Behavioral Finance and Retirement Preparedness: Road to Financial Security and Well-Being

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ABSTRACT

Behavioral finance is the study of the combination of behavioral and cognitive psychological theory with conventional economics and finance. The influence of emotion and psychology on investors subsequently affects the financial markets. Irrational or unpredictable human emotion is a key driver of the market. There is evidence that individuals typically make illogical decisions when they spend, invest, save and borrow money.

Behavioral finance research has made important, relevant contributions to retirement saving and investing. This research displays an innovative perspective on participant behavior and its basis. Education and communication programs alone may not be effective in changing retirement planning behavior.

INTRODUCTION

When individuals are faced with making decisions, emotion and psychology tend to influence their decisions. They contemplate the pros and cons of their choices while taking into consideration prior experiences in similar situations before making a final decision. The primary causes for passive and active saving and investing choices are results of behavioral tendencies. There is evidence that individuals typically make apparently irrational or illogical decisions, as opposed to how they should, when they spend, invest, save and borrow money are all factors of behavioral finance.

Behavioral finance is the study of the combination of behavioral and cognitive psychological theory with conventional economics and finance. The influence of emotion and psychology on investors subsequently affects the financial markets. Irrational or unpredictable human emotion is a key driver of the market. Individuals guided by short-term emotions can lead to poor decision making. These individuals want immediate gratification and expect positive outcomes sooner rather than later which may cause them to track progress in the smallest time segments possible. An unrealistic extreme short-term focus on investment performance (i.e., days, a month, a quarter or a year) instead of looking at the long-term performance over 5 to 10 years can lead these investors to believe that it is more efficient to get rich quickly rather than get rich slowly but surely. Many hours being spent studying information without incorporating valid information in improving final decision making can lead to recency, inaccurate forecasts which are the result of investors using present conditions and recent market trends to make

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forecasts. The key concepts of behavioral finance are Anchoring, Mental Accounting, Confirmation and

Hindsight Bias, Gambler's Fallacy, Herd Behavior, Overconfidence, Overreaction and Availability Bias and Prospect Theory (Phung, 2011).

The concept of anchoring draws upon the tendency for people to attach their thoughts around a reference point despite the fact that it may not have any logical relevance to the decision at hand. Anchoring can also be a source of frustration, as investors base their decisions on irrelevant figures and statistics. For instance, some investors invest in the stocks of companies that have fallen considerably in a very short period of time. In this case, the investor is anchoring on a recent high that the stock has attained and as a result believes that the decrease in price provides an opportunity to buy the stock at a discounted price.

Mental accounting refers to the tendency for people to divide their money into separate accounts based on criteria like the source and intent for the money. According to the theory, individuals allocate different functions to each asset group, which often has an irrational and negative effect on their consumption decisions and other behaviors. The importance of the funds in each account also varies depending upon the money's source and intent. Even though many people use mental accounting, they may not realize how unfounded this line of thinking really is.

Confirmation bias refers to how people tend to be more attentive towards new information that confirms their own preconceived decisions about a subject. The confirmation bias suggests that an investor would be more likely to look for information that supports his or her original idea about an investment instead of researching the information that may contradict it. The hindsight bias characterizes how people believe that after the fact, the occurrence of an event was completely obvious. Many events seem obvious in hindsight. Hindsight bias is attributed to the instinctive need to find order in the world by creating rationalizations that allow individuals to believe that events are predictable. Finding invalid links between the cause and effect of an event may result in incorrect over generalizations.

The gambler's fallacy refers to an incorrect interpretation of statistics where an individual believes that the occurrence of a random independent event would by some means cause another random independent event less likely to happen. Some investors may believe that they should sell a stock after the price has gone up in a series of subsequent trading sessions because they do not believe that the stock is likely to continue to increase in value. Alternatively, other investors might hold on to a stock that has fallen in multiple sessions because they view further declines as unlikely. If a stock has gone up on six consecutive trading sessions, it does not guarantee that it is less likely to go up during the next session.

Herd behavior represents the preference for individuals to imitate the behaviors or actions of a larger sized group. Reasons why herd behavior occurs is due to the social pressure of conformity and the common rationale that it is unlikely that a large group could be wrong. Most people are very sociable and have a natural desire to be accepted by a group, rather than be labeled as an outsider. So, following the group is the best way of becoming a member. On the other hand, even if someone is convinced that a particular idea or course of action is irrational or incorrect, that individual may still follow the herd, believing they know something that others do not. This is especially common in situations in which an individual has very little experience.

Overconfidence represents the tendency for an investor to overestimate his or her ability in performing some action. There is a fine line between confidence and overconfidence. Confidence involves realistically trusting in someone's abilities, while overconfidence usually means an overly optimistic assessment of someone's knowledge or control over a situation. Overconfidence can also be damaging to an individual's stock picking proficiency in the long run. Overconfident investors tend to conduct more trades than their less-confident peers.

Overreaction and availability bias occurs when an individual reacts to a piece of news in a way that is greater than the actual impact of the news. Investors in the stock market predictably overreact to new information, creating a greater than expected effect on a security's price. This surge in price is not a lasting trend even though the price change is typically sudden and substantial, the surge declines over time. Individuals tend to heavily assess their decisions toward more recent information, making any new opinion biased toward that latest news.

Prospect theory refers to an idea created by Drs. Daniel Kahneman and Amos Tversky that determined how people do not program equal levels of joy and pain to the same effect. Individuals tend to value gains and losses differently and will base decisions on apparent gains rather than apparent losses. If an individual was given two equal choices, one expressed in terms of possible gains and the other in possible losses, they would choose the former even when they would achieve the same economic end result. The average individual tends to be more loss sensitive, as losses have more of an emotional impact than an equivalent amount of gains.

In Daniel Kahneman's book, Thinking, Fast and Slow, the way that people think, react, and reach conclusions in all areas are a part of the predictable ways that errors of judgment occur are discussed (Kahneman, 2011). The architecture of human decision-making is included and the historical data of people's systematic mistakes and irrational patterns. Some examples covered are 1. Framing. Subjects assessed are more likely to opt for surgery if told that the survival rate is 90 percent, rather than that the mortality rate is 10 percent. 2. The sunk-cost fallacy. Subjects try to avoid feelings of regret; they invest more money and time in a project with uncertain results rather than give it up and admit they were wrong. 3. Loss aversion. In experiments, most subjects would prefer to receive a sure $46 than have a 50 percent chance of making $100.

CONDITIONS OF RETIREMENT INCOME

The United States' retirement system is often symbolically referred to as the three-legged stool supporting retired workers. The legs of this symbolic stool are Social Security, employment-based pensions and personal savings and asset income. Retirement wealth income is primarily in the form of

Social Security, pensions and home equity. Americans need a secure financial outlook plan in order to establish the necessary resources needed for retirement. With the threat of reductions in Social Security, Medicare, pensions and retiree health insurance, and longer life expectancies, individuals need to be educated on both retirement wealth accumulation and how to make savings last for a lifetime.

The government has been involved in trying to manage the issue of Americans not saving enough for retirement by offering tax-related incentives and education (CTS ASEC, 2005). Individuals can plan for their retirement financial security by starting to save early and continue this practice each year. It is not always about how much a person saves but more of the fact that they do save and allow their money to grow over time. Saving is one of the most important choices someone can ever make to protect their future. The earlier someone starts to save, they will be able to prepare the way for future home ownership, their children's education, a secure family lifestyle, a comfortable retirement and many other opportunities as they strive for success, health and happiness.

Employers have more of an interest in promoting savings and retirement planning than ever before to their employees. Many people have the opportunity to save through employer-sponsored retirement plans. Some companies still have traditional employer-sponsored defined benefit (DB) pension plans. Many more employers sponsor defined contribution (DC) plans, a plan that allows employees to choose their own investments from a variety of investment options while more of the responsibility for retirement savings is falling on workers. Some employers match employees' contributions which enables their retirement savings to accumulate even faster. The 401(k) is widely offered by private corporations. Similar retirement plans are offered by nonprofit employers (403(b) plans) and government employers (457 plans). All these plans offer incentives for employees to save on a tax-deferred basis. The money that they contribute to a DC plan is deducted from their pre-tax gross income.

Employer sponsored plans are not the only tax-deferred savings options. The traditional individual retirement account (IRA) offers tax-deductible contributions for qualifying savers, and the Roth IRA allows an individual's money to grow tax-free under certain circumstances. In order to maximize retirement savings, people should save often and as much as they can afford, this would put them more ahead of the game if they are able to invest in an IRA after they have contributed the maximum to their employer sponsored plan.

In addition to an employer sponsored plan or an IRA, someone can invest directly in individual stocks or bonds. Due to the difficulty for even the most skilled investors to research and sift through thousands of choices of stocks and bonds, many people opt for mutual funds instead.

RETIREMENT SAVINGS ASSESSMENT

The average life expectancy has risen dramatically during the last century (Gillespie, 2012). The U.S. Census Bureau estimates that the number of centenarians, people who live to be 100, rose from 2,300 in 1950 to nearly 80,000 in 2010, and will exceed 600,000 by 2050. Also, according to the Society of

Actuaries, a 65 year old couple now has a 31 percent chance of at least one spouse living past the age of 95.

Based on the results of a survey from Merrill Lynch, 58 percent of affluent Americans have a positive view of the prospect of living to be 100 (DiCenzo, 2007). Although, three out of four would approach their money management differently if they knew today that they were going to live that long. A few things they would consider are continuing to work part-time during retirement (39 percent), investing in an annuity (32 percent), contributing more to a savings vehicle (32 percent) and retiring closer to 85 rather than 65 (25 percent). The majority of respondents (59 percent) also believe that the age at which Americans are eligible to collect Social Security should be raised.

Behavioral finance research has made important, relevant contributions to retirement saving and investing. This research displays an innovative perspective on participant behavior and its basis. Individuals tend to be passive with good intentions, poor follow-through, and restricted rationality. Loss aversion and decision making biases often lead to unfortunate outcomes, including a poorly funded retirement.

Behavioral finance analysts have demonstrated that education and communication programs alone may not be effective in changing behavior. However, with behavioral insights, they have offered new retirement plan design alternatives and tested their effectiveness in overcoming identified adverse behavior. These efforts are helping to pave a way of least resistance that should lead to better retirement security.

The Pension Protection Act (PPA) of 2006 supports these alternatives by providing incentives to plan sponsors that implement automatic features such as automatic enrollment and deferral rate escalation. It also allows plan sponsors to choose more aggressive investment defaults.

DATA ANALYSIS

An increasing number of the retirement planning tools and philosophies that are widely used to answer the question of whether someone has enough for retirement, or if they will live longer than their money often give misleading results (Milevsky, 2011). More problematically, the individual then generates a false sense of security that they definitely do have enough, when in fact they do not.

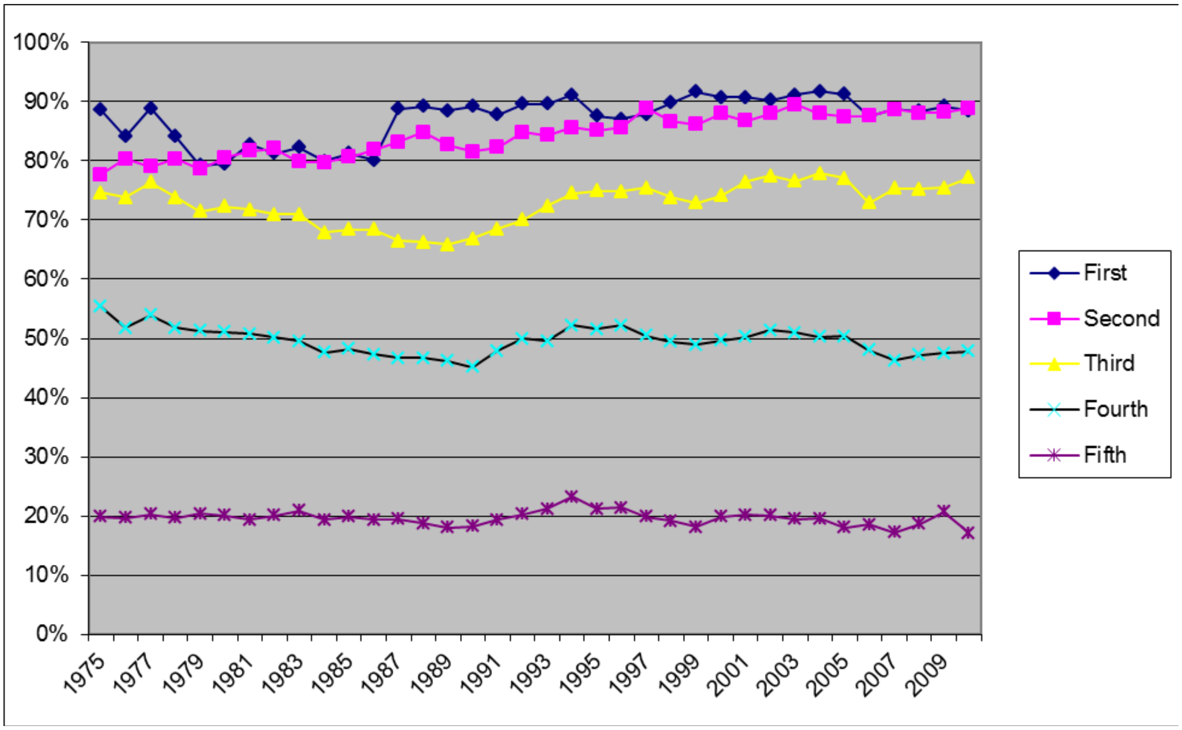
Assume a person is 65 years old and would like to retire today. Besides the entitled income from government and employer-based pensions, assume that the person will need an additional cash flow of $1,000 per month ($12,000 per year) for the rest of their life. If someone is retiring at the age of 65 and would like a $1,000 monthly income stream until life expectancy, which is age 84.2, and this money is invested at a real interest rate of 1.5percent, then the individual will need a nest egg of a little over $200,000 at retirement. The real interest rate of 1.5 percent is selected as the investment return, since it is the best rate that can actually be guaranteed in today’s environment on an after-inflation basis. In late July 2011, long-term inflation-linked (government) bonds are yielding 1.5 percent.

Assuming a more aggressive rate of return and then claiming that retirement has suddenly become cheaper is a dangerous myth that will end up costing many retirees a lot more. More importantly, a life annuity should not be viewed as just another expensive way to finance retirement income or as just one possible tool in a growing collection of products. Relatively, the annuity price is actually a market signal of what retirement really costs. And, it is the cheapest and safest way to convert a nest egg into a lifetime of secure income. Market prices convey information and the cost of a life annuity is a hard-drive full of intelligence. A nest egg is a particular amount of money saved or invested for one specific future purpose such as retirement, education or entertainment. The main purpose is that the money in the nest egg should not be used except for the purpose for which it is saved. The real dilemma is what fraction of the nest egg someone would really want to allocate to actual retirement and eventually convert into some sort of life annuity. Also, determining what fraction of that nest egg should be allocated to the kids, the grandkids and beyond, maybe using life insurance and other estate transfer products. This is obviously a personal decision that has less to do with expected returns and probabilities and everything to do with personal preferences.

From 1974 through 1999, there has been a steady increase in the percentage of individuals aged 65 and over receiving employment-based pensions and annuities (EBRI, 2011). From 2000 through 2010, that percentage fluctuated from 34.3 percent to 35.4 percent. The Employee Benefit Research Institute (EBRI) tabulations of the Current Population Survey (CPS) show that in 1974, only about one-quarter of retirees received income from employment-based pensions and annuities and in 2010, over one-third were receiving retirement income from this source. With pensions and annuities including a 5.7 percentage points more of total retirement income in 2010 than in 1974, this leg of the retirement stool is supporting a greater proportion of retired workers' incomes. The predictions assume both nearly total rollovers of pension savings upon job change as well as total annuitization of pension savings upon retirement. Both assumptions are unlikely to hold 100 percent true in reality and based on the results in Chart 3 it suggests that the future of retirement income, both Social Security and employment-based pensions will continue to cover an increasing percentage of retirees. In contrast, Supplemental Security Income (SSI) is expected to cover a smaller percentage of retirees than today.

Persons aged 65 and over, in the highest income quintile, are most likely to receive income from earnings, assets, and employment-based pensions and annuities (Figure 4) (Helman, Greenwald & Assoc., Copeland and VanDerhei, 2011). Their equivalents in the lowest two income quintiles are least likely to receive income from these sources. Additionally, those in the lowest two income quintiles depend mostly on Social Security, which comprises almost 88.5 percent and 88.8 percent respectively of their incomes, in 2010. In comparison, persons aged 65 and over in the second highest income quintile receive, on average, about half of their income from Social Security, and persons in the highest quintile receive about one-fifth of their retirement income from this source.

Figure 4: Income from Social Security as a Percentage of Total Income Among Individuals Age 65 and Over, by Income Quintile, 1975-2010



Source: EBRI estimates of data from the *Current Population Survey, March 1976-2011 Supplements*.

The total U.S. retirement assets were $17.9 trillion as of December 31, 2011, which is up 4.9 percent in the fourth quarter of 2011 and unchanged for the year (Figure 5) (ICI, 2012). Retirement savings accounted for 36 percent of all household financial assets in the U.S. at the end of 2011. Assets in individual retirement accounts (IRAs) totaled $4.9 trillion at the end of 2011, an increase of 4.6 percent from the end of the third quarter of 2011. Defined contribution (DC) plan assets rose 4.8 percent in the fourth quarter to $4.5 trillion. Government pension plans, including federal, state, and local government plans, held $4.5 trillion in assets at the end of 2011 which is up 6.6 percent from the end of the third quarter of 2011. Private-sector defined benefit (DB) plans held $2.4 trillion in assets at the end of the fourth quarter of 2011, and annuity reserves outside of retirement accounts accounted for another $1.6 trillion.

CONCLUSION

The government has estimated that it will lose $136 billion this year in revenue to tax-deferred retirement plans (Greene, 2012). Congress proposed an amendment to the bill to reduce retirement plan tax benefits. This proposal is intended to increase tax revenue and retirement savings. Under current 401(k) rules, the combined employee and employer contributions for 2012 cannot exceed $50,000. Under the proposed change, the 20/20 proposal, the combined employee and employer contributions would be limited to 20 percent of the employee's compensation with a maximum of $20,000. IRAs would be created that would automatically enroll workers with no access to a workplace retirement plan by creating a way for them to save through regular payroll deductions. The replacement of exclusions and deductions for retirement savings with an 18 percent tax credit that would be deposited into the individual's retirement savings account. To accelerate the automatic enrollment of workers in retirement savings plans, simultaneous with their default savings rate, and automatically increasing workers' savings rates each year.

If this amendment were to be passed, it will have a significant effect on the way in which Americans currently save for retirement. The elimination of the tax-deferred benefit could cause workers to decrease the amount that they defer or force them to discontinue their contributions all together. Employers would also be affected by this proposal and may decide to cease the offering of a 401(k) plan. Retirement options need to be improved and expanded through further planning, financial education and investment advice. This will enable workers to plan for retirement at a sensible age and make good decisions in difficult economic times. There also needs to be a new innovative way to provide guaranteed retirement income for all workers in the U.S. based on their life expectancy to insure that their savings do not run out.

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