 15 asked about expense and debt management. When the participants were asked if they consider that their income is not sufficient to cover their living expenses and if they have been in the situation of not being able to cover them in the past 12 months, about 64 percent answer "YES". About 28 percent did not agree and 2.7 percent did not know. The rest of the participants refused to answer, left it blank or their response was irrelevant. Then, in question 15, they were asked how they dealt with the most recent situation in which they were not able to cover their basic needs. About 67 percent cut their expenses or do not incurred in those expenses, 35 percent used their savings to cover them. Near 29 percent worked additional hours, about 23 percent applied for a loan from their retirement savings. About 22 percent made late payments or do not made them. Near 21 percent used their credit cards to make payments or to by food. Around 15 percent took a loan from a savings and loans institution, bank or other financial institution. About 10 percent sold some belongings and 6.2 percent pawned them. Some other participants, about 6 percent respectively, used a line of credit, a bank overdraft or took a loan from an informal source.

Lastly, question 28 asked about home mortgage debt. Only those who had a home mortgage were asked to answer this question. Out of 146 participants, 59 answered it. This group represents about 40 percent of the sample. About 19 percent of the respondents state that they can pay the balance of their mortgage today using their savings. Another 19 percent thinks they will not be able to pay out their mortgage in their lifetime. Near 14 percent makes additional payments other than the monthly payment to reduce the balance of their mortgage. About 10 percent have solicited a reduction on their monthly payment or the postponement of the next monthly payment.

There are two different groups of respondents that separately represent 3.4 percent of those having a mortgage, which failed to make a mortgage payment and did not ask the bank for a special arrangement or stated that if they were to sell their home they might not be able to pay out the balance. Approximately, 34 stated that none of the alternatives applied to their home mortgage situation. Questions 16 and 17 address savings. The former asks the participant whether during the past 12 months he or she has saved in any of the listed alternatives. About 58 percent deposited in their savings account but about 22 percent have not saved. Near 21 percent saved money but keeps them in their house or wallet. Around 8 percent saved in an informal savings club. Only 4 percent invested in financial instruments such as stocks or bonds and 3 percent reinvested their income from their savings. About 2 percent gave money to family members so the save it in their name. Of the rest, 5.5 percent refused to answer and 0.7 percent was not aware of this matter.

In question 17, the participants were asked for how long they might be able to cover their basic needs without borrowing money or leaving their home if they were to lose their job or main source of income. Almost 29 percent stated that they might cover those expenses for at least one month but for less than three months. About 16 percent might cover them for less than one week. Around 15 might cover those expenses for at least three months but for less than six months. Another 15 percent assures that they might cover them for more than six months. Approximately, 10 percent can cover their expenses for at least one week but not for a month. Near 10 percent of the participants do not for how long they can cover them. The rest refused to answer or left it blank.

A series of questions were included in order to test the financial skills of the participants. Question 18 tested basic mathematical skills, in this case division. Around 80 percent of the participants answered correctly. Almost 8 percent refused to answer. About 3 percent stated that that they do not know the answer. The rest offered wrong or irrelevant responses. Question 19 addressed their knowledge about inflation and its effect on the value of money. Approximately 29 percent answered that if inflation goes up 4 percent, in one year, the value of money will decrease and, as a consequence, less can be bought. About 21 percent answered that they do not know the answer. There is almost 16 percent of the respondents that answered that the can buy the same and another 16 believes that it will depend on the kind of things that you want to buy. A small group of 5.5 percent answered that they will be able to buy more things. The rest of them refused to answer, left it blank or offered an irrelevant response.

Question 20 also addressed financial skills from the standpoint of calculating interests. Near 75 percent of the respondents answered it correctly. Almost 14 percent answered that they do not know. About 8 percent refused to answer and the rest left it blank or offered an irrelevant question. However, question 21 is also related to the calculation of interests and its accumulation in a savings account and the results indicate a lack of knowledge in this matter. Just 46 percent answered it correctly. Near 26 percent stated that they do not know the answer. About 16 percent refused to answer; near 3 percent offered an irrelevant response; and 10 percent offered an incorrect answer. The last question that assessed their financial skills was related to compounded interest. Approximately, 30 percent answered it correctly. Another 25 percent selected an alternative that might be considered correct if the respondent rounded to the nearest dollar. However, about 21 percent responded that they do not know the correct answer. Almost 7 percent answered it incorrectly or thinks there is not enough information to answer it. Around 14 percent refused to respond and the rest left it blank or offered an irrelevant response.

<u>Retirement Planning Questions</u>

Questions 29 to 37 asked about the appropriate age to start planning financially on retirement, time left for their retirement and different aspects to consider when planning for retirement. Question 29 asked about the ideal age to start planning for retirement. On average, the respondents believe that a person should start when they are 25 years old. About 26 percent that people should start planning before they are 20 years old. Approximately, 34 percent thinks that a person should start between 21 and 25 years old. Another 9 percent considers that the appropriate age is between 26 and 30 years old. Near 15 percent answered that they do not know. Interestingly, 4.8 percent thinks that a person should start planning after they are 46 years old. About 4.2 percent believes that starting between 31 and 45 is adequate. Near 7 percent refused to answer and the rest left it blank.

Question 31 asked the respondent if he or she and/or their family have tried to determine how much they need to save for retirement. Almost 58 percent responded that they have not tried and only 28 percent have tried. About 6 percent do not know and another 6 percent refused to answer. Less than 1 percent did not understand the question and less than 3 percent did not answer. Respondents may skip questions 32 to 36 if they chose an alternative other than the one that reflects that they have tried to calculate how much to save for retirement. Questions 32 asked how they tried to estimate that amount. Of the respondents to these question, about 31 percent used calculators, computer based spreadsheets or tools available through the Internet. Another 20 percent talked to family members or relatives. Near 11 percent asked friends or co-workers and another 11 percent consulted a financial planner, consultant or accountant. Some used different sources, 4.4 consulted family, relatives, friends and co-workers.

Another 2.2 percent asked family and relatives, used financial tools (calculators and spreadsheets), and consulted specialists (financial planners and accountants). About 2 percent consulted family, relatives, friends and co-workers and used financial tools. The rest do not know how to do it, do not want to know, refused to answer or left it blank. Out of these respondents, only 43 percent answered in question 33, that they have developed a plan for retirement. More than 51 percent have not. And the rest either refused to answer or left it blank. In question 34, of those who have developed a plan, 38 percent answered that they have achieved their goals. Almost 46 percent answered that they have met their retirement plan goals most of the time. However, about 10 percent have met them occasionally and almost 5 percent have never met them. The rest refused to answer the question.

Question 35 inquired about the elements that are included in the respondent's plan. Almost 86 percent includes a governmental retirement plan or benefits for the elderly. About 21 percent considers a retirement plan from an employer in the private sector. Near 37 percent have personal savings for retirement. Approximately, 8 percent plan on taking a reverse mortgage. That same percent plans on having a business. More than 6 percent plans on moving to a smaller place and 3.2 percent on moving to a cheaper place. Near 6 percent plans on depending on their partner and another 6 percent plans on earning an income during retirement. About 3.2 percent plans on selling their non financial possessions (cars, jewelry, collections, etc.) and about 5 percent plans on selling their financial assets. Near 2 percent will depend on their descendents. The rest answered that they include other things such as renting some properties they have and live insurance.

Question 36 required for the respondent to consider his or her response to question 35 in order to answer it. It inquired about the respondent's confidence in relation to maintaining their desired standard of living during retirement. Only 14 percent are very confident, around 60 percent are more or less confident, almost 18 percent are not very confident and almost 5 percent are not confident at all. About 1.6 percent does not know and the rest of the respondents refused to answer or left it blank. Finally, in question 37, all the participants were asked what factors are necessary if anyone is trying to plan on retirement. About 77 percent thinks that the time left for retirement is important. About 59 percent included current savings, near 47 percent included eligibility for a government sponsored plan, about 22 percent included return on investments, near 68 included benefits on retirement plans, about 21 percent included working during retirement, almost 49 percent included the desired standard of living, 63 percent included the costs expected to incur during retirement, almost 45 included life expectancy, another 27 percent included the value of assets at the time of retirement, 42 percent included current costs of living and about 45 percent included whether you own a property or not. About 2 percent answered that other elements should be included but did not offer examples. Near 4 percent refused to answer.

CONCLUSION

This study evaluates knowledge regarding financial and retirement planning in Puerto Rico. Most people seem to be unprepared to take charge of financial decisions and retirement. The results suggest a lack of knowledge in financial and retirement planning, although respondents answered they look for information regarding financial and retirement matters. These results concur with Lusardi and Mitchell (2006). This study uses a sample of public employees working for the University of Puerto Rico between August 2012 and March 2013. Results show that they prepare a household budget but when asked if they have covered their living expenses during the past 12 months, most answered they have not. They had to cut expenses or used part of their savings. Incongruous results are observed when asked about savings. The majority answered they have saved in the last year. But when asked how long will they be able to keep covering their living expenses if they were to lose their jobs, about 80 percent will be able to do it for less than three months. Many respondents are unfamiliar with even the most basic economic concepts needed to make savings and investment decisions.

When asked about retirement, near 60 percent have tried to estimate the amount needed for retirement but less than 50 percent of the respondents have tried to design a plan for their retirement. Of those who have made plans, less than 40 percent have met their goals and only 14 percent are very confident that they will have enough resources at retirement. Most of them expect to depend on their government sponsored pension plan. These results reflect lack of knowledge and planning and/or mistaken plans. Apparently, there is a need to create conscience about the importance of knowing how to adequately manage financial matters and how to prepare for the years to come during retirement. As an observation, while administering the questionnaire, when the respondents were asked to perform basic mathematical operations, they just refused. They did not want to think about how to solve the operation.

This attitude towards analytical or mathematical operations made us think about the possibility that people do not want to engage in simple or elaborate calculations, and if this was the same attitude when signing a debt contract or when making their budget. The results are worrisome. If people think they know how to manage their financial and retirement matters but they are actually not being successful, who is going to care of them during retirement? The government, future generations, or will they live in poverty? No cross tabulation was performed but future research will include it. The next steps will include a sample of employees working in the private sector, an examination of relationships between gender, age, educational levels and financial and retirement knowledge (Lusardi and Mitchell 2008, 2011a, 2011b and Bucher and Koenen, 2011).

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