Programmed Financial Literacy Testing - A System for Mitigating Cognitive Decline-Induced Financial Decision Quality Erosion?

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Abstract

The risk that comprised financial decision making capacity in advanced age presents to lifestyle quality, family wealth, and general welfare is considered, as are common risk control measures. It may be likely that such measures are frequently overlooked, misapplied, or underutilized. Several financial control transfer devices, such as conservatorships/adult guardianships, as well as estate planning devices such as powers of attorney and living trusts are explored and compared. The advantages to wealth holders, financial advisory practitioners, and social welfare an early detection and remediation alert/activation system for this problem is explored, and a framework for one proposed, with the suggestion that such a system be embedded into standard financial planning annual review procedure. Model questions derived from other researchers' work, tied to a risk-tolerance-questionnaire analog chassis, are suggested as a beginning point to encourage the development of a simple, easily adoptable system for the advisory profession and its related industries. A pilot study of seniors' literacy with financial concepts germane to typical financial planning clients presenting descriptive statistics for first-tranche primary data from a unique instrument is presented. These empirical date represent initial results from a unique instrument intended to measure "senior financial literacy"(SFL), topics of especial wealth impact in later stage life. This instrument was constructed jointly by this author and Harold Evensky, and applied to a convenience sample of some 60 of the author's clients and 15 of his academic and practice contacts. The Finke-Howe-Huston instrument discussed below was also applied to the samples as a benchmark. Surprisingly, SFL levels are found to be lower in both samples, and more markedly in the professional sample. A follow up study will apply the instruments to a much wider non- convenience sample, as well as provide regression and other

more detailed analysis. Since the Camarda-Evensky instrument is new and could likely benefit from the insight of other academics, it is hoped that the 2017 AFS conference will facilitate this.

Introduction

It is widely accepted that old age brings heightened risk of compromising or disabling cognitive decline. Ramifications include degraded financial decision quality/capacity, and increased susceptibility to fraud and other abuse from both strangers and familiars, including family. These risks can threaten wealth for both seniors and their loved ones, erode the affordability of a comfortable retirement lifestyle, and even preclude life-sustaining/extending health care. The cost of elder financial abuse is very high, estimated to be some $2.6 billion per year (MetLife, 2009). Simple, elegant measures to protect against diminished capacity by transferring control to others are widely available through advisory professionals. These include powers of attorney, living trusts with contingent trustees, trust protectors, and other measures. While such techniques are widely accepted, they appear to be less widely used among those who could benefit, possibly due to flaws in the advisory training and delivery process, and professional conflicts of interest. This is unfortunate, since the last-resort protection for the incompetent – becoming a ward under guardianship – can be alarmingly demeaning, expensive, and inefficient. It is worth noting that guardianship legally transfers control away from the wealth holder/client to some court-appointed party, with no legal requirement that the appointed party or that party’s decisions be congruent with the client’s wishes. (Littell, 2015). While the guardian, under the doctrine of substituted judgment, is instructed to try to make decisions as the unimpaired ward would, there is no requirement or assurance that the guarded ward’s actual wishes be considered (USLegal, 2015). Equally troubling is the lack of a uniform triggering device to protect those with developing cognitive disorders by alerting their family or other protectors, and initiating a control transfer process before decline may precipitate wealth-corrosive decisions and exposure to financial predators. It is quite possible that many wealth holders continue directly managing their financial affairs long past the point where they are mentally equipped to do so soundly, and that this nuance of lost capacity goes unnoticed or is intentionally overlooked by the client, their family, and by their financial/legal advisors and health care providers.

Premise

Financial planning and related disciplines lack a uniform procedure to avail applicable clients of non-guardianship mechanisms to transfer asset control when appropriate. This seems generally true even where expensive estate plans have been prepared. For instance, the incidence of testamentary vs. living trusts – which can by definition provide no cognitive transfer of control protection, is probably unconscionably high. Notably, testamentary trusts also don’t provide privacy or some other benefits of living trusts, but do generally insure probate fees to attorneys, which might be otherwise avoidable. The default mechanism to pre-cognitive-need planning – conservatorship/guardianship, is comparatively unpalatable, given the expense, ordeal, and loss of asset control. Absent springing powers of attorney – not viable in all states – and cognitive- disability contingent trustees, there apparently exists no uniform and reliable semi-automatic system to effectuate transfer when indicated. It is also important to note that such automatic devices may not control all assets, such as IRAs. It may be likely that very many seniors who would benefit from control transfer, via proper planning or even guardianship, are not timely availed of it. This is unfortunate since fairly simple steps can be easily incorporated into standard financial planning procedure to alleviate this shortcoming:

1. Educate clients on options and counsel them to include non-guardianship control transfer mechanisms;
2. Incorporate regular, simplified financial literacy testing – analogous to now-ubiquitous regular risk tolerance testing – into the annual review process, and offer to obtain advance, written permission to notify and engage the designated control transferee should an anomalous result present;
3. With such permission, activate the control transfer alert process and encourage a dialog between the client, nominated transferee, and other authorized family and advisors (especially the estate attorney) when cognitive decline appears to have begun.

It is important to emphasize that this proposal is not suggested to include a definitive cognitive assessment test, nor to facilitate any diagnosis or legal finding of incompetence, both of which would be far beyond the legitimate reach of typical financial planning practice. Rather, the intent is provide a rough approximation litmus test that can engage interested parties and hopefully foster considered decisions about asset conservation and control, in marked contrast to the perhaps too-common chaotic, unremarked decline to sub-optimal financial cognition, and possible wealth erosion or even dissipation.

This paper’s intent is to research the current need for, and lack of, such a system, and to propose specific steps that can be easily and quickly adopted by financial practitioners to better counsel and protect their clients, using a simple system analogous to the standard risk tolerance questionnaires widely required for most investment work. This study integrates the financial literature by combining work on cognitive decline, financial literacy age effects and literacy testing, estate planning devices which facilitate guardianship avoidance and attorney-in-fact/contingent trustee planning, and overall financial planning procedural refinement. It also links the nascent financial literature to the more-established geriatric and psychological domains which clearly overlap and can illuminate the problem at hand. The proposed system enhances social welfare by potentially reducing fraud and financial waste, conserving assets to enhance seniors' (and their families') financial security and quality of life, and reducing strained government welfare burdens. It promotes and supports the emerging procession of financial planning by helping practitioners to better serve their clients and to better control their liability for allegations of improper interactions with clients with diminished cognitive capacity. It enhances planners' business opportunities by facilitating bonding with potential heirs and hence increases the probably of retaining asset management work when clients die.

Literature review

While a cognitive decline due to financial incompetence is not assured, the risk is high enough that the prudent should take contingent steps to mitigate it. If and when decline comes, the change will likely be insidious, not becoming obvious until perhaps substantial damage has been done, if ever. Rosenblatt (2012) calls this phenomenon "the grey zone," a "hidden and subtle" – and "dangerous" – slippery slope where neither the afflicted nor observers notice reduced capacity, but that can open the door to scams and other risks, even when bills are paid accurately and timely and all else seems fine. Such elder abuse has been estimated to cost billions a year, and is growing. Rosenblatt suggests the need for financial authority transfer once the grey zone has been entered, and supports regular physiological or neurological testing to make this call, though perhaps this is more than can be realistically hoped for. Rudd (2009) notes that mental changes happen slowly and affect different thinking centers differently and at different times, and links financial aptitude decline to other, better known activities of daily living. He also relates mild, and perhaps imperceptible, financial decision dysfunction to more general mild cognitive impairment (MCI). Okonkwo, et al. (2006) notes that individuals with *mild* cognitive impairment showed *significant* financial dysfunction, and the Mayo clinic observes that MCI may be a transition zone between functional cognitive decline and severe impairment or even Alzheimer’s (mayoclinic.org). The gray zone slope seems quite slippery – and to have different gradients for different cognitive domains, and different individuals.

Clearly many citizens remain vital and sharp well into advanced old age, and it quite possible (MetLife, 2013) that cognitive decline is more an artifact of disease than age itself; even if declining health increases with older age, these are still quite different things. The MetLife study argues that it is good (organic/mental) health that is the key to decision quality, not age, that absent illness cognitive ability does not decline, and that strategic learning capacity – a key to decision quality – may actually increase with age, and hence protect healthy seniors from poor decisions (and presumably, for this paper’s purposes, financial blunders). The MetLife paper addresses cognitive stability and decision making quality in general, without focusing on financial aspects.

But is the grey zone a uniform region? Is decision capacity stable across knowledge domains, or might perhaps some suffer while others remain robust? Finke, Howe, and Huston (2011) directly measured financial literacy (“FL”) amongst the aged using a new FL instrument and a large, nationally-representative sample. An eighty-nine item question pool was developed and analyzed to select questions that were said to be unbiased with respect to gender, age, race, and socioeconomic status, and had unambiguous correct responses. This instrument was vetted and refined for validity and reliability by a panel of FL experts and distilled to sixteen items[i] covering credit, banking, insurance, investments, and financial basics. These questions are clear, readily comprehended, time-efficient to self-test and could likely serve as a basis to develop “clinical” financial planning instruments. The authors found a consistent linear FL score decline of about 2% per year among participants past age sixty, with the regression results robust and corroborated by multivariate analysis to strongly argue against cohort effects driving the results. Somewhat perversely, the authors also find that confidence in financial decision making increases with age (and as FL declines), perhaps brewing fertile conditions for financial blunders and abuse. In their study, Finke and his co-authors found cognitive decline to be inevitable and inexorable, at least with respect to specific FL skill sets, and this area is clearly deserving of deeper research across disciplines in light of this finding. Still, there is enough interval variation in the regression data to suggest the process is not uniform or consistent with respect to given age, and it is probable that tremendous age/FL competency age ranges lurk in the statistics, with some subjects retaining high FL level at quite advanced ages, and some declining surprisingly early. In any case, the odds of risk from potential age-related financial cognitive decline are not to be taken lightly. While these authors’ findings are alerting, it must be considered that, perhaps, financial literacy declines not as a function of lost ability, but perhaps instead due to lack of attention or interest by otherwise fully-operational minds, who choose to devote their sometimes-considerable mental powers to non-financial pursuits (Camarda, 2015). In other words a lack of fluency in financial-specific knowledge domains does not preclude the potential for such fluency, and the Finke, et al findings may, at least partly, stem from mere disinterest. It is possible or even likely that a lack of financial expertise does not necessarily imply senility, but merely ignorance which could be easily remedied by motivation and brief study. Since others

(Timmermann, 2015) have shown that non-age-related financial illiteracy is fairly common, this element likely deserves further exploration.

It also seems possible that the Finke, et al study did not screen its underlying HRS data for those who experience asymptomatic early dementia, and hence did not by design bifurcate the sample into those who are impaired and those who are aging "normally", though it should be noted that many financial planners may not do this, either. It is also possible that the likely wide age range of financial cognitive decline – from those in their 50's who may be affected to some in their 90's who are not – warrants deeper research. Many gerontologists claim that most people in their 60's and 70's, and many in their 80's, are fully cognitively functional (Timmermann, 2015). While beyond the scope of this paper, financial illiteracy in general, and regardless of age, remains a complex research issue, and a significant challenge to modern society.

In any event, there is compelling evidence that diminishing cognitive capacity is a very real and probable risk for many seniors, (Horn, 1968; Fair, 1994; Salthouse, 2000), and that such decline has obvious financial ramifications. Korniotis and Kumar (2011) found that older, experienced investors may be inclined to follow rules of thumb that imply financial sophistication, but, as age increases, may become less effective in applying investment skill or selecting appropriate rules. They conclude that while older investors have greater knowledge and experience than younger people, their skill in effectively applying these attributes can deteriorate with age due to cognitive impairment, with more-precipitous decline beginning, for some, around age 70. It is also compellingly apparent (Finke et al., 2011) that there is typically a gradual diminution which progresses over time, and that the condition may not be obvious in initial stages, even as, and after, substantial risk of financial damage materializes (Rosenblatt, 2012). This progression– from imperceptible, mild impairment to possibly gross incompetence –

might be called gray zone creep or slippage. Slippage might best define the problem as seniors exercising control over financial (and other) decisions past the point when their capacity allows them to act competently in their own (or other stakeholders') interests, and perhaps continuing even as incompetence becomes increasingly grossly significant, and even until death.

There are two common financial control transfer mechanisms to address cognitive dysfunction if identified: 1) guardianship/conservatorship and 2) advance (usually estate-related) directive planning involving devices such as powers of attorney and living trusts. Guardianship is a judicial process. (General) powers of attorney give another the legal right to act for the person granting the right with the full power that the granting person themselves have or had; in other words, the holder of the power has unlimited signing power. Living trusts are legal devices that permit assets to be accepted and directed by successive managers or "trustees."

"Adult guardianship is a legal procedure in which a court determines that a person has severe disabilities which impair the person's ability to make decisions, that the person is in need of protection…(so) the court appoints someone else to…make decisions…about her (sic) property…" (O'Sullivan, 1998). This procedure would be employed where cognitive degeneration triggers the legal threshold of mental incompetency in the absence of another mechanism. Guardians of the person (medical care, etc.) or of the property (financial decisions) or both may be appointed by a judge, based on the person's inability to manage their affairs due to "mental weakness," or for other reasons. Depending on the State, such arrangements may be called adult guardianships (to distinguish from those for minors) or conservatorships. Property guardianships (we may refer to conservatorships/guardianships all as guardianships going forward) may be formed for those who are deemed by a court to be "incapacitated," lacking legal capacity or competence to properly manage their assets. (The Florida Bar, 2014).

Guardianship can be a complicated, expensive, time consuming, demeaning, and dissipative process. It involves lawyers and the courts, and is adversarial in that the person in question, or others, may object to a finding of their incapacity. For instance, in Florida, “any adult may file a petition with the court to determine another person's incapacity.” (The Florida Bar, 2014). Clearly, there is strong potential for high cost, tension and profound family/stakeholder conflict or attempted manipulation, especially given that the prospective ward (the human subject of the guardianship) has the right to contest and attend the proceedings intended to demonstrate their incompetence. Other disadvantages include the public record – including publication of asset and other sensitive personal information – nature of the process, and the possible need for expensive and disruptive court visits for judicial approval of guardians’ decisions. (Family Caregiver Alliance, 2014). A judge may consider a ward’s or others’ wishes in selecting a guardian, but is not bound by them. The test for incapacity is somewhat rigid and arbitrary, and in Florida typically includes a mental health exam and a functional assessment, evaluated by a three-member expert panel, at least two of whom must be physicians; this panel must submit a written report to the court. (The Florida Bar, 2014).

Preplanning can preempt some or all of the disadvantages of guardianship, while still protecting assets from dissipation and elder abuse (Shenkman, 2013). Control transfers can be completely private, and on the terms of the wealth holder determined while still cognitively lucid. While powers of attorney permit a wealth holder to designate who and under what conditions another person can step into their shoes, typical lack of oversight, structure, possible refusal to be acknowledged by custodial institutions, and potential for abuse – the holder of a general power, the attorney-in-fact, has virtually unlimited, and usually unchecked, power to do as they please with assets (Black, 2008) – argue for the greater control and finesse possible with living trusts. Family members with powers of attorney frequently misuse them to steal, obtain credit cards, and embezzle large sums, even driving the abused elder deeply into debt by refinancing real estate (MetLife, 2009). Alternately, using a living trust the wealth holder can prescribe the tests and evaluator(s) to determine incapacity and trigger control transfer, such as by declaring that their personal physician may make a determination binding on the trust by a written statement that the client is no longer up to making financial decisions, (Gardner, Daff, & Welch, 2012), as well as emplace controls, such requiring trustee accountings to trust protectors (Adkisson, 2012). Unlike powers of attorney, trust documents and prerogatives are readily accepted by financial institutions, and allow clients a great deal of flexibility and specificity in transferring control to a contingent trustee who will take over for them, with the oversight and check-and-balance sentinel of a trust protector, who can be empowered to oversee and even replace a trustee, if desired (Michalek, 2010). The device also may promote a more collegial and effective working relationship between the client, trustee, and other advisors or family than may be possible within the strictures of a court appointed guardianship. It is important to emphasize the distinction between living and testamentary trusts. Living or *inter vivos* trusts are created and funded during the creator's lifetime such that the trustees exercise power over the assets that have been transferred into the trust. Testamentary (from last will and *testament*) trusts are written into the will and created during probate after death – they have no power to manage assets during the creator's life. Testamentary trusts are prevalent – perhaps because drafting attorneys hope for probate and trustee work in the future from them – but guarantee probate, and by definition can instill no control transfer opportunities during clients' lifetimes. We have found in practice that many with testamentary trusts mistakenly believe they confer control transfer and other inter vivos benefits, and do not appreciate that their trusts do not even exist until death, and then only if authorized by a probate judge after surviving any will contests. In these cases, guardianships and powers of attorney (if executed and if respected by financial institutions) remain the primary available control transfer mechanisms, with all of the shortcomings previously noted.

We have been yet unable to find study data on the prevalence of actual control transition, when indicated, via guardianship or planned means, (further research suggestion #2) but suspect from personal practice that wealth holders in many cases continue in control past the point where they have the FL capacity to make this prudent; it is possible this is a pervasive problem, due to missed assessment/diagnosis, and due to family and advisor inertia, where perhaps financial convenience and stress avoidance promote an inappropriate status quo. We suspect this would be a rich and worthwhile research area.

A financial advisor *may* be in the best position to notice signs of incapacity, particularly if loved ones are in a state of denial as to the mental condition of the client, but only if the planner is careful to engage the client in financial literate discourse so that anomalies are more likely to be observed. (Gardner et al., 2012). Still, it should not be assumed that slippage into the grey zone is easily observed, even by the attentive. Advisors may remain blind to cognitive changes, since such changes often occur gradually over time, affect different people differently, and may often be attributed to – and actually benign and caused by – “normal aging” (Rudd, 2009). Still, studies show that more serious non-normal cognitive impairments may affect as many as 19% of people over age 65, and it is noteworthy that other studies show as few as 3% of those over 65 affected (Gauthler et al., 2006). While the recommendations of the American College of Physicians, the U.S. Preventative Health Task Force, and the Alzheimer’s Association are that routine testing for cognitive impairment *not* be performed even on the advanced-aged unless a patient presents with a dementia complaint, a Minnesota study of VA patients conducted by Riley McCarten, MD of the Minneapolis VA and University of Minnesota, found that veterans 70 and older who showed no memory loss nonetheless were found to have cognitive issues when clinically screened. Of the 8,342 post-70 veterans offered screening, 97% accepted, with 26% failing the screen and another 28% who agreed to further screening, with 93% of those found to have cognitive impairment, including 73% with dementia. This is almost exactly half of a rather large sample showing cognitive decline that would otherwise be undetected by medical personnel in close contact with it! Additionally, of the 118 patients who passed the initial screen who requested further evaluation, 87% were found to be impaired, including 70% with dementia. This study was said to be published in the *Journal of the American Geriatrics Society*. (SeniorJournal.com, 2012). It is worth reiterating the inference that even experienced medical clinicians do not routinely notice significant cognitive decline when examining patients in the absence of proactive, specific testing, which is rarely conducted unless patients themselves complain of the need for it! A more comprehensive understanding of these phenomena may begin to emerge with widespread testing, as routine Medicare wellness exams increasingly include simple cognitive screens (Timmermann, 2015).

It is quite likely that many non-medical professionals, financial planners included, who lack training are oblivious to such grey zone creep, to the possible detriment of clients, clients' stakeholders, and planners alike. Financial planners may be well-positioned to detect decline, since those with even MCI may perform much worse on financial processing-related skills, such as counting measuring, and sequencing (American Bar Association/American Psychological Association, 2003) according to studies at the University of Alabama, Birmingham. Clearly, if only from our study and our own practice experience, observations and intuition, it is quite likely that many financial clients have drifted – perhaps quite deeply – into the grey zone, unbeknownst to them, their advisors, or their families, and that practitioners and clients alike might benefit from some sort of early warning/alert system, and corresponding control transfer mechanism. Such arrangements can stem consumptive financial decisions, protect against fraud and abuse, and shield advisors from liability and lawsuits that might be brought by clients or clients' families for confidentiality breaches, or for accepting questionable financial instructions (Finke, 2012). It is quite probable that increased industry and regulatory scrutiny of "aging risk" management will soon dictate how advisors must monitor for, and deal with, cognitive changes, and what the specific duties to affected clients may be; the profession would be wise to better equip itself to mitigate clients' mental changes in an organized and structured fashion (Rudd, 2009), should they arise. Rudd suggests testing of three core processing domains: general financial knowledge, performance skills, and judgment skills which facilitate a person's ability to understand and act in their self interest (American Bar Association/American Psychological Association, 2003).

The assessment of elderly legal capacity has emerged as an important research area, with sophisticated methods developed to merge legal, clinical, and ethical perspectives into workable practice frameworks and functional assessment instruments. (Moye, Marson, & Edelstein, 2013). While deep assessment and formal diagnosis lie far beyond the discipline of financial planning or the purview of the financial advisor, useful insight is bound to emerge as this research progresses. Legal devices such as trusts may evolve to include cognitive testing and formal control transfer mechanizations – including checks-and-balances procedures such as dispute resolution/appeals processes (Littell, 2015), and non-binding financial advisory tools to guild the process will hopefully emerge.

Findings

There can be little doubt that cognitive decision risks increase as one grows older, and that the development of compromised function is likely to go undetected in many cases, perhaps far past the point where it might precipitate real damage. It is also clear that there is very wide variation in such decline and that if, when, and how it manifests can be a remarkably personal thing, with age of appearance and specificity of dysfunction a very amorphous thing. If and when discovered, there are two primary decision authority transfer mechanisms available, conservatorship/adult guardianship, and estate related pre-planning. The former is a judicial process, with many disadvantages compared to pre-planning, including expense, publicity, bureaucratic complexity and rigidity, and potential for adversarial conflict. Preplanning devices such as powers of attorney and living trusts allow the client to arrange for control transfer on their own terms, including defining the test used to determine incapacity, and can facilitate transfer smoothly and privately; trusts typically offer greater design and oversight control, effective protector-style controls, greater probability of authority acceptance by financial institutions, and are very efficient "will substitute" dispositive devices which maintain privacy pre- and post-death and avoid the expenses, publicity, and other risks of probate. In the absence of preplanning, guardianship remains the solution of last resort, available to all once initiated and adjudicated required based on cognitive testing.

Regardless of transfer mechanism, it is quite likely that grey zone slippage goes unnoticed (or un-remediated) on a very widespread basis, a condition ripe for financial decision inefficacy at best, and disaster or elder abuse including the sale of abusive financial products, fraud, and theft at worst. Based on inference from our own advisory practice experience and the McCarten study, it is quite possible that undetected cognitive impairment, in varying degrees, exists at significant levels, and that there is no common mechanism for potential impairment evaluation and trigger for remediation. Financial advisors, and possibly CPA’s and trust attorneys, given the nature of their work, are possibly well-positioned to offer and administer basic evaluation tools; because of the usual frequency of contact and wide scope of discussions, financial advisors may be best positioned to do so.

Such an evaluation mechanism need not be complex or overly clinical. For the purposes of practical financial planning, applicable tools can be likely be gleaned from the existing literature. Returning to Finke, et al (2011), the authors’ research instrument offers great promise as a foundation on which to build evaluative systems that can be easily adapted to “clinical” financial practice as a litmus test to indicate cases where FL may be impaired. Their study refined a large pool of vetted questions into a very short questionnaire spanning financial literacy essentials. Questions are simply stated and may be quickly answered by most individuals. Net worth math, bank accounts and loans, investment diversification and basic types, qualified plans, and basic insurance questions are posed, which measure basic comprehension of consumer financial principals key to competent decision making. The questions are designed to be read and answered without oversight or help, and require only a few minutes of self-testing. As we will address in the conclusions, an instrument of this sort could easily be adopted by mainstream financial planners without risk or burden.

Conclusions

Exposed perhaps like no other professional, today’s financial advisor seems to be in a position of unique liability, stuck between legal and ethical client confidentiality obligations on one hand, and potential accusations of accepting and executing financial instructions from clients who have lost the capacity to soundly issue them. Moreover, today's advisors may be stuck in "frog-in-the-pot" mode, oblivious to risk as the temperature ramps imperceptibly up. While advance planning can begin to address the client control transfer risk, it does not typically solve the advisor's confidentiality conflict. Who makes the call that capacity has been lost? Is the advisor equipped to do so? What if no one does? What are advisor liability and client harm consequences if the advisor refuses instructions or service on capacity grounds and the advisor's assessment of incapacity is arguably wrong? Who pays if an advisor refuses "ill-considered" trading instructions, and the market moves the wrong way? Does the advisor breach confidentiality if they alert other stakeholders to incapacity suspicions without documented permission? These seem to be many irreconcilable duties and liabilities in the absence of clear advance agreements. The advisor likewise sits in a position of unique reasonability and opportunity to serve the client and their loved ones, a canary in the mine as it were, to stand watch and alert stakeholders to potentially developing cognitive risks. Our proposed solution is intended to both help control liability and capture the service opportunity.

We propose that clients be offered regular FL testing as part of the service dialog/procedure, and that advisory service agreements be created, or modified, to secure advance, contingent permission to notify the clients' designees should such a test be "failed." This would be paired with simplified education on capacity requirements, guardianship procedures, and preplanning alternatives to guardianship, where appropriate (this might not be necessary where the planner is aware that planning is sufficient, for instance that non-qualified accounts and other applicable assets are titled to living trusts with functional contingent trustees, that other assets are protected, such as with limited powers of attorney for qualified accounts that cannot be titled to trusts without distribution and tax recognition [see suggestions for further research #3]). In such cases where the FL test is failed, advance letters of instruction and advisor waivers can empower advisors to alert others, such as family or attorneys, should they believe they detect possible cognitive decline. This would be intended to prompt a dialog among the client’s family, other advisors, and other stakeholders, and particularly the client’s estate planning attorney, who themselves would be responsible to determine who has ongoing decision control and so legally notify the advisor, with advisory agreement language that the advisor is to continue to accept the client’s instructions unless so notified otherwise. Clients who refuse routine testing would have the opportunity to instruct as to their preferred cognitive watch system, and to hold the advisor harmless should the advisor not receive clear and binding instructions to accept orders from others or no longer obey the client’s orders. In any event advisory agreements should probably include provisions that the advisor is required to accept client instructions unless legally notified otherwise, and for the prerogative to terminate clients for any reason on short notice (for observations of clear and harmful incompetence for instance).

Such a system could be easily folded into standard annual review processes, and need not take very long to execute. For instance, the Finke-Howe-Huston Financial Literacy Questionnaire, (see appendix A), could serve as an excellent starting place, perhaps to be illuminated by research and input from the fields of gerontology and psychology to underpin the validity of tested results. Hopefully this paper may serve to bridge these disciplines more and encourage productive dialog. Such a refined system for quick self-testing during a planner’s annual review, normalized to the Finke, et al instrument, might require a score of 11/16 (69%) or 10/16 (63%) in order to “pass”. Those scoring lower would have previously given written permission for specified designees to be notified, and the advisor need merely send an email to begin the documented alert and review process.

To us, this is a simple and obviously valuable addition to standard planning practice. Popular adoption, however, is another matter, beyond commercial inertia, resistance to change and perceived increased cost and liability. This is a new, or at least not often encountered, dimension in planning awareness and methodology, which will take some time and effort to sensitize practitioners, and their employers and vendors, to. To this end, regulatory and firms' compliance departments outreaches are suggested, to begin the slow paradigm shift required to demonstrate the benefits of this perspective to the profession, its clients, and society in general. Given the realities of the business world, much action in unlikely unless clear profit or risk avoidance/loss control motives can be established, which is why we believe that a simplified system, which reduces instead of increases advisors' and vendors' liability, be encouraged. Screens which are too complex, time consuming, or which attempt formal diagnoses, increase advisors' contractual obligations or otherwise increase their legal responsibilities do not seem viable to us. For this reason, the now-obligatory risk tolerance screen – a Principal's example of which appears in Appendix B – is the suggested model. In our view, such tools have many shortcomings, ignore many critical factors, and do not, in the several minutes needed to complete and score them, give a very accurate picture of how clients should invest. But they do *get done,* and provide much valuable information that would otherwise go undetected. We believe such an approach is the appropriate one to address the cognitive issue. There is vast benefit to be gained by greater awareness of, and control over, financial cognitive degeneration, and from implementation of ideas such as our proposed system. It is sincerely hoped that this work may inspire subsequent research, which could help to facilitate this shift.

Pilot study

At the request of the Journal of Financial Planning (JFP), I have conceived and executed a pilot study intended to add an empirical and quantitative dimension to the preceding literature review and discussion. JFP was interested in the results from using two different surveys on a sample of some thirty Camarda Wealth Advisors' clients to measure differences in general (FL) and senior-specific (SFL) financial literacy scores. In addition, JFP requested that these clients feeling be polled to assess comfort levels with such instruments.

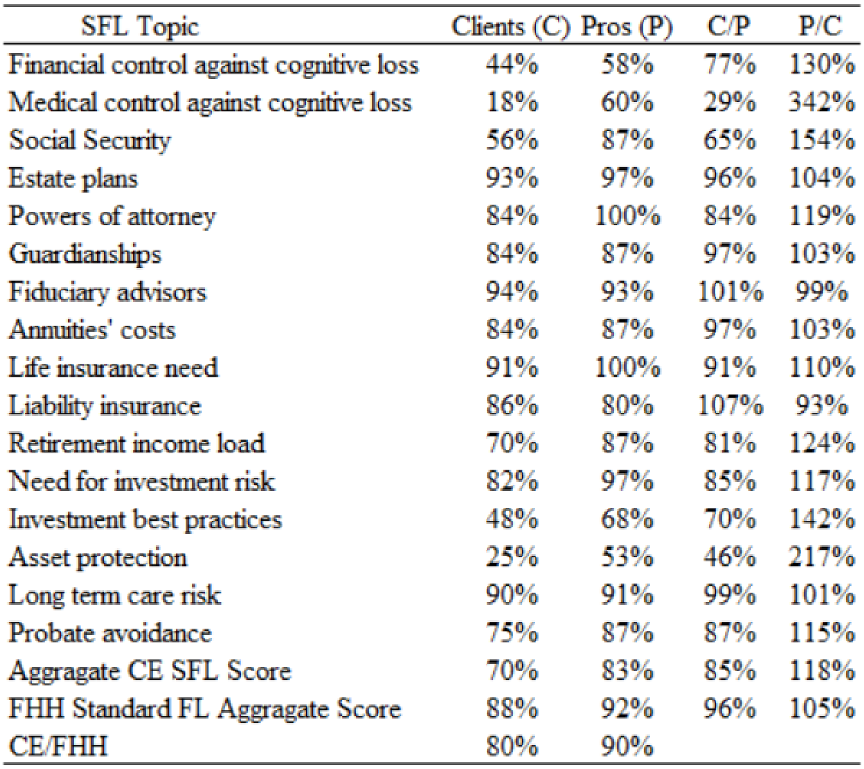
This pilot study seeks to collect and compare FL test scores from the same samples using two instruments, the Finke-Howe-Huston (FHH) question set (which is designed to measure general FL) and another primarily designed by myself and Harold Evensky. The Camarda-Evensky (CE) SFL instrument is intended to address particular seniors-significant FL domains such as estate planning, retirement funds durability, abusive products, the avoidance of fraud, and so on. The question set targets wealth planning domains typically important to the late stage life consumers encountered in advisory practices dealing with affluent clientele. While our questions were reviewed, vetted, and edited by several other academics to assess and enhance validity and reliability (please see acknowledgments), it should be noted the final set remains quite rudimentary and clearly amenable to improvement. It is hoped that those with experience in primary research and instrument construction would offer criticism to improve the survey. As requested by JFP, the instrument was offered to a convenience sample of the author's RIA clientele. It should be noted that many of the instrument's measured themes are routinely explained and emphasized through the author's firm's regular communications, and it is quite possible that the initial sample is better informed and hence not representative of the target population. The instrument containing both the FHH and CE sets was also offered to a small (n=15 from 21 offered) convenience sample of academics and advanced practitioners. This was done in an attempt to calibrate the instrument, assess expert SFL, and perhaps develop baseline scores against which to measure sample responses.

The CE set addresses knowledge about financial control against cognitive loss (3 questions), medical control against cognitive loss (1), Social Security (1), estate planning (2), powers of attorney (1), guardianships (1), fiduciary advisors (2), annuities costs (1), need for life insurance (1), liability insurance (1), retirement income load or safe withdrawal percentages (1), need for investment risk (2), investment best practices (6), asset protection from financial predators planning (1), long term care risk (3), and probate avoidance (1). Questions are aggregated by topic and scores are presented below in Table 1.

It should be noted that neither practitioner nor sample testing was conducted under controlled conditions, and respondents thus had the opportunity to study and look answers up, thus degrading both validity and reliability; more formal future studies may choose to correct for this shortcoming. Sample respondents were also asked to provide age, net worth, education, cognitive self-assessment, and information regarding the use of living trusts, tax attorneys (as a proxy for access to expert estate planning advice) and of financial advisors (as a proxy for access to expert financial advice. Of course, items like net worth may be improperly estimated, ego-inflated, or understated due to privacy concerns, and cognitive self assessments are bound to be extremely subjective, and possibly clouded by delusion; future studies may wish to adopt a more clinical approach to studying these aspects. Subjects were also polled regarding their appetite for FL assessments, and these data are presented as simple survey results. Of the 57 client respondents, only 48% claimed retirement status in this sample, though 33% were 56-65 and 55% were older than 66. Given that respondents are clients of a firm targeting clients of mass affluent or greater wealth, sampling opportunities were limited to a sub-population very likely not representative of the general population or of the retiree/near-retiree general population. There is thus likely a wealth effect associated with the collected FL scores. Conversely, since the primary object of the study is to enhance financial planning practice tools and client results, and since such clients tend to match the described sample profile, the unrepresentativeness of the sample may not hinder the significance of the study for its intended purpose.

Table 1 reports the scores by question group topic, as well as the FHH scores, for both clients and academics/practitioners (P). The final two columns report the simple ratios depicted. The final row reports the simple ratios of SFL to FL scores.

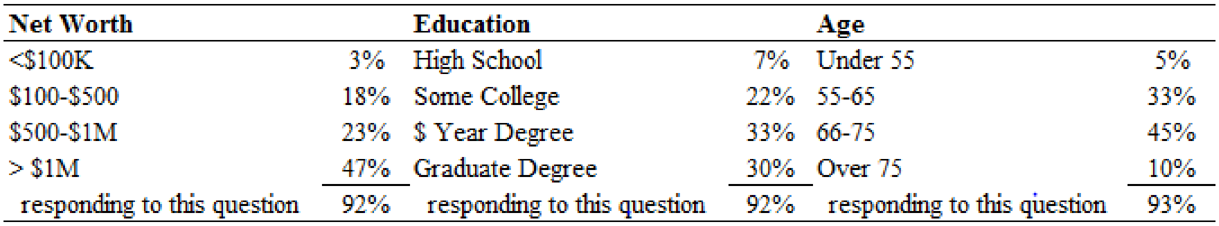
Table 1



SFL Topic	Clients (C)	Pros (P)	C/P	P/C
Financial control against cognitive loss	44%	58%	77%	130%
Medical control against cognitive loss	18%	60%	29%	342%
Social Security	56%	87%	65%	154%
Estate plans	93%	97%	96%	104%
Powers of attorney	84%	100%	84%	119%
Guardianships	84%	87%	97%	103%
Fiduciary advisors	94%	93%	101%	99%
Annuities' costs	84%	87%	97%	103%
Life insurance need	91%	100%	91%	110%
Liability insurance	86%	80%	107%	93%
Retirement income load	70%	87%	81%	124%
Need for investment risk	82%	97%	85%	117%
Investment best practices	48%	68%	70%	142%
Asset protection	25%	53%	46%	217%
Long term care risk	90%	91%	99%	101%
Probate avoidance	75%	87%	87%	115%
Aggregate CE SFL Score	70%	83%	85%	118%
FHH Standard FL Aggregate Score	88%	92%	96%	105%
CE/FHH	80%	90%		

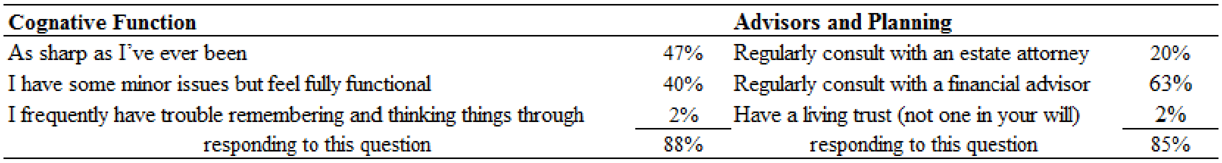
Table 2 reports the distribution of several demographic independent variables.

Table 2



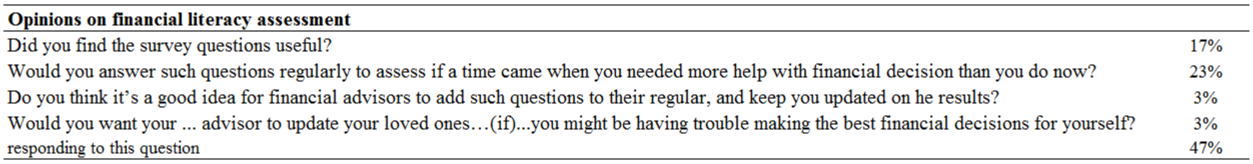
Net Worth		Education		Age	
<$100K	3%	High School	7%	Under 55	5%
$100-$500	18%	Some College	22%	55-65	33%
$500-$1M	23%	$ Year Degree	33%	66-75	45%
> $1M	47%	Graduate Degree	30%	Over 75	10%
responding to this question	92%	responding to this question	92%	responding to this question	93%

Table 3 reports self-assessed cognitive function, advisors, and living trust use.



Cognative Function		Advisors and Planning	
As sharp as I've ever been	47%	Regularly consult with an estate attorney	20%
I have some minor issues but feel fully functional	40%	Regularly consult with a financial advisor	63%
I frequently have trouble remembering and thinking things through	2%	Have a living trust (not one in your will)	2%
responding to this question	88%	responding to this question	85%

Table 4 reports opinions on the SFL instrument



Opinions on financial literacy assessment	
Did you find the survey questions useful?	17%
Would you answer such questions regularly to assess if a time came when you needed more help with financial decision than you do now?	23%
Do you think it's a good idea for financial advisors to add such questions to their regular, and keep you updated on he results?	3%
Would you want your ... advisor to update your loved ones…(if)...you might be having trouble making the best financial decisions for yourself?	3%
responding to this question	47%

Despite a rather high response rate (over 10% of clients emailed, and a much higher percentage considering only those 55 or older were asked to respond), respondents did not appear to like this survey. Only about a fifth of those answering this question block found it useful, with a similar fraction saying they would like regular such assessments to safeguard their wealth. Nearly 100% did not think it a good idea for advisors to conduct regular assessments, or to inform their loved ones of poor results. These responses were surprising and disheartening.

Results

Cognitive loss financial control, such as using living trusts to avoid guardianships, was poorly understood in the sample, with less than half answering correctly. Notably, less than 60% of our professional sample answered correctly. Regarding medical control against cognitive loss – health care power of attorney – the client sample did much worse, while the pro sample remained poor at about 60%. Not surprisingly, the Social Security measure was not well understood by the sample, but much better by professionals. Both groups seemed to have a good or very good grasp of estate planning issues, powers of attorney, guardianships, fiduciary advisor duties, annuities' costs, and the need for life insurance. Surprisingly, the client sample appeared to understand the liability insurance question better than the professionals. Clients only had a fair grasp of retirement income load (safe retirement withdrawal rate), with professionals' substantially better. Both groups scored better on the need for investment risk, with professionals' understanding of the link between volatility and after-inflation results nearly perfect. Sadly, both groups did far worse regarding effective investment practices. Scores for both on asset protection were dismal, with clients exhibiting an almost complete lack of understanding. Long term care risks seemed well understood by both groups, and probate cost and other risk avoidance less so for both. For SFL, clients scored an aggregate C-, and pros a B-. This compares to a B+ and A- for FL, respectively. While the SL scores for both groups were similar, there was more falloff moving to SFL for clients than for professionals. It is important to note that these findings are preliminary and highly suspect. The samples are small, and biased, and the CE questions have not been vetted for reliability and validity.

The client sample is an affluent one, with nearly half claiming a net worth over one million, and less than 5% less than $100,000. Nearly two-thirds hold a four year or higher degree. 55% are past 65, and most of the rest approaching 65. While clearly highly subjective, 87% report having no or only nominal cognitive dysfunction. Despite their wealth, only a fifth report regular advice from an estate attorney. Only 63% report regular financial consultation with a financial advisor, remarkable as 100% are clients of such an advisor. Nearly none report having living trusts.

Despite a rather high response rate (over 10% of clients emailed, and a much higher percentage considering only those 55 or older were asked to respond), respondents did not appear to like this survey. Only about a fifth of those answering this question block found it useful, with a similar fraction saying they would like regular such assessments to safeguard their wealth. Nearly 100% did not think it a good idea for advisors to conduct regular assessments, or to inform their loved ones of poor results. These responses were surprising and disheartening.

Empirical conclusions

It is important to emphasize that this is an initial, exploratory study only. These conclusions are tentative and highly suspect pending instrument and samples refinement. That said, from these data there appear to be significant and dangerous gaps in general SFL, including that of professional advisors and academics. In particular, knowledge of financial and medical safeguards against connective diminution, investment best practices (of acute importance later in life), and asset protection against financial predatory threats appear to be real problem areas. Beyond this, given that affluent clients barely make a C grade, with pros barely making B's, compared to about low-A's for FL for both groups, indicates that poor SFL may present a profound welfare risk. Without proper stewardship, asset wasting amongst the aged not only compromises their lifestyles and possibly shortens their lives, but likely burdens society by proportional to the lost wealth for them, and for their heirs. It is confounding that the client sample is reluctant to embrace the proposed countermeasures, while understandable given human nature. Still, I suspect that had a similar poll regarding risk tolerance assessments been taken some thirty years ago, from a similar clinical perspective, the results may have been not much different. If a routine SFL cognitive assessment procedure is eventually indicated by future research, it could likely be implemented by financial advisors without much resistance, provided it is 1) effectively positioned, and 2) presented as required. While the potential good to clients and their families is hard to overstate, one suspects the driving force will come from firms' risk control measures and attempts to curb liability stemming from poor client cognitive hygiene.

Suggestions for further research

1. To what extent are non-guardianship asset control transfer measures (powers of attorney, contingent trustees, trust protectors, etc.) utilized in the population with wealth sufficient to make such measures valuable?
2. The extent to which wealth holders continue to exercise control beyond the point where cognitive issues appear to make this path unwise.
3. Specificity of Internal Revenue Code-acceptable control transfer modes which will not trigger taxable disbursements from qualified retirement plans and similar accounts such as deferred annuities.
4. Ways the afflicted client's control person can exercise power over insurance contacts for health care benefits, including long term care benefits, life and annuity policy cash values, and the like.
5. Add notes from pilot study
6. The ratio of living to inter vivos trusts, and the belief of the grantors of the former regarding extant control transfer mechanisms.

Qualitative studies of the glidepath slippage problem engaging practitioners likely to be "in the trenches" and so possessed of accurate information through regular client contact.

Financial planners, CPA's, and particularly trust and estate attorneys are likely rich sources of survey and other primary data.

Acknowledgements

c

Appendix A

Finke-Howe-Huston Financial Literacy Questionnaire

1. Net worth is equal to:

    a. Total assets

    b. Total assets plus liabilities

    c. Total assets minus liabilities

2. If your assets increase by $5,000 and your liabilities decrease by $3,000, your net worth would:

    a. Increase by $2,000

    b. Increase by $8,000

    c. Increase by $3,000

3. Which bank account is likely to pay the highest interest rate on money saved?

    a. Savings account

    b. Six month CD or certificate of deposit

    c. Three year CD

4. Savings accounts and money market accounts are most appropriate for:

    a. Long-term investments like retirement

    b. Emergency funds and short-term goals

    c. Earning a high rate of return

5. To reduce the total finance costs paid over the life of an auto loan, you should choose a loan with the:

   a. Lowest monthly payment
   b. Longest repayment term
   c. Shortest repayment

6. If you always pay the full balance on your credit card, which of the following is least important?
   a. Annual interest rate
   b. Annual fees
   c. Line of credit

7. On which type of loan is interest never tax deductible?
   a. A home equity loan
   b. An adjustable rate mortgage
   c. A personal vehicle loan

8. Which type of mortgage would allow a first-time home buyer to qualify for the highest loan amount?
   a. Fixed-rate mortgage
   b. Adjustable-rate mortgage
   c. Reverse mortgage

9. The benefit of owning investments that are diversified is that it
   a. Reduces risk
   b. Increases return

c. Reduces tax liability

10. A young investor willing to take moderate risk for above-average growth would be most interested in:

a. Treasury bills

b. Money market mutual funds

c. Balanced stock funds

11. The main advantage of a 401(k) plan is that it:

a. Provides a high rate of return with little risk

b. Allows you to shelter retirement savings from taxation

c. Provides a well diversified mix of investment assets

12. To ensure that some of your retirement savings will not be subject to income tax upon withdrawal, you would contribute to:

a. A Traditional IRA or Individual Retirement Account

b. A Roth IRA

c. A 401(k) plan

13. If you have an insurance policy with a higher deductible, the premiums will be

a. Higher

b. Lower

c. The same

14. Which of the following types of insurance is most important for single workers without children?
    a. Life insurance
    b. Disability income insurance
    c. Dental insurance

15. Which policy provides the most coverage at the lowest cost for a young family?
    a. Renewable term life
    b. Whole life
    c. Universal life

16. Which household would typically have the greatest life insurance needs?
    a. A middle-class retired couple
    b. A middle-aged working couple with children in college
    c. A single-earner family with two young children in pre-school

The preceding questions are copied, with minor formatting edits, from:

Finke, M., Howe, J., & Huston, S. (2011). *Old Age and the Decline in Financial Literacy* . Unpublished manuscript, Texas Tech, Lubbock, TX. Retrieved from http://ssm.com/abstract=1948627

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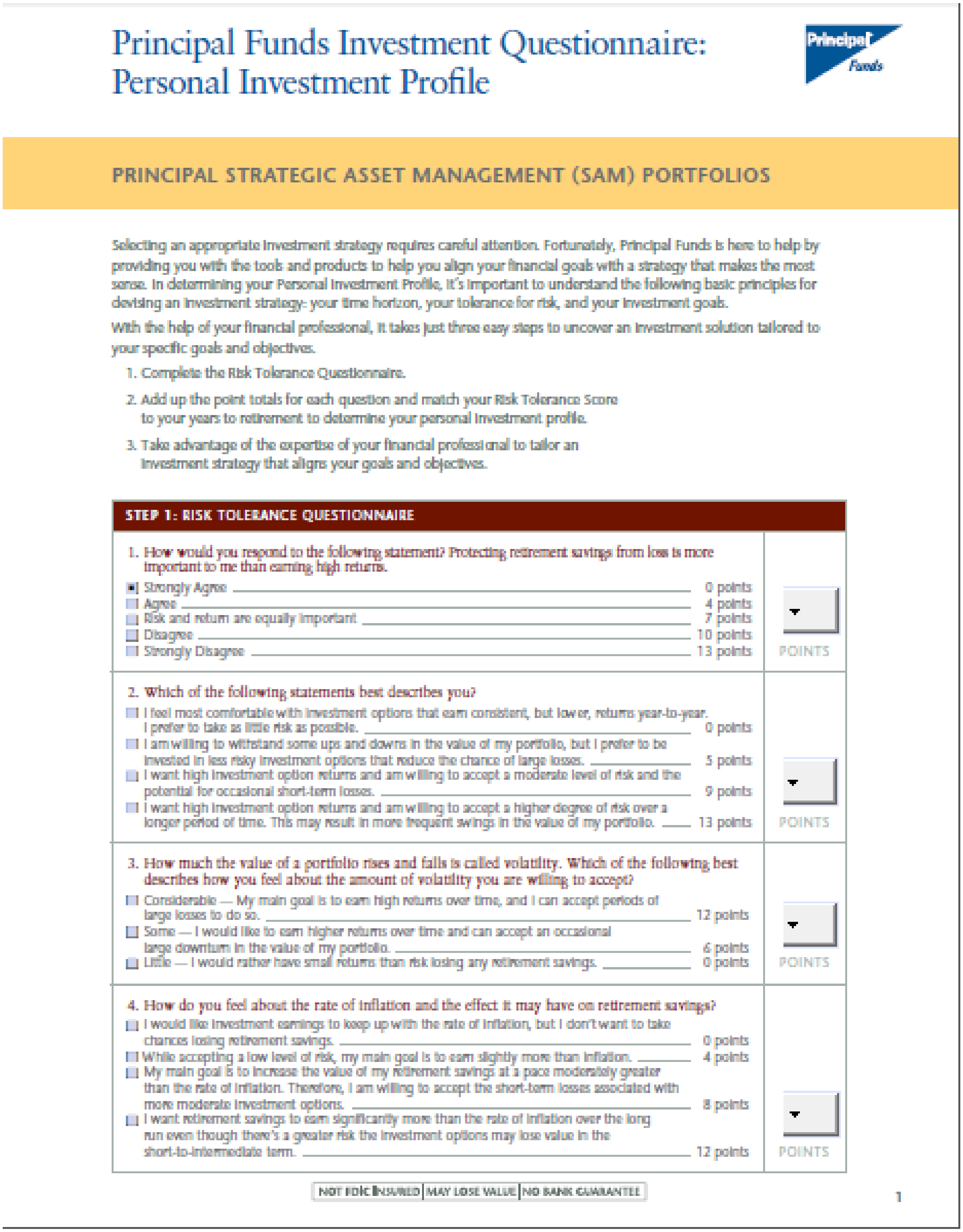
Appendix B



Principal Funds Investment Questionnaire: Personal Investment Profile

Principal Funds

PRINCIPAL STRATEGIC ASSET MANAGEMENT (SAM) PORTFOLIOS

Selecting an appropriate investment strategy requires careful attention. Fortunately, Principal Funds is here to help by providing you with the tools and products to help you align your financial goals with a strategy that makes the most sense. In determining your Personal Investment Profile, it's important to understand the following basic principles for devising an investment strategy: your time horizon, your tolerance for risk, and your investment goals.

With the help of your financial professional, it takes just three easy steps to uncover an investment solution tailored to your specific goals and objectives.

1. Complete the Risk Tolerance Questionnaire.
2. Add up the point totals for each question and match your Risk Tolerance Score to your years to retirement to determine your personal investment profile.
3. Take advantage of the expertise of your financial professional to tailor an investment strategy that aligns your goals and objectives.

STEP 1: RISK TOLERANCE QUESTIONNAIRE

1. How would you respond to the following statement? Protecting retirement savings from loss is more important to me than earning high returns.

☒ Strongly Agree 0 points
□ Agree 4 points
□ Risk and return are equally important 7 points
□ Disagree 10 points
□ Strongly Disagree 13 points

POINTS

2. Which of the following statements best describes you?

□ I feel most comfortable with investment options that earn consistent, but lower, returns year-to-year. I prefer to take as little risk as possible. 0 points
□ I am willing to withstand some ups and downs in the value of my portfolio, but I prefer to be invested in less risky investment options that reduce the chance of large losses. 5 points
□ I want high investment option returns and am willing to accept a moderate level of risk and the potential for occasional short-term losses. 9 points
□ I want high investment option returns and am willing to accept a higher degree of risk over a longer period of time. This may result in more frequent swings in the value of my portfolio. 13 points

POINTS

3. How much the value of a portfolio rises and falls is called volatility. Which of the following best describes how you feel about the amount of volatility you are willing to accept?

□ Considerable — My main goal is to earn high returns over time, and I can accept periods of large losses to do so. 12 points
□ Some — I would like to earn higher returns over time and can accept an occasional large downturn in the value of my portfolio. 6 points
□ Little — I would rather have small returns than risk losing any retirement savings. 0 points

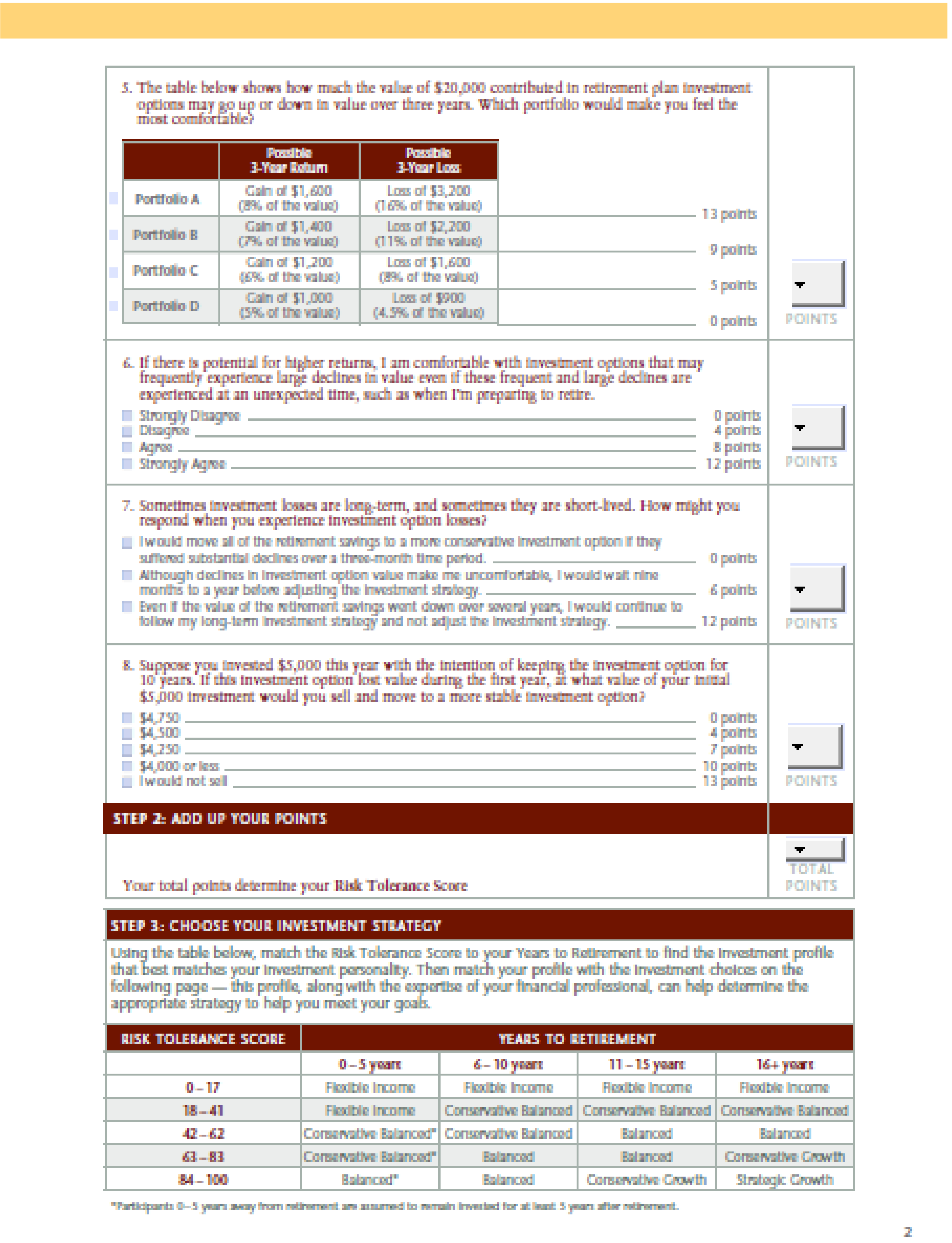
POINTS

4. How do you feel about the rate of inflation and the effect it may have on retirement savings?

□ I would like investment earnings to keep up with the rate of inflation, but I don't want to take chances losing retirement savings. 0 points
□ While accepting a low level of risk, my main goal is to earn slightly more than inflation. 4 points
□ My main goal is to increase the value of my retirement savings at a pace moderately greater than the rate of inflation. Therefore, I am willing to accept the short-term losses associated with more moderate investment options. 8 points
□ I want retirement savings to earn significantly more than the rate of inflation over the long run even though there's a greater risk the investment options may lose value in the short-to-intermediate term. 12 points

POINTS

NOT FDIC INSURED | MAY LOSE VALUE | NO BANK GUARANTEE



5. The table below shows how much the value of $20,000 contributed in retirement plan investment options may go up or down in value over three years. Which portfolio would make you feel the most comfortable?

	Possible 3-Year Return	Possible 3-Year Loss	
□ Portfolio A	Gain of $1,600 (8% of the value)	Loss of $3,200 (16% of the value)	13 points
□ Portfolio B	Gain of $1,400 (7% of the value)	Loss of $2,200 (11% of the value)	9 points
□ Portfolio C	Gain of $1,200 (6% of the value)	Loss of $1,600 (8% of the value)	5 points
□ Portfolio D	Gain of $1,000 (5% of the value)	Loss of $900 (4.5% of the value)	0 points

POINTS

6. If there is potential for higher returns, I am comfortable with investment options that may frequently experience large declines in value even if these frequent and large declines are experienced at an unexpected time, such as when I'm preparing to retire.

□ Strongly Disagree ____ 0 points
□ Disagree ____ 4 points
□ Agree ____ 8 points
□ Strongly Agree ____ 12 points

POINTS

7. Sometimes investment losses are long-term, and sometimes they are short-lived. How might you respond when you experience investment option losses?

□ I would move all of the retirement savings to a more conservative investment option if they suffered substantial declines over a three-month time period. ____ 0 points
□ Although declines in investment option value make me uncomfortable, I would wait nine months to a year before adjusting the investment strategy. ____ 6 points
□ Even if the value of the retirement savings went down over several years, I would continue to follow my long-term investment strategy and not adjust the investment strategy. ____ 12 points

POINTS

8. Suppose you invested $5,000 this year with the intention of keeping the investment option for 10 years. If this investment option lost value during the first year, at what value of your initial $5,000 investment would you sell and move to a more stable investment option?

□ $4,750 ____ 0 points
□ $4,500 ____ 4 points
□ $4,250 ____ 7 points
□ $4,000 or less ____ 10 points
□ I would not sell ____ 13 points

POINTS

STEP 2: ADD UP YOUR POINTS

Your total points determine your Risk Tolerance Score

TOTAL POINTS

STEP 3: CHOOSE YOUR INVESTMENT STRATEGY

Using the table below, match the Risk Tolerance Score to your Years to Retirement to find the investment profile that best matches your investment personality. Then match your profile with the investment choices on the following page — this profile, along with the expertise of your financial professional, can help determine the appropriate strategy to help you meet your goals.

RISK TOLERANCE SCORE	YEARS TO RETIREMENT			
	0 – 5 years	6 – 10 years	11 – 15 years	16+ years
0 – 17	Flexible Income	Flexible Income	Flexible Income	Flexible Income
18 – 41	Flexible Income	Conservative Balanced	Conservative Balanced	Conservative Balanced
42 – 62	Conservative Balanced*	Conservative Balanced	Balanced	Balanced
63 – 83	Conservative Balanced*	Balanced	Balanced	Conservative Growth
84 – 100	Balanced*	Balanced	Conservative Growth	Strategic Growth

*Participants 0–5 years away from retirement are assumed to remain invested for at least 5 years after retirement.

2

https://secure02.principal.com/publicvsupply/GetFile?fm=MM3371A&ty=VOP&EXT=.VOP

References

Adkisson, J. (2012, 8-25-2012). Trust Protectors - What They Are and Why Probably Every Trust Should Have One. *Forbes*. Retrieved from http://www.forbes.com/sites/jayadkisson/2012/08/25/trust-protectors-what-they-are-and-why-probably-every-trust-should-have-one/

American Bar Association/American Psychological Association. (2003). Assessment of Older Americans with Diminished Capacity: A Handbook for Lawyers. In . Washington DC: ABA/APA.

Black, J. (2008). The Not-So-Golden-Years: Power of Attorney, Elder Abuse, and Why Our Laws are Failing a Vulnerable Population. *St. John's Law Review*, , 289-314.

Camarda, J. M. (2015). *Deep Retiree Interview and Analysis*. Unpublished manuscript, The American College, Bryn Mawr, PA.

Fair, R. (1994). How Fast do Old Men Slow Down. *this REVIEW*, *76*(), 103-118. http://dx.doi.org/Retrieved from

Family Caregiver Alliance. (2014). *Protective Proceedings: Guardinaships and Conservatorships*. Retrieved from https://caregiver.org/protective-proceedings-guardianships-and-conservatorships

Finke, M. (2012, July 26, 2012). Investing and the Aging Brain: "What Do I Do When I Get Stupid?". *Research Magazine - ThinkAdvisor*. Retrieved from http://www.thinkadvisor.com/2012/07/26/investing-and-the-aging-brain-what-do-i-do-when-i

Finke, M., Howe, J., & Huston, S. (2011). *Old Age and the Decline in Financial Literacy* . Unpublished manuscript, Texas Tech, Lubbock, TX. Retrieved from http://ssm.com/abstract=1948627

Gardner, R., Daff, L., & Welch, J. (2012). Defining Incapacity in the Modern Estate Plan. *Journal of Financial Planning*, *25*(6), 38-40.

Gauthler, S., Reisberg, B., Zaudig, M., Peterson, R., Ritchie, K., Brolch, K., ... Winblad, B. (2006, April 15 2006). International Psychogeriatric Association Expert Conference on mild cognitive impairment. *Lancet*, *367*, 1262-70. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/16631882

Horn, J. (1968). Organization of Abilities and the Development of Intelligence. *Pyschological Review*, *75*, 242-259. http://dx.doi.org/Retrieved from

Korniotis, G. M., & Kumar, A. (2011). Do Older Investors Make Better Investment Decisions? *Review of Economics & Statistics*, *93(1)*, 244-265.

Laibson, D., Driscoll, J., & Agarwal, S. (2008). Financial Decisions Over the Lifecycle. *American Law & Economics Association Papers*, 1-52.

Littell, D. (2015). [Professor commentary on this paper draft “Programmed Financial Literacy Testing”].

MetLife. (2009). *Broken Trust: Elders, Family, and Finances* . NY, NY: MetLife.

MetLife. (2013). *Healthy Brain, Healthy Decisions*. Retrieved from https://www.metlife.com/mmi/research/healthy-brain-healthy-decisions.html#key findings

Michalek, N. (2010). Trust Protector: Roles and Liability. *Journal of Financial Services Professionals*, *64*(3), 33-37.

Moye, J., Marson, D., & Edelstein, B. (2013). Assessment of Capacity in an Aging Society. *American Psychologist*, *68*, 158-171.

O'Sullivan, J. (1998). *The Guardianship Handbook*. Baltimore MD: University of Maryland School of Law.

Okonkwo, C., Ozloma, C., Wadley, V., Griffith, H., Ball, K., & Marson, D. (2006, Oct 2 2006). Cognitive Correlates of Financial Abilities in Mild Cognitive Impairment. *Journal of the American Geriatrics Society*, *54*, 1745-1750. http://dx.doi.org/10.1111/j.1532-5415.2006.00916.x

Rosenblatt, C. (2012, September 5). "The Grey Zone": How to Handle Partially Incompetent Aging Parents. *Forbes*. Retrieved from http://www.forbes.com/sites/carolynrosenblatt/2012/09/05/the-grey-zone-how-to-handle-partially-incompetent-aging-parents/

Rudd, G. (2009, 1-23-09). Aging American: The Financial Planner's Growing Responsibility to Older Clients. *Financial Advisor*. Retrieved from http://www.fa-mag.com/news/aging-america-the-financial-planners-growing-responsibility-to-older-clients--3746.html

Salthouse, T. (2000). Aging and Measures of Processing Speed. *Biological Psychology*, *54*, 35-54.

SeniorJournal.com. (2012). *Cognitie Impairment in Senior Citizens Going Undetected in Primary Care*. Retrieved from http://seniorjournal.com/NEWS/Alzheimers/2012/20120213-Cognitive_Impairment_in_Senior.htm

Shenkman, M. (2013). *Build Your Safety Net - Now*. Retrieved from Neurology Now: http://journals.lww.com/neurologynow/Fulltext/2013/09040/Build_Your_Safety_Net_Now.17.aspx

The Florida Bar. (2014). *What is Guardianship*. Retrieved from http://www.floridabar.org/tfb/TFBConsum.nsf/48e76203493b82ad852567090070c9b9/e8fd739d221b11c085256b2f006c5a4e

The Florida Bar. (2014). *What is a Guardianship?* Retrieved from http://www.floridabar.org/tfb/TFBConsum.nsf/48e76203493b82ad852567090070c9b9/e8fd739d221b11c085256b2f006c5a4e

Timmermann, S. (2013). Healthy Brains and Financial Decision Making: Is Decline Inevitable? *Journal of Financial Services Professionals*, 23-25.

Timmermann, S. (2015). [Professor commentary on this paper draft, “Programmed Financial Litercy Testing”].

USLegal. (2015). *Doctrine of Substituted Jundgment Law & Legal Definition* . Retrieved from http://definitions.uslegal.com/d/doctrine-of-substituted-judgment/

[i] There are twenty total instrument questions, but the first four deal with FL confidence levels and not FL directly, which have hence been omitted as not germane to our study or proposal.