TEXAS TECH UNIVERSITY
College of Human Sciences
Center for Financial Responsibility

Retirement Planning & Living
Research Initiative

"Risks in Advanced Age"

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Working Paper No. 2017-03

April 2017

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Acknowledgements: The author would like to thank financial advisers who attended the 2016 FPA of Greater Phoenix Symposium for their contributions to this manuscript.

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Risks in advanced age

Executive Summary

- This paper reviews both published and emerging research on different risks retirees face and possible solutions financial planners can use to help them overcome behavioral hurdles
- Risk assessment questions that measure loss aversion, as well as reducing myopic behavior and implementing a bucketing strategy can help keep clients in portfolios that are in align with their preferences
- A preference for certainty has been observed in advanced age and older defined contribution investors exhibit equity-varying risk aversion, so client risk preferences should be reassessed later in life
- Clients face declining cognitive abilities over time, which corresponds with a decrease in investment performance and financial literacy skills
- There is in inclination for older people to reject evidence of declining skills, but if financial planners make clients aware of their declining cognitive and financial literacy abilities they may be more willing to choose simplified and satisfactory solutions
- A retirement consumption puzzle has been observed as wealthy individuals do not decumulate portfolio assets efficiently during retirement and therefore retirement income models may be overstating retirement living expenses
- Wealthy people are living significantly longer than their less wealthy counterparts, creating the need for retirement assets to last for an extended period
- Longevity “insurance” can be an effective way to protect clients against the tail risk of running out of money prior to death, but there are conflicts of interest within adviser compensation models which may hinder their demand
- A financial plan that includes ways the adviser and client can work together to overcome inevitable risks in advanced age should improve the likelihood of helping clients achieve both their financial and life goals

"Everyone has a plan until they get punched in the mouth." – Mike Tyson

It is inevitable that behavioral issues will arise in advanced age that can hinder retirees from reaching their goals. The purpose of this article is to review the literature on risks clients face later in life and to provide financial planners with solutions to help their clients overcome these obstacles. This unique article consolidates recently published and emerging (unpublished) financial planning research on age-related topics that are of critical importance to retirees and financial advisers.

The first section of this article provides information on client risk assessment. It begins with a general discussion on how client risk assessment is defined by the Department of Labor (DOL). A brief overview of research related to measuring client and spousal risk preferences follows. Potential client solutions are outlined, including the importance of a written investment policy statement (IPS), reducing the reporting frequency of investment returns and the effectiveness of using a bucketing strategy.

The second part of this paper provides an extensive overview of risks clients face in advanced age and possible solutions financial planners can use to help their clients overcome behavioral hurdles. This section begins with emerging research on equity-varying risk preferences and the implications for risk tolerance reassessment and investment strategies. It proceeds with important academic works that provide evidence of declining cognitive abilities over time and how this coincides with age-related reductions in investment performance and financial literacy abilities. Possible solutions are presented, including the importance of making advisers and clients aware of declining literacy skills in advanced age, as well as the benefits of automated investments and lifetime income. It follows with research related to suboptimal retiree spending and concludes with a discussion on increasing longevity.

Part I: Client Risk Assessment

Financial advisers who provide retirement advice have a fiduciary duty to assess client risk preferences. The DOL best interest standard requires "individualization", which is a financial plan tailored to the investment objectives, risk tolerance, financial circumstances and needs of a retirement investor. Informing clients about the investment philosophy of the financial adviser (or firm) is an important first step within the investment planning process. When an adviser constructs a portfolio, it is important for the client to understand that the asset allocation consists of financial assets like stocks, bonds, Social Security, real estate and defined benefit pension plans, as well as non-financial assets such as their human capital (Blanchett 2015). It is also valuable for advisers to provide clients with a *written* IPS at it helps clients maintain their asset allocation during market downturns. Clients who had a financial planner and particularly those who had a written plan, which included an IPS, were far less likely to shift their wealth into cash during the Great Recession (Winchester, Huston and Finke 2011).

Adequate portfolio risk assessment is vital in order to prevent clients from shifting assets to cash during a market decline. A client's risk capacity, or wealth level, is different from their willingness to take risk. A client may have the financial capacity to take risk, but that does not necessarily mean they can avoid succumbing to behavioral traits, such as loss aversion, during market downturns. Loss aversion is the tendency for investors to weigh losses more than comparable gains from their last quarterly statement. When clients view their portfolio holistically, with both financial and non-financial assets, it can help to alleviate loss aversion[i].

Measuring loss aversion is essential to accurately assessing client risk preferences. Risk assessment questions that measure loss aversion, as opposed to questions that measure willingness to accept variation in spending, more accurately capture individuals' portfolio allocation preference and recent investment changes (Guillemette, Finke and Gilliam 2012). Questions that ask people the degree of risk they have taken with their financial decisions in the past and present periods are also helpful in determining portfolio allocation preferences and recent investment changes (Guillemette, Finke and Gilliam 2012).

Charness, Gneezy and Imas (2013) provide some of the more prevalent methods used to elicit individual risk preferences, but the literature on how to incorporate spousal risk preferences into an asset allocation is limited. The share of risky assets in portfolios of two-person households increased with the risk tolerance of the spouse with greater bargaining power (Yilmazer and Lich 2013). Bargaining power included factors such as which spouse or partner had the final say on major family decisions (e.g. when to retire, where to live or how much money to spend on a major purchase). Bargaining power was also assumed to increase based on the relative income the higher earner spouse contributed to the household. It is important for financial planners to understand which spouse has greater bargaining power when assessing a couples' risk preferences and building a portfolio allocation. In addition, understanding how frequently each spouse evaluates investment returns may provide an adviser with clues about each spouse's willingness to invest in stocks and bonds.

Myopic or shortsighted behavior is an important predictor of risk taking. When students were shown monthly returns they allocated 59.1% to a bond fund and the remainder to a stock fund (Thaler et al. 1997). In comparison, when students were shown annual returns they allocated only 30.4% to the bond fund and the remainder to a stock fund (Thaler et al. 1997). This finding is not just limited to students as workers invest more of their retirement savings in equities if they are shown long-term (rather than one-year) rates of return (Benartzi and Thaler 1999). In fact, professional day traders who constantly look at investment returns exhibit myopic loss aversion to a *greater* extent than students (Haigh and List 2005). These findings emphasize the significance of understanding how frequently a client observes investment returns when assessing their risk preferences. These studies also highlight the importance of coaching clients to ignore short-run returns and reporting portfolio returns less frequently to reduce shortsighted behavior. A bucketing strategy is another technique that can be used to help reduce myopic behavior.

A bucketing strategy is a behavioral technique used by advisers to help clients link assets with a corresponding goal. When an adviser and client are discussing the IPS the financial planner frames liquid assets, bonds and stocks as separate buckets of money. For example, liquid assets such as a cash are framed as being in a short-term bucket that is used to fund spending needs over the next five years. Assets like bonds are deemed to be in an intermediate-term bucket that is used to fund goals approximately 6-15 years away (e.g. education). Finally, riskier assets like stocks are framed as being in the long-term bucket that funds retirement goals. The bucketing strategy should help clients focus on longer-term probabilities of payoffs for assets such as bonds and stocks which has been shown to reduce myopic behavior[ii].

Part II: Risks clients face in advanced age and possible solutions

To what extent do client risk preferences change?

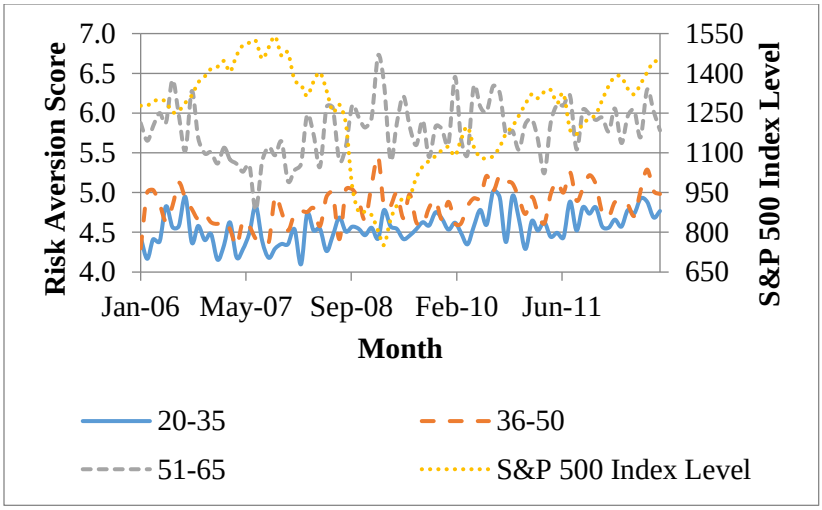
Emerging research suggests that individual risk perception and preferences may not be stable. Recent stock market declines, and even non-financial disasters such as earthquakes, are associated with a higher probability assessment of a future stock market crash by individual investors (Goetzman, Kim and Shiller 2016). This is likely due to the availability heuristic[iii] shifting an individual's subjective probability assessment of a future crash (Goetzman, Kim and Shiller 2016). A qualitative and quantitative measure of risk aversion among Italian bank customers increased substantially following the 2008-2009 global financial crisis (Guiso, Sapienza, and Zingales 2013) indicating that it is not just investors' risk perceptions but also their preferences that change in response to a decline in equity values.

Individual risk preferences may also be affected for a long period of time due to a traumatic market experience. The Great Depression had a permanent impact on individuals' risk preferences and decisions, including a lower willingness to take financial risk, greater pessimism regarding future returns and a lower likelihood of participating in the stock market (Malmendier and Nagel 2011). If investors experienced low stock market returns early in life and participated in the stock market, they allocated a lower percentage of their liquid assets to stocks (Malmendier and Nagel 2011). Consistent with the Goetzman et al. (2016) finding, Malmendier and Nagel (2011) found that more recent return experiences had stronger effects on the willingness to take risk, particularly for younger people.

Age has a seemingly intuitive relation with the preference for certainty, as individuals become more myopic as their investment horizon shortens, thereby increasing the preference for more conservative assets (e.g. TIPs or annuities). Rebalancing a client's holistic portfolio requires a higher allocation percentage to assets with greater certainty as their bond-like human capital falls over time. Reducing the standard deviation of the financial portfolio is also an optimal strategy if aging investors face an increasing preference for certainty and loss avoidance. Mather et al. (2012) conducted a study on the impact age has on the preference for certainty and found that older adults preferred certain gains and avoided sure losses to a greater extent than younger adults. Advanced age not only affects the preference for certain assets, but also equity-varying risk aversion.

Emerging research provides evidence of equity-varying risk aversion in advanced age (Blanchett, Finke and Guillemette 2016). Figure 1 displays the results of monthly average risk aversion, as measured by Morningstar, and S&P 500 values for three different age cohorts over a time period that spanned the 2008-2009 global financial crisis.

Figure 1. Monthly Average Risk Aversion Values and S&P 500 Index



Source: Blanchett, Finke and Guillemette (2016)

When S&P 500 values fell risk aversion rose for defined contribution investors over the age of 50. The descriptive changes in risk aversion were more pronounced during the bear market (1/1/2006 - 3/1/2009) versus the bull market (4/1/2009 - 10/1/2012) for older workers. The bear market correlations between the risk aversion score and the S&P 500 Index were -0.296 (ages 20-35), -0.559 (ages 36-50) and -.696 (ages 51-65). In comparison, the bull market correlations were 0.158 (20-35), 0.149 (36-50) and 0.022 (51-65). This suggests that variation in risk aversion may not just be dependent on age, but also whether workers are experiencing stock market gains or losses. The age variable may also be capturing a shortening investment horizon and lower cognitive ability, which have been linked to increased myopic behavior[iv] and greater risk aversion (Dohmen et al. 2010), respectively.

A greater preference for loss avoidance and equity-varying risk aversion in advanced age raises the question as to whether older investors should be decreasing their stock allocations later in life. Conventional wisdom suggests that clients should decrease their stock holdings and increase their allocation to bonds in advanced age due to a reduction in human capital and a shortening time horizon. However, research indicates that it may actually be optimal to increase a client's allocation to risky assets during retirement. If withdraws out of the portfolio reduce cash quickly enough, the allocation to risky assets should increase during retirement (Wallmeier and Zainhofer 2006). The reduction in cash out of a portfolio depends on a client's expected mortality, as a lower survival rate implies that a client should reduce wealth more quickly (absent a bequest motive) and invest more aggressively during late retirement (Wallmeier and Zainhofer 2006)[v]. Men should therefore reduce wealth more quickly and invest more aggressively during late retirement compared to women due to lower mortality.

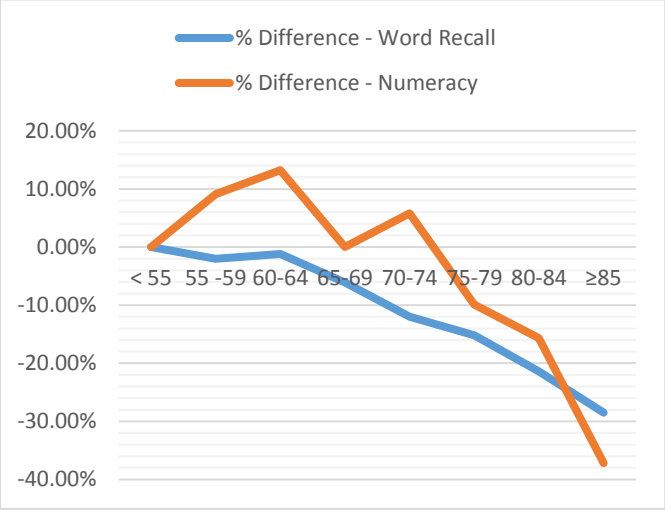
Reducing retirement risk with a rising equity glide path (also referred to as a "bond tent") has been found to reduce the probability of failure and magnitude of failure for client portfolios (Pfau and Kitces 2014). Pfau and Kitces (2014) reported that a portfolio that begins at 30 percent equities and finishes at 60 percent equities outperforms a portfolio that begins and finishes at 60 percent equities. The results are consistent when the portfolio begins at 60 percent equities and declines to 30 percent equites over time. These results are confirmed by Delorme (2015) using a model of constant relative risk aversion. If client risk preferences are constant, then research supports that a rising equity glide path is a good recommendation. If, on the other hand, client risk preferences shift and they prefer greater certainty in advanced age, then a rising glide path may not be an appropriate strategy. The findings discussed previously emphasize the importance of reassessing client risk preferences in advanced age to

determine whether they are constant. Future research should also explore whether a rising equity glide path is optimal given increasing risk or loss aversion over time.

Declining cognitive ability and literacy in old age

Client risk preferences are not the only behavioral characteristic that may change in old age. Clients face an inevitable natural decline in cognitive abilities over time. Inductive reasoning, spatial orientation, perceptual speed, numeric ability and verbal memory all begin to decrease by age 45 (Schaie 1996) and begin to decline more rapidly when people reach their mid-60s. Figure 2 displays the sharp decline in word recall and numeracy in advanced age, which are associated with a lower propensity to hold stocks (Christelis, Jappelli and Padula 2010).

Figure 2. Word recall and numeracy in advanced age



Source: 2012 Health and Retirement Study

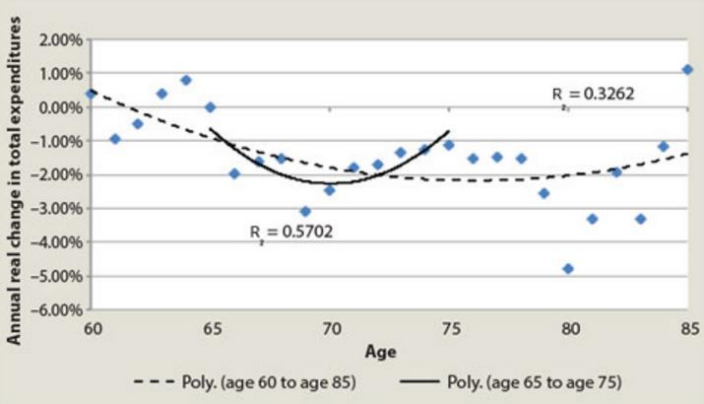
There is a decrease in investment performance that corresponds with the decline in cognitive ability (Korniotis and Kumar 2011). Financial literacy also begins to decline after age 60 but older individuals' confidence in their financial literacy abilities remains constant over time (Finke, Howe and Huston 2016). The decline in both fluid (e.g. word recall) and crystallized (e.g. define words) intelligence contributes to falling financial literacy scores (Finke, Howe and Huston 2016).

There is an inclination for older people to reject evidence of declining cognitive abilities. For example, older drivers do not detect a decline in their driving abilities (Holland and Rabbitt 1992) despite a decrease in perceptual speed and spatial orientation over time. However, older drivers who took a driving exam became aware of their declining skills and modified their behavior to reduce the odds of getting into an auto accident (Holland and Rabbitt 1992). If financial planners make clients aware of their declining investment and financial literacy abilities, they may be more willing to make simplified and satisfactory financial decisions. This might include a greater demand for financial products such as annuities, which help to simplify the decumulation decision during retirement. For consumers who do not receive expert advice from a fiduciary, automated investment products such as target-date funds can be helpful due to the benefits of diversification and automatic rebalancing.

Retirement consumption puzzle

Equity-varying risk aversion and declining financial literacy abilities are not the only potential hurdles that client face in old age. A retirement consumption puzzle exists, as retiree expenditures actually decrease during retirement (Banks, Blundell and Tanner 1998; Bernheim, Skinner, and Weinberg 2001; Ameriks, Caplin and Leahy 2007). The lifecycle hypothesis implies that individuals maximize happiness by smoothing spending during retirement (Modigliani and Brumberg 1954). The spending path should vary between clients based on factors such as risk preferences and expected mortality. For example, clients who are more risk tolerant should prefer greater spending during their early retirement years compared to less risk tolerant clients. Clients with lower expected mortality should also prefer greater spending earlier in retirement. However, a "retirement spending smile" has been noted, and is displayed in Figure 3, where the annual real change in consumption declines until age 70-75 and then begins to increase later in life (Blanchett 2014).

Figure 3. Annual Real Change in Consumption for Retirees



Source: Blanchett (2014)

It is important to disentangle the question of whether the reduction in spending in advanced age is due to a lack of retirement resources or choice. Browning et al. (2016) investigated whether, despite the possibility of low future U.S. asset returns[vi] and longer life expectancies, retirees are spending an amount that would put them in jeopardy of running out of money during retirement. Wealthy retirees (top 20% of wealth), on average, are not consuming an amount that would place them in danger of running out of money during retirement (Browning et al. 2016).

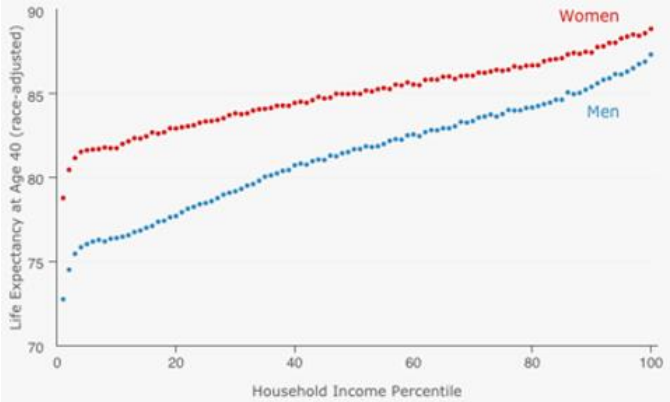
Given the findings of Blanchett (2014) and Browning et al. (2016) retirement income models may be overstating retirement living expenses. Increasing spending levels earlier in retirement appears to be a better retirement income strategy compared to a constant inflation-adjusted spending amount. As Blanchett (2014) points out, actual retiree spending does not even increase by inflation. Higher spending levels during the early retirement years is logical from a lifestyle standpoint as clients are healthier and may not be able to spend money on planned goals later in life as their health status declines. However, there may still a need to set aside financial resources later in life due to increased medical costs and rising longevity.

Longevity risk

Over the past century, life expectancy in the United States has risen approximately one year every decade. One of the most important life expectancy factors is income, which has a dramatic effect on a

client's expected longevity. The wealthiest American men live 15 years longer than the poorest men and the wealthiest American women live 10 years longer than the poorest women (Chetty et al. 2016). Figure 4 displays single U.S. life expectancy by income for a 40-year-old using data from 2001-2014.

Figure 4. Life expectancy vs Income in the United States



Source: Health Inequality Project[vii]

Life expectancy for the 10th percentile of household income is 76 years for men and 82 years for women. In comparison, for the 90th percentile of income (which is similar to the clientele of fee-only advisers) life expectancy is 85 years for men and 87 years for women. Clients who live into advanced age may also live for an extended period. For example, in 2004 an 85-year-old man had a one-in-four chance of living to 94 (Arias 2007) and joint life expectancy increases the odds of one spouse living closer to 100.

One solution to help clients align their retirement spending needs with an increasing lifespan is by purchasing a longevity annuity. A male client who purchased $100,000 of a single premium deferred annuity at age 65 would receive non-inflation-adjusted monthly payments of $4,965 a month beginning at age 85[viii]. Anecdotally, financial advisers often state that annuitization be delayed until interest rates rise. A financial planner might be confident (or overconfident) that nominal interest rates will increase over the next few years, thereby increasing annuity payouts for their clients. However if interest rates do not rise or do not outweigh lost mortality credits, clients will end up paying more for a longevity annuity if the purchase is delayed.

Another popular anecdote is that a bond ladder is a superior alternative to an annuity. Annuitization actually becomes a relatively more appealing option than building a bond ladder in a low interest rate environment because the increase in the cost of building a bond ladder is greater than the increase in the cost of buying an annuity when rates are low (Blanchett, Finke and Pfau 2017). A client spends principal and interest with a bond ladder arrangement, compared to spending principal, interest and mortality credits with an annuity (Blanchett, Finke and Pfau 2017). Mortality credits become more important with low interest in both scenarios, while a low discount rate for the bond ladder makes it increasingly expensive (relatively to a longevity annuity) to fund spending planned for goals in the future (Blanchett, Finke and Pfau 2017).

The way an adviser frames an annuity to a client can have an important impact on the demand for the product. Technically a pure life annuity is insurance that protects retirees from a decline in consumption (spending) later in life, so to compare an annuity's performance to the performance of a portfolio of stocks and bonds is inappropriate. People preferred a life annuity to a savings account when the choice

was framed in terms of consumption (Brown et al. 2008). Emerging research has also found that older people preferred an annuity framed as "insurance" compared to an "annuity" (Guillemette, Sharpe and Jurgenson 2017).

One additional factor that may influence the demand for longevity insurance is an adviser's compensation model. Advisers who are compensated through a percentage of assets under management (AUM) have interests that closely align with their clients during the asset accumulation phase of the lifecycle. However, post-retirement, fee-only advisers who receive a percentage of AUM have a financial incentive for their clients to limit spending, which may include avoiding a large up-front cost out of AUM to purchase longevity insurance. Fee-only advisers may rationalize a conservative decumulation strategy as reducing the likelihood that a retiree will outlive their portfolio assets. A more satisfactory solution may involve the purchase of longevity insurance when a client retires in order to provide certainty in terms of how long portfolio income needs to last.

Fixed-rate deferred annuity sales have risen in recent years. According to the Life Insurance Management Research Association, sales of fixed-rate deferred annuities were up 25% from 2015 to 2016[ix]. The U.S. government recently provided guidance on longevity annuity contracts (QLACs) in retirement accounts. In 2014 the U.S. Treasury Department issued final rules in order to deal with the issue of QLACs and minimum distribution requirements (MDRs) from qualified retirement accounts. The final ruling stated that "a 401(k) or similar plan, or IRA, may permit plan participants to use up to 25 percent of their account balance or (if less) $125,000 to purchase a QLAC without concern about noncompliance with the age 70 1/2 MDRs. The dollar limit will be adjusted for cost-of-living increases[x]". It is important to note that QLACs should be purchased as insurance to protect a retiree from running out of portfolio income and not solely as a MDR avoidance strategy.

Implications

This paper has outlined many of the behavioral challenges clients face later if life as well as potential solutions to help them overcome these obstacles. Whether an adviser has a plan in place to assist their older clients in the event that risks arise may ultimately define the planner-client relationship. However, even if a plan is in place, if it fails to include well-developed solutions to help retirees overcome behavioral hurdles then retirement goals may still be in jeopardy. A well-developed financial plan that includes ways the planner and client can work together to overcome inevitable risks in advanced age should improve the likelihood of helping clients achieve both their financial and life goals.

Most clients exhibit myopic loss aversion but there are ways financial planners can help to alleviate these traits. Myopic behavior can be ameliorated by reducing the frequency in which portfolio returns are reported (e.g. from quarterly to annually). Loss aversion can be reduced by educating clients on the holistic nature of their portfolio, which includes assets such as human capital, real estate and Social Security. Providing clients with a written IPS and using a bucketing strategy are other ways financial planners can help clients maintain their asset allocation during market downturns.

Emerging research suggests that client risk perception and preferences may not be stable. A certainty effect has been observed in advanced age as well as equity-varying risk aversion. Reducing retirement risk with a rising equity glide path is optimal if clients exhibit constant risk aversion over time. However, client risk preferences should be reassessed later in life to ensure their portfolio strategy still aligns with their tolerance for risk.

Declining investment performance and financial literacy coincide with a decline in cognitive abilities in old age resulting in a greater propensity for clients to make financial mistakes. Clients have a tendency to resist the notion of inevitable declining abilities in advanced age. If an advisor is able to increase client awareness of declining financial literacy abilities then clients may be more likely to take steps to protect themselves from financial mistakes. This may include the recommendation of financial products by advisers that create illiquidity and prevent overspending.

A retirement consumption puzzle and rising longevity create a balancing act for advisers. On the one hand, financial planners should strive to help clients enjoy their retirement savings earlier in retirement due to increased health capital. On the other hand, longevity uncertainty creates the need for advisers to protect clients from exhausting their retirement resources prior to death. One way to efficiently balance these conflicting goals is by purchasing longevity insurance. Longevity insurance provides financial advisers with a time frame of how long their clients' retirement assets must last. In addition, longevity insurance protects against the tail risk of a client depleting his or her retirement savings in the event that they live longer than expected. Although sales of fixed-rate deferred annuities are on the rise, a financial conflict of interest may limit their demand among fee-only advisers paid on a percentage of AUM.

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[i] Sokol-Hessner et al. (2009) found that choosing to take a more holistic perspective reduces loss aversion.

[ii] Hardin and Looney (2012) discuss how increasing the span of time over which prospective probabilities and payoffs are presented promotes broad framing (reduces myopic behavior).

[iii] A mental shortcut that relies on immediate examples (like the global financial crisis of 2008-2009) that come to mind when someone evaluates the likelihood of a future crash.

[iv] If we assume shortening the investment horizon also reduces the span of time over which prospective probabilities and payoffs are presented then it should increase narrow framing (myopic behavior).

[v] A lower survival rate implies a lower discount factor making the investor more impatient (Wallmeier and Zainhofer 2006).

[vi] For a discussion on lower future U.S. asset returns, refer to Blanchett, Finke and Pfau (2017).

[vii] http://www.healthinequality.org

[viii] New York Life annuity quote provided by Cannex as of November 2014.

[ix] http://www.limra.com/Posts/PR/Data_Bank/_PDF/2016-4Q-Annuity-Estimates.aspx

[x] www.treasury.gov/press-center/press-releases/Pages/jl2448.aspx