



1-2020

How Cognitive Ability and Financial Literacy Shape the Demand for Financial Advice at Older Ages

Hugh Hoikwang Kim

Raimond Maurer

Olivia S. Mitchell

The Wharton School, Univ. of PA, mitchelo@wharton.upenn.edu

Follow this and additional works at: https://repository.upenn.edu/prc_papers



Part of the [Economics Commons](#)

Kim, Hugh Hoikwang; Maurer, Raimond; and Mitchell, Olivia S., "How Cognitive Ability and Financial Literacy Shape the Demand for Financial Advice at Older Ages" (2020). *Wharton Pension Research Council Working Papers*. 574.

https://repository.upenn.edu/prc_papers/574

This paper is posted at ScholarlyCommons. https://repository.upenn.edu/prc_papers/574
For more information, please contact repository@pobox.upenn.edu.

How Cognitive Ability and Financial Literacy Shape the Demand for Financial Advice at Older Ages

Abstract

We investigate how cognitive ability and financial literacy shape older Americans' demand for financial advice. Using an experimental module at the Health and Retirement Study, we show that cognitive ability and financial literacy strongly improve the quality but not the quantity of financial advice sought: more financially literate and cognitively able seek financial help from professionals. They also utilize more 'free' financial advice that may entail potential conflicts of interest. Finally, among those not seeking financial advice, people with higher cognitive function tend to distrust financial advisors, leading them to avoid these services.

Keywords

financial advice, cognitive ability, financial literacy, aging, financial management, Health and Retirement Study (HRS)

Disciplines

Economics

How Cognitive Ability and Financial Literacy Shape the Demand for Financial Advice at Older Ages

Hugh Hoikwang Kim, Raimond Maurer, and Olivia S. Mitchell

January 2020

PRC WP2020-02

Pension Research Council Working Paper

Pension Research Council

The Wharton School, University of Pennsylvania

3620 Locust Walk, 3302 SH-DH

Philadelphia, PA 19104-6302

Tel.: 215.573.3414 Fax: 215.573.3418

Email: prc@wharton.upenn.edu

<http://www.pensionresearchcouncil.org>

The authors thank Yong Yu and Destan Kirimhan for excellent programming and research assistance. Research funding for this project was provided by the TIAA Institute and the Pension Research Council/Boettner Center at the Wharton School of the University of Pennsylvania. Opinions and conclusions expressed herein are solely those of the authors and do not represent the opinions or policy of the funders or any other institutions with which the authors are affiliated. ©2020 Kim, Maurer, and Mitchell. All rights reserved.

How Cognitive Ability and Financial Literacy Shape the Demand for Financial Advice at Older Ages

Hugh Hoikwang Kim, Raimond Maurer, and Olivia S. Mitchell

Abstract

We investigate how cognitive ability and financial literacy shape older Americans' demand for financial advice. Using an experimental module at the Health and Retirement Study, we show that cognitive ability and financial literacy strongly improve the *quality* but not the *quantity* of financial advice sought: more financially literate and cognitively able seek financial help from professionals. They also utilize more 'free' financial advice that may entail potential conflicts of interest. Finally, among those not seeking financial advice, people with higher cognitive function tend to distrust financial advisors, leading them to avoid these services.

JEL: D14, G11, G41, J26

Keywords: financial advice, cognitive ability, financial literacy, aging, financial management, Health and Retirement Study (HRS)

Hugh Hoikwang Kim

The Darla Moore School of Business
University of South Carolina
1014 Greene St.
Columbia, SC 29208, USA
hugh.kim@moore.sc.edu

Raimond Maurer

The Goethe University Frankfurt
Theodor-W.-Adorno-Platz 3
60323 Frankfurt am Main, Germany
maurer@finance.uni-frankfurt.de

Olivia S. Mitchell

The Wharton School
University of Pennsylvania
3620 Locust Walk
Philadelphia, PA 19104, USA
mitchelo@wharton.upenn.edu

How Cognitive Ability and Financial Literacy Shape the Demand for Financial Advice at Older Ages

The last four decades have seen a global trend toward disintermediation of retirement saving and decumulation, as company-provided defined benefit pensions gave way to defined contribution plans and governments' old-age benefit programs developed shortfalls. Nevertheless, shifting the risks of saving too little, investing poorly, and outliving assets to individuals does not make such risks disappear. There is also growing evidence that retail investors have a difficult time setting spending goals, paying debt, deciding how much and where to invest, determining when to stop working and claim their retirement benefits, and handling insurance needs (e.g., Brüine de Bruin, 2017; Mitchell, 2018). Financial disintermediation poses an even more significant challenge when a large segment of the older population lacks financial sophistication (c.f., Finke, Howe, and Huston, 2016; Lusardi and Mitchell, 2014).

This paper explores how cognition and financial literacy shortfalls influence older Americans' demand for financial advice. This issue is of concern since the older population holds more wealth than do younger people, and when cognitive function deteriorates with age (Horn, 1968; Schroeder and Salthouse, 2004), this can undermine retirement security (Agarwal et al., 2009). Prior research has examined stock market participation and allocation patterns, and there is evidence that more cognitively able and financially literate people tend to participate in the stock market and reap better investment returns (e.g., Bogan and Fertig, 2013; Christelis, Jappelli, and Padula, 2010; Clark, Lusardi, and Mitchell, 2015; Cole and Shastry, 2014; Grinblatt, Keloharju, and Linnainmaa, 2011; Kézdi and Willis, 2003; and van Rooij, Lusardi, and Alessie, 2011). It has also been reported that older investors' cognitive ability declines with age (Korniotis and Kumar, 2011). Of course, people unable to manage their finances in later life may be able to hire investment professionals, thus substituting financial advisors' inputs for their own (Kim, Maurer, and Mitchell

2016; 2017). Yet cognitive ability and financial literacy can also affect the decision to delegate, since delegation requires a complicated process of acquiring, screening, and monitoring information about financial advisors and their services. Moreover, there is still no consensus on the impact of cognitive ability and financial literacy on the demand for financial advice at older ages.

Accordingly, to evaluate whether cognitive ability and financial literacy have a protective role helping older people make better decisions about when to seek – or avoid – financial advice, we designed a purpose-built experimental module and fielded it in the 2016 Health and Retirement Study (HRS). Here we asked people age 50+ several questions about whether they had obtained financial advice, and if so, which types of advice they sought. For those who did not access financial advice, we also asked them why they had not. To this module, we link a rich array of information from the core HRS including cognitive ability scores, financial literacy scores, socio-demographic factors, wealth, and health. Using a novel instrumental variable (IV) approach, we trace the causal impacts of cognitive ability and financial literacy on older peoples' financial behavior focusing on their demand for financial advice.

Our results show that cognitive ability and financial literacy affect the *quality*, but not the *quantity*, of financial advice that older persons seek out. Specifically, cognitive ability and financial literacy do not affect the *likelihood* of seeking financial advice, but they do influence the *types* of financial advice people to receive. More cognitively able and financially literate individuals are more likely to obtain financial advice from professional advisors and they are more likely to receive 'free' financial consultations with commission-based payments to professional advisors. This result is consistent with Inderst and Ottaviani's (2012a) theoretical prediction that sophisticated consumers understand that commission-based payments can be an effective way to induce advisors to learn about financial products suitable for their customers. The economic significance of our results is also sizable: for instance, in our preferred IV specification, one standard deviation

improvement in cognitive ability leads to a 11.8 percent greater chance of seeking professional financial advice, and a 14.7 percent higher chance of having obtained ‘free’ advice. One standard deviation higher financial literacy score boosts the probability of obtaining professional financial advice by 6.5 percent.

Because only around one-third (35 percent) of our older respondents indicated that they ever sought financial advice, we also asked the others why they did not. Responses indicate that more cognitively able respondents lack trust in financial advisors: a cognition score one standard deviation higher is associated with a 30.8 percent greater chance of distrusting financial advisors. Accordingly, cognitive ability plays an important role in determining who trusts financial advisors, and trust is a significant predictor of the demand for financial advice (Gennaioli, Shleifer, and Vishny, 2015).

Our analysis offers potential lessons for policymakers. For instance, Inderst and Ottaviani (2012a) predict that commission-based advice can be welfare-enhancing for investors who understand advisors’ potential conflicts of interest. Nevertheless, they also note that advisors paid via commissions could also exploit naïve investors who believe that the advice provided is unbiased. Our empirical results show that people with high cognitive ability do utilize the free consultations, and therefore have policy implications for financial consumer protection: scrapping commission-based payment would not necessarily increase consumer welfare. Mandating fee disclosure would be likely to help protect cognitively impaired investors, while commission-based payments would help sophisticated investors obtain low-cost financial help.

In what follows, we first briefly summarize prior research on financial management patterns in later life. Next, we discuss anticipated hypotheses linking cognitive ability, financial literacy, and the demand for financial advice. Following a discussion of empirical results using our HRS module, a final section concludes.

Related Studies and Hypothesis Development

Three related threads in the literature are relevant to our research: (1) studies on investors' limited attention; (2) analyses of financial illiteracy; and (3) inquiries into the complex institutional environment confronting older persons when they make financial decisions. We touch on each, in turn.

In the context of a life-cycle model with stochastic labor income and endogenous work effort, Kim, Maurer, and Mitchell (2016, 2017) showed that, early in life, individuals deriving utility from consumption and leisure will rationally devote little or no attention to their retirement portfolios.¹ This is because managing a portfolio consumes mental resources, and devoting time to the task imposes an opportunity cost – employees lose the chance to invest in job-specific human capital. When people managing their own investments must do so at the expense of future labor income growth, they would benefit from hiring financial advisors so as to decrease the costs of managing their own finances. Naturally, delegating one's investments to an advisor also entails a monetary cost, so this tradeoff must be dynamically re-evaluated over the life cycle. Young workers have little wealth, yet they have the longest time horizon over which to reap the rewards of sound financial advice. Older individuals may value input from financial advisors to the extent that they experience declining mental faculties, making it more challenging to do the job on their own.

¹Other authors have also postulated that a rational, fully-informed, forward-looking individual makes optimal decisions regarding saving, portfolio choice, asset location, benefit claiming, while taking into consideration individual factors such as preferences (risk, time, leisure, bequest, intertemporal substitution, loss aversion), mortality, health, and family status (e.g., Cocco, Gomes, and Maenhout, 2005, Gomes, Kotlikoff, and Viceira, 2008, Hubener, Maurer, and Mitchell, 2016, and Horneff, Maurer, and Mitchell, 2016). None integrates the opportunity cost of managing one's own finances, however, which we believe to be an important factor driving the life cycle demand for financial advice. Pagel (2018) recently introduced news-utility theory to show within a life-cycle portfolio choice model that such (behavioral) preferences are able to account for inattention, predict realistic stock portfolio shares, involve non-participation in the stock market, and include a willingness to pay for delegated portfolio management.

A second reason that older people may seek financial advice is that many of them are financially illiterate, leading them to undersave and underinvest (Lusardi and Mitchell, 2014; Lusardi, Michaud, and Mitchell, 2017; Clark, Lusardi, and Mitchell, 2015; Choi, Laibson, and Madrian, 2011; Choi, 2015). Many older adults make mistakes when managing their finances in both developed and developing countries (e.g., Badarinza, Campbell, and Ramadorai, 2016; Badarinza, Balasubramaniam, and Ramadorai, 2019). Somewhat surprisingly, and despite objective confirmation of an age-linked decline in financial capability at older ages, the evidence shows that older persons' *self-confidence* in their own financial ability *rises* with age, peaking at about age 88.² To this point, there is now a growing literature on the consequences of poor financial capability in later life (Agarwal et al., 2009). For instance, the FINRA Investor Education Foundation (2013) found that over 80 percent of adults of all ages had been solicited for potentially fraudulent offers, while older Americans were the most likely targets and most likely to lose money when targeted (DeLiema and Deevy, 2017). Even worse, education has only a limited role in protecting older peoples' financial management capabilities (Choi, Laibson, and Madrian, 2005; Fernandes, Lynch, and Netemeyer, 2014).

A third reason that older persons may seek financial advice is that institutional complexity bedevils the decisions people must confront when planning for, making provision for, and moving into retirement. In the US, for instance, rules regarding when to claim one's Social Security benefits are extremely complicated, particularly if one has a spouse who is also entitled (or will be entitled) to Social Security benefits (Kotlikoff, Moeller, and Solman, 2016). There are also numerous and quite complex regulations regarding how much people may save in tax-qualified retirement savings accounts, when someone can make penalty-free payouts, and when an individual must begin taking

²See Mazzonna and Peracchi (2018) and Hammond, Mitchell, and Utkus (2017) for a discussion of cognitive changes with aging.

required minimum distributions from these accounts (Horneff, Maurer, and Mitchell, 2016). These realities become particularly challenging when cognitive ability declines with age. Therefore, complex financial products and services can present an obstacle to sound financial outcomes when older adults' cognitive ability declines (Agarwal and Mazumder, 2013).

Few studies to date have focused on older individuals *per se* in this context, but the literature does indicate that retail investors who suffer from behavioral biases can be protected by good financial advisors (Shapira and Venezia 2001).³ Also, Kramer (2012) found that portfolios advised by financial advisors were less prone to home bias or over-concentration in their own countries. Bhattacharya et al. (2012) reported that portfolio risk-return efficiency improved for persons who actually followed the advice. Using a Dutch household survey, von Gaudecker (2015) discovered that households who engaged professional advisors achieved significant portfolio diversification benefits, measured in terms of return loss. Financial advice can also help with estate planning and tax management (Cici, Kempf, and Sorhage, 2017). Financial decisions become difficult for those unable to process financial information readily (Christelis, Jappelli, and Padula, 2010; Bertrand and Morse, 2011), for present-biased individuals who procrastinate making financial decisions (O'Donoghue and Rabin, 1999), and for those who distrust or cannot evaluate advice (Gino, 2008; Inderst and Ottaviani, 2012a; Agnew et al., 2018).⁴ To date, however, no empirical analysis has

³There is also a literature reporting negative outcomes from hiring financial advisors, though again, few have focused on older adults. For instance, Bergstresser, Chalmers, and Tufano (2009) and Del Guercio and Reuter (2014) reported that broker-sold mutual funds underperformed direct-sold mutual funds. Hackethal, Haliassos, and Jappelli (2012) studied independent financial advisors and bank-affiliated advisors in Germany, finding that accounts advised by both types of advisors did not generate higher risk-adjusted returns than those without advice. Using Swiss data, Hoechle et al. (2017) found that trades advised by financial advisors underperformed trades initiated by account holders. One of the very few analyses of retirement plans by Chalmers and Reuter (2015) concluded for Oregon State University System Retirement Plan that broker-advised retirement accounts had lower risk-adjusted returns because of high-fee investments.

⁴ Several studies have examined how advisors' conflicts of interest can shape households' advice-seeking behavior (e.g., Inderst and Ottaviani, 2012b; Stoughton, Wu, and Zechner, 2011; Bolton, Freixas, and Shapiro, 2007; Piccolo, Puopolo, and Vasconcelos, 2016); and Hackethal, Haliassos, and Jappelli, 2012).

linked older persons' demand for financial advice with cognitive ability and financial literacy, as we do here.

There are several possible links between cognitive ability, financial literacy, and the probability of seeking financial advice at older ages, as well as the type of advice sought. What we seek to determine is whether older people suffering from cognitive shortfalls are more or less likely to seek financial advice. The anticipated directionality could be either positive or negative. If cognitive ability and financial literacy effectively reduce peoples' time cost associated with managing their own financial tasks (Kim, Maurer, and Mitchell, 2016), older people with high cognitive ability and financial literacy will need less financial advice. Nevertheless, screening and monitoring financial advisors also require consumers to expend cognitive and financial resources, so cognitive ability and financial literacy can boost the demand for financial advisory services. In addition, some older investors would rationally delegate managing their finances to others when they recognize that their ability to manage finances has declined. Of course, others, mistakenly believing that their acumen remains intact, might retain these management tasks without asking for help. In other words, the net impact of the link remains to be established empirically.

As a null hypothesis, we posit that the two opposing effects of cognitive ability and financial literacy on the demand for financial advice might offset each other:

Hypothesis 1 (Likelihood of seeking financial advice): *Cognitive ability and financial literacy will not be significantly related to the likelihood of seeking financial advice.*

If this null hypothesis is rejected and the estimated impact is positive (negative, respectively), this would imply that the positive (negative, respectively) impact of cognitive ability and financial literacy on the demand for financial advice dominates.

Hypothesis 1 focuses on the *quantity* of financial advice sought by older adults, yet customer sophistication can also affect the *quality* of advice. All financial advice does not require the same

levels of sophistication and knowledge. For example, receiving help from professional advisors requires more sophistication on the customer's side than does getting help with simple money management tasks from family members (e.g., bill payment). Receiving high-quality but potentially biased advice from professional financial advisors using a commission-based payment structure requires fairly sophisticated consumers: thus Inderst and Ottaviani (2012a) predicted that unsophisticated consumers will not fully incorporate potential conflicts of interest due to commission-based fees when they assess the quality of financial advice received. By contrast, they indicated that sophisticated customers may understand that commission-based fees can be an effective incentive to get advisers to learn about the suitability of complex financial products for their customers' needs. Accordingly, we hypothesize the following:

Hypothesis 2 (Quality of financial advice received): *Among those receiving financial advice, greater cognitive ability and financial literacy will increase the likelihood of seeking financial advice from professionals.*

A natural corollary of *Hypothesis 2* is that people with high cognitive ability and financial literacy would be able to utilize the 'free' professional consultation as an effective incentive tool, even though it also embodies potential conflicts of interest. Accordingly, testing *Hypothesis 2* offers insights relevant to policymakers and financial advisory service providers. For instance, if older persons of low cognitive ability and financial literacy seek advice that is conflicted, policymakers may believe it necessary to devise mechanisms to protect them from potentially exploitive services.

Methodology and Data

We designed and fielded an experimental module in the 2016 HRS to explore how people age 50+ manage their financial affairs.⁵ This pilot module, assigned randomly, has a smaller sample than the core HRS modules by construction; it consists of 1,594 age-eligible respondents (age 50+) who responded to our questions on their financial behaviors.⁶ Specifically, we asked respondents whether they received any type of financial advice, and if so, what types of financial advice they received and from whom. Additionally, we asked persons who did not seek financial advice why they did not (see Appendix 1 for details). Accordingly, sample sizes for our financial behavior questions differ depending on how respondents answered precursor questions.

Summary statistics on our financial behavior variables and several controls gathered from other core HRS surveys appear in Table 1 (pairwise correlations of variables are shown in Appendix 2). Responses to the first Module question shows that only one-third (35 percent) of the age 50+ respondents indicated that they received advice on money management (*Get help w/money mgmt*). Of those who did, half received advice on investments (*Help w/invst*), and a large majority (74 percent) of those sought help from a professional outside of their family/friends network. A sizeable fraction (13 percent) said they received ‘free’ professional advice, which of course is unlikely to be completely free as commissions or fees are embedded in the products purchased. Focusing on respondents who sought no financial advice, 51 percent said they were confident enough to manage the money on their own (*No money help: Self-confidence*); 3 percent indicated they did not trust advisors (*No money help: Distrust*); and 3 percent indicated they did not know whom to ask (*No money help: DK whom to ask*).

⁵ For more on the HRS, see Fisher et al (2017).

⁶ The module was assigned to 1,982 nonproxy interviews; of these 1,694 answered the module; 1,627 of these were age eligible (\geq age 50); and 33 were dropped due to missing data.

Table 1 here

Next, we link participants' answers to other core HRS queries on their education, wealth, age, race/ethnicity, and marital status, as well as a widely-used measure of cognitive ability (*Cognition score*), defined as the sum of the respondent's total word recall and mental status indices.⁷ Additionally, we collect the respondent's financial literacy (*FinLit score*) score, an index that refers to the total number of correct answers to the four financial literacy questions in the HRS (Lusardi and Mitchell, 2014). Table 1 Panel B shows that the average *Cognition* score is 23.61 (maximum of 35) with a standard deviation of 4.61. The *FinLit* score averages 2.12 (maximum of 3) with a standard deviation of 0.89. *Cognition* and *FinLit* are positively correlated with a Pearson correlation coefficient of 0.32 (significant at the 1% level). The other variables are as expected: respondents average 64 years of age (the age range was 50 to 98), and 45 percent of the sample is male. Most HRS respondents are White (80 percent) or Hispanic (10 percent); and most (62 percent) of respondents are married. Average education is 13.6 years, and respondents hold an average of net non-housing wealth of about \$136,000, and housing net wealth of \$157,000.⁸

Empirical Analysis

To evaluate how financial behaviors of interest relate to respondents' cognitive ability and financial literacy holding other factors constant, we estimate multivariate Probit models of the following form:

$$\Pr(Y_i = 1|X_i) = \Phi(\beta_1 \times Cognition_i + \beta_2 \times FinLit_i + \delta'X_i), \quad (1)$$

⁷ Word recall measures performance on immediate and delayed word recall, naming tasks (e.g., date-naming), and vocabulary questions. The mental status index sums scores from serial 7's and counting backward tests. See St. Clair et al. (2011) and Fisher et al. (2017).

⁸ All monetary values are provided in real \$2014.

where the dependent variable measures the probability of respondent i indicating that he or she engaged in the behavior of interest ($Y_i = 1$). The term $\Phi(\cdot)$ is the standard normal cumulative distribution with respect to the control variables of the Probit model. To mitigate potential confounding effects, other controls besides cognition and financial literacy noted above are included in the vector X_i . Marginal effects are reported, and standard errors are clustered at the household level.

It is possible that estimates of equation (1) could be biased due to unobservable omitted variables. For example, *Cognition* and *FinLit* might reflect some unobservable personal traits that could also affect the demand for financial advice. *Cognition* and *FinLit* may also affect the respondent's financial portfolio in ways not observed in the survey, thus influencing the quantity and quality of financial advice. If true, these could prejudice the causal interpretation of the coefficient estimates in equation (1). To address this potential endogeneity concern, we undertake an instrumental variable (IV) analysis for each of our two key explanatory variables. For the *Cognitive* variable, we turn to medical evidence reporting that vision dysfunction is strongly related to poor cognitive ability among older adults (Chen, Bhattacharya, and Pershing, 2017). Moreover, Rogers and Langa (2010) also conclude that poor vision is strongly associated with dementia and other cognitive diseases such as Alzheimer's. Accordingly, we construct a variable called *Vision problem* which takes the value of one if the respondent's eyesight was self-reported to be fair/poor/legally blind (and zero otherwise). We use this variable as an IV for cognitive ability. For the *FinLit* variable, we follow van Rooij, Lusardi, and Alessie (2012) and use an instrument variable whether the respondent self-reported having taken an economics/finance course in school (*Economics class*).

Table 1 shows the values of *Vision problem* and *Economics class* average 21 and 34 percent, respectively. Our first-stage regression (Appendix Table A3) confirms that *Vision problem* and

Cognition are negatively and statistically significantly related: specifically, a one standard deviation increase in vision problems is associated with a 1.6 percent decrease in the *Cognition* score ($= -0.941 \times 0.41 / 23.9$). We also find that having taken an *Economics class* is positively and statistically significantly linked to financial literacy scores: a one standard deviation increase in *Economics class* is associated with a 5.6 percent increase in *FinLit* ($= 0.249 \times 0.48 / 2.12$).

A potential concern regarding the exclusion restriction is that *Vision Problem* and *Economics class* might also affect the demand for financial advice, in that people in better health and who hold more (or less) wealth would seek out advice. To protect against this possibility, our empirical models also hold constant the respondent's health and housing/non-housing wealth. After controlling for possible alternative channels through which the IVs affect the demand for financial advice, we believe that these variables satisfy the exclusion restriction conditions necessary for instrumental variables. Below we present both OLS and IV results of our two key variables on financial behaviors of interest.

Table 1 here

Results: Who Seeks Financial Advice and What Type?

Table 2 reports the factors associated with seeking financial advice as well as the types of advice that respondents indicated they received. In each case, we report marginal effects from the Probit and IV Probit regressions to facilitate a comparison of the impact of addressing endogeneity concerns. Columns 1-2 of this table indicate that *Cognition* and *FinLit* are unrelated to the take-up of financial advice in both the OLS and IV models. Accordingly, the unconditional probability of receiving *any* financial advice is unaffected by cognitive ability or financial literacy, holding other factors constant. Even for those who do receive financial advice, *Cognition* scores and *FinLit* scores are uncorrelated with the probability of receiving financial advice regarding sophisticated

financial topics such as investments (Column 3). Additionally, the IV analysis (Column 4) confirms that, for those who do seek financial advice, the probability of receiving more sophisticated financial advice (e.g., about investments) is not statistically significantly associated with *Cognition* score and *FinLit* score. Overall, our results in columns 1-4 do not reject the null hypothesis that cognitive ability and financial literacy are unrelated to the quantity of financial advice people receive (*Hypothesis 1*).

Table 2 here

Next, we evaluate how cognitive ability and financial literacy shape the quality of financial advice people receive, testing *Hypothesis 2*. Table 2, Column 5 shows that *Cognition* and *FinLit* scores are both positively related to receiving advice from professional financial advisors. In other words, more cognitively able and financially literate respondents are more likely to seek professional financial advice, rather than receiving casual help from family/friends. The IV analysis (Column 6) confirms that this positive association is attributable to the causal impact of *Cognition* and *FinLit*. The economic magnitudes of these are also sizable: a one standard deviation rise in *Cognition* score is associated with a 11.8 percent higher ($=0.019 \times 4.61 / 0.74$) chance, and a standard deviation increase in *FinLit* is associated with a 6.5 percent higher ($=0.054 \times 0.89 / 0.74$) chance of seeking professional advice. Put differently, cognitive decline induces people age 70+ (with average cognition score of 22.28) to be about 6 percent ($=0.019 \times (22.28 - 24.71) / 0.74$) less likely to seek professional financial advice, compared to their counterparts in their 60s (average cognition score of 24.71). Financial illiteracy also plays a role, reducing the probability of seeking professional advice by 2 percent ($=0.054 \times (1.96 - 2.24) / 0.74$) for those age 70+ versus people

in their 60's.⁹ These results support *Hypothesis 2*, in that both cognitive ability and financial literacy do shape who older people ask when they seek financial advice.

Columns 7 and 8 of Table 2 report how *Cognition* and *FinLit* influence the probability of receiving so-called 'free' professional financial advice. A corollary of *Hypothesis 2* is that more sophisticated consumers might elect 'free' consultation despite the possibility of conflicts of interest when they understand that advisors get paid via the products and are therefore better incentivized to collect more information. Both the OLS and IV analyses (Columns 7-8) indicate that those scoring higher on *Cognition* are, indeed, more likely to seek free financial advice: a one standard deviation rise in *Cognition* scores is associated with a 14.7 percent ($=0.004 \times 4.61/0.13$) higher chance of seeking this sort of advice. Respondents' *FinLit* score is not statistically significantly related to the likelihood of receiving free financial advice. Accordingly, our results support the theoretical prediction by Inderst and Ottaviani (2012a) that more sophisticated investors understand that commission-based payments can provide effective incentives to financial advisors to find suitable financial products for their needs.

Other results in Table 2 are also worth noting. Better-educated respondents are more likely to receive financial advice in the OLS equation (Column 1), but the result is attenuated in the IV analysis (Column 2). The IV analysis shows that better-educated people also tend to seek advice from professional advisors (Column 6) and are less likely to get free consulting (Column 8). People with more housing wealth are more likely to receive financial advice on investment (Column 3) but this becomes insignificant in the IV analysis (Column 4). Older people are less likely to receive professional financial advice (Column 6), but more 'free' help (Column 8).

⁹ Average *Cognition* (*Finlit*) scores for persons in their 60s, 70s, and 80+ are 24.71 (2.24), 22.28 (1.96) and 19.73 (1.88), respectively.

Taken as a whole, then, Table 2 suggests that cognitively able and financially literate respondents seek professional advice rather resorting to casual or informal help. Since cognitive ability and financial literacy do not affect the likelihood of seeking financial advice based on the IV analysis, we conclude that cognitive ability and financial literacy determine the *quality* rather than the *quantity* of financial advice sought.

Why Does Not Seek Financial Advice?

Two-thirds of the older HRS respondents reported that they did not seek financial advice, leading us to ask why. Table 3 presents marginal effects from Probit and IV Probit models of reasons people give for not receiving financial advice, where we link these to *Cognition* and *FinLit* scores as well as self-confidence, distrust, and lack of knowledge as potential explanations. Column 1 reports marginal effects from Probit models of self-confidence, where we see that people scoring poor on *Cognition* believe they can handle their financial management duties without others' help. Interestingly, this result is again attenuated in the IV models (Column 2). The *FinLit* score is positively correlated with self-confidence, but this relation is not statistically significant. In other words, we find little evidence that *Cognition* and *FinLit* scores are related to self-confidence.

Table 3 here

Another potential reason for not receiving financial advice could be distrust of financial advisors (Gennaioli, Shleifer, and Vishny, 2015). Columns 3-4 of Table 3 present marginal effects from Probit and IV Probit models regressing *Distrust* on *Cognition* and *FinLit* as well as other controls. The IV Probit model, in which we place more confidence, indicates that more cognitively able persons tend to select the distrust issue as a reason for not seeking financial advice. One standard deviation higher *Cognition* score is associated with a 30.8 percent greater

($=0.002 \times 4.61 / 0.03$) chance of stating that distrust is the reason for not seeking financial advice. *FinLit* is not statistically significantly related to this outcome.

Table 3 also shows results from Probit and IV Probit regressions of “Do not know whom to ask” on *Cognition* and *FinLit* as well as the other controls. The Probit and IV Probit (Columns 5-6) show that *Cognition* and *FinLit* scores are not tightly related to the lack of knowledge about whom to ask for financial advice. In the IV Probit estimation, few of the control variables are related to self-confidence and lack of knowledge. One that does stand out appears in Column (4), where older non-white men with less education are more likely to indicate distrust as a reason for not receiving financial advice.

Overall, Table 3 indicates that cognitive ability is an important factor associated with older people’s trust in financial advisors. Specifically, more cognitively able individuals tend to report that they do not seek financial advice due to distrust. Combined with our earlier results showing that cognitive ability encourages ‘free’ financial consultation, Table 3 implies that older people who maintain high cognitive ability have a more cautious attitude toward receiving financial advice that may embody potential conflicts of interests. Financial literacy plays a less important role.

Discussion and Conclusion

This paper has explored the impact of two important factors driving the demand for financial advice in an aging population: cognitive ability and financial literacy. Given increasingly complex financial products and the disintermediation of retirement decisions, many older persons with substantial savings may not be able to manage financial tasks on their own, so it is important to understand how they hire financial advisors. We find that cognitive ability and financial literacy both help shape the *quality*, but not the *quantity*, of financial advice sought by older persons. While cognitive ability and financial literacy scores are not significantly related to the *probability* of

seeking financial advice, being more cognitively able and financially literate does enhance the chance that older people seek advice from *more sophisticated* sources, such as professional advisors. This could be because they understand potential conflict of interests embedded in professional advisors' recommendations, yet they understand that professional advisors will seek suitable financial products for their customers' needs (Inderst and Ottaviani, 2012a). Our IV analysis implies that a standard deviation increase in cognitive ability and financial literacy increases the chances of seeking financial advice from professionals, rather than family members, by 11.8 percent and 6.5 percent, respectively. We also find that more cognitively able respondents tend to distrust financial advisors, suggesting that cognitive ability may protect them from potentially deceptive financial advice practices.

The fact that both cognitive ability and financial literacy help shape the quality of financial advice sought implies that the mere existence of financial advisors will not, on its own, correct sub-optimal financial practices by some older households. Our work shows that low cognitive ability and poor financial literacy can be a barrier to receiving quality financial advice, implying that researchers and policymakers may need to find new ways to evaluate and monitor financial behavior for an aging population. Financial institutions are likely to find it useful to enhance protections for their older customers; efforts along these lines include a program teaching bank tellers how to recognize when customers show signs of declining mental capacity or are being financially exploited (Gunther, 2015). Various federal agencies also handle complaints regarding financial fraud, and some states have passed laws seeking to protect elders from financial exploitation, for instance, allowing triple damages for victims winning legal cases against their perpetrators (DeLiema and Deevy, 2017).

References

- Agarwal S, Driscoll J, Gabaix X, Laibson D (2009). The age of reason: Financial decisions over the life cycle and implications for regulation. *Brookings Papers on Economic Activity* Fall: 51–101.
- Agarwal S, Mazumder B (2013). Cognitive ability and financial decision making. *American Economic Journal: Applied Economics* 5(1):193-207.
- Agnew J, Bateman H, Eckert C, Iskhakov F, Louviere J, Thorp S (2018). First impressions matter: An experimental investigation of online financial advice. *Management Science* 64(1):288-307.
- Anagol S, Kim HH (2012). The impact of shrouded fees: Evidence from a natural experiment in the Indian mutual funds market. *American Economic Review* 102(1):576–593.
- Badarinza, C., Balasubramaniam V, Ramadorai T (2019). The household finance landscape in emerging economies. *Annual Review of Financial Economics*. Forthcoming.
- Badarinza, C., Campbell JY, Ramadorai T (2016). International comparative household finance. *Annual Review of Financial Economics* 8:111-144.
- Bergstresser D, Chalmers J, Tufano P (2009). Assessing the costs and benefits of brokers in the mutual fund industry. *Review of Financial Studies*. 22(10):4129–56.
- Bertrand M, Morse A (2011). Information disclosure, cognitive biases, and payday borrowing. *Journal of Finance* 66(6):1865–1893.
- Bhattacharya U, Hackethal A, Kaesler S, Loos B, Meyer S (2012). Is unbiased financial advice to retail investors sufficient? Answers from a large field study. *Review of Financial Studies* 25(4):975–1032.
- Bogan V, Fertig A (2013). Portfolio choice and mental health. *Review of Finance* 17(3):955–992.
- Bolton, P, Freixas , and Shapiro J (2007). Conflicts of interest, information provision, and competition in the financial Services Industry. *Journal of Financial Economics* 85(2): 297–330.
- Brüine de Bruin W (2017). Aging and competence in decision making.” In *Financial Decisionmaking and Retirement Security in an Aging World*. Eds Mitchell OS, Hammond PB, Utkus SP. Oxford: Oxford University Press: 15-32.
- Chalmers J, Reuter J (2015). Is conflicted investment advice better than no advice? NBER Working Paper No. 18158.
- Chen S, Bhattacharya J, Pershing S (2017). Association of vision loss with cognition in older adults. *JAMA Ophthalmology* 135(9):963–970.
- Choi JJ (2015). Contributions to defined contribution pension plans. *Annual Review of Financial Economics* 7:161-178.
- Choi JJ, Laibson D, Madrian BC (2005). Are empowerment and education enough? Underdiversification in 401(k) plans. *Brookings Papers on Economic Activity* 72(2):151-198.
- Choi, JJ, Laibson D, Madrian BC (2011). \$100 bills on the sidewalk: Suboptimal investment in

- 401(k) plans. *The Review of Economics and Statistics* 93(3):748-763.
- Christelis D, Jappelli T, Padula M (2010). Cognitive abilities and portfolio choice. *European Economic Review* 54(1):18–38.
- Cici G, Kempf A, Sorhage C (2017). Do financial advisors provide tangible benefits for investors? Evidence from tax-motivated mutual fund flows. *Review of Finance* 21(2):637–665.
- Clark RL, Lusardi A, Mitchell OS (2015). Financial knowledge and 401(k) investment performance. *Journal of Pension Economics and Finance* 15(3):1–24.
- Cocco J, Gomes F, Maenhout P (2005). Consumption and portfolio choice over the life cycle. *Review of Financial Studies* 18(2):491–533.
- Cole S, Shastry GK (2014). Smart money? The effect of education on financial outcomes. *Review of Financial Studies* 27(7):2022-2051.
- DeLiema M, Deevy M. (2017). Aging and exploitation: How should the financial service industry respond? In *Financial Decisionmaking and Retirement Security in an Aging World*. Eds. Mitchell OS, Hammond PB, Utkus SP. Oxford: Oxford University Press, 153-184.
- Del Guercio D, Reuter J (2014). Mutual fund performance and the incentive to generate alpha. *Journal of Finance* 69(4):1673–1704.
- Fernandes D, Lynch JG, Netemeyer RG (2014). Financial literacy, financial education, and downstream financial behaviors. *Management Science* 60(8):1861-1883.
- Finke MS, Howe JS, Huston SJ (2016). Old age and the decline in financial literacy. *Management Science* 63(1):213-230.
- FINRA Investor Education Foundation (2013). Financial fraud and fraud susceptibility in the United States: Research report from a 2012 national survey. New York, NY: Applied Research and Consulting.
- Fisher GG, Hassan H, Faul JD, Rodgers WL, Weir DR (2017). *HRS Imputation of Cognitive Functioning Measures: 1992 – 2014 Data Description* (Final Release Version). <http://hrsonline.isr.umich.edu/modules/meta/xyear/cogimp/desc/COGIMPdd.pdf>
- Gennaioli N, Shleifer A, Vishny R (2015). Money doctors. *Journal of Finance* 70(1):91–114.
- Gino F (2008). Do we listen to advice just because we paid for it? The impact of advice cost on its use. *Organizational Behavior and Human Decision Processes* 107(2):234–45.
- Gomes FJ, Kotlikoff LJ, Viceira LM (2008). Optimal life-cycle investing with flexible labor supply: A welfare analysis of life-cycle funds. *American Economic Review: Papers & Proceedings* 98(2):297-303.
- Grinblatt M, Keloharju M, Linnainmaa J (2011). IQ and stock market participation. *Journal of Finance* 66(6):2121–64.
- Gunther J (2015). BankSafe safeguards against exploitation. AARP Public Policy Institute. <https://www.aarp.org/ppi/info-2015/age-friendly-banking-an-initiative-promoting-the-financial-resilience-of-people-age-50.html>
- Hackethal, A, Haliassos M, Jappelli T. (2012). Financial advisors: A case of babysitters? *Journal of Banking and Finance* 36(2):509–524.

- Hammond PB, Mitchell OS, Utkus SP, eds. (2017). *Financial Decision Making and Retirement Security in an Aging World*. Oxford: Oxford University Press.
- Hoechle D, Ruenzi S, Schaub N, Schmid M (2017). The impact of financial advice on trade performance and behavioral biases. *Review of Finance* 21(2):871–910.
- Horn JL (1968). Organization of abilities and the development of intelligence. *Psychological Review*. 75(3): 242–259.
- Horneff V, Maurer R, Mitchell OS (2016). Putting the pension back in 401(k) plans: Optimal retirement plan design with longevity income annuities. NBER Working Paper 22717.
- Hubener A, Maurer R, Mitchell OS (2016). How family status and Social Security claiming options shape optimal life cycle portfolios. *Review of Financial Studies* 29(1):937-978.
- Inderst R, Ottaviani M (2012a). How (not) to pay for advice: A framework for consumer financial protection. *Journal of Financial Economics* 105(2):393–411.
- Inderst R, Ottaviani M (2012b). Financial Advice. *Journal of Economic Literature* 50(2):494–512.
- Kézdi G, Willis RJ (2003). Who becomes a stockholder? Expectations, subjective uncertainty, and asset allocation. The University of Michigan Working Paper.
- Kim HH, Maurer R, Mitchell OS (2016). Time is money: Rational life cycle inertia and the delegation of investment management. *Journal of Financial Economics* 121(2):424–447.
- Kim HH, Maurer R, Mitchell OS (2017). Choosing a financial advisor: When and how to delegate.” In *Financial Decision Making and Retirement Security in an Aging World*. Eds Hammond PB, Mitchell OS, Utkus SP. Oxford: Oxford University Press, 86–95.
- Korniotis GM, Kumar A (2011). Do older investors make better investment decisions? *Review of Economics and Statistics* 93(1):244–65.
- Kotlikoff LJ, Moeller P, Solman P (2016). *Get What's Yours: Revised and Updated. The Secrets to Maxing Out Your Social Security*. New York: Simon & Schuster.
- Kramer MM (2012). Financial advice and individual investor portfolio performance. *Financial Management* 41(2):395–428.
- Lusardi A, Mitchell OS (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature* 52(1):5-44.
- Lusardi A, Michaud PC, Mitchell OS (2017). Optimal financial literacy and wealth inequality. *Journal of Political Economy* 125(2):431-477.
- Mazzonna F, Peracchi F (2018). Self-assessed cognitive ability and financial wealth: Are people aware of their cognitive decline? EIEF Working Papers Series 1808.
- Mitchell OS (2018). Enhancing risk management for an aging world. *Geneva Risk and Insurance Review*. 42(2):115-136.
- O’Donoghue T, Rabin M (1999). Doing it now or later. *American Economic Review* 89(1):103–24.
- Pagel M (2018). A news-utility theory for inattention and delegation in portfolio choice. *Econometrica* 86(2):491-522.
- Piccolo S, Puopolo GW, Vasconcelos L (2016). Non-exclusive financial advice. *Review of Finance*

- 20(6):2079–2123.
- Rogers M, Langa K (2010). Untreated poor vision: A contributing factor to late-life dementia. *American Journal of Epidemiology* 171(6):728–735.
- Schroeder, D. and T. Salthouse (2004). Age-related effects on cognition between 20 and 50 years of age. *Personality and Individual Differences*. 36(2): 393–404.
- Shapira, Z. and I. Venezia (2001). Patterns of behavior of professionally managed and independent investors. *Journal of Banking and Finance*. 25(8):1573–87.
- St. Clair P, Bugliari D, Campbell N, Chien S, Hayden O, Hurd M, Main R, Miu A, Moldoff M, Panis S, Pantoja P, Rastegar A, Rohwedder S, Oshiro M, Zissimopoulos J (2011). *RAND HRS Data Documentation, Version L*. Santa Monica, CA: RAND.
- Stoughton NM, Wu Y, Zechner J (2011). Intermediated investment management. *Journal of Finance* 66(3):947–980.
- van Rooij M, Lusardi A, Alessie R (2011). Financial literacy and stock market participation. *Journal of Financial Economics* 101(2):449–72.
- van Rooij M, Lusardi A, Alessie R (2012). Financial literacy, retirement planning, and household wealth. *Economic Journal* 122:449–478.
- von Gaudecker HM (2015). How does household portfolio diversification vary with financial literacy and financial advice? *Journal of Finance* 70(2):489–507.

Table 1: Descriptive Statistics for Key Variables

This table presents summary statistics for our main variables. The full sample includes 1,594 HRS module respondents. All variables defined in Appendix Table A1. Results use HRS weights.

A. Financial Behaviors

Variable	Mean	St Dev	Respondent Group
<u>Any Financial Help</u>			
Help w/ financial mgmt (0/1)	0.35	0.48	Full sample
<u>Types of Financial Advice</u>			
Help w/ invst (0/1)	0.52	0.50	Those receiving financial advice
Help from profl/other non-family advisors (0/1)	0.74	0.44	Those receiving financial advice
'Free' profl help (0/1)	0.13	0.33	Those receiving financial advice
<u>Reasons for Not Seeking Advice</u>			
No money help: Self-confidence (0/1)	0.51	0.50	Those not receiving financial advice
No money help: Distrust (0/1)	0.03	0.17	Those not receiving financial advice
No money help: DK whom to ask (0/1)	0.04	0.19	Those not receiving financial advice

B. Controls

Variable	Mean	St Dev
Cognition score	23.61	4.61
FinLit score	2.12	0.89
Age	64.11	10.18
Male	0.45	0.50
White	0.80	0.40
Hispanic	0.10	0.30
Married	0.62	0.49
Education (yrs)	13.60	2.74
Good health	0.76	0.43
Non-housing wealth (/100k, 2014\$)	1.36	4.31
Housing wealth (/100k, 2014\$)	1.57	9.69
Vision problem	0.21	0.41
Economic class	0.35	0.48

Table 2. Determinants of Financial Advice Seeking

This table presents marginal estimates from Probit analysis (odd-numbered Columns) and IV Probit (even-numbered Columns) of four key financial behaviors: *Help w/ financial mgmt*, *Help w/ invst*, *Help from profl/other non fmaily advisors*, and *'Free' profl help*. All dependent variables are binary; see Appendix 1 for variable definitions. Regressors include missing data controls. Standard errors reported in parentheses and clustered at the household level. * and ** represent statistical significance at 5% and 1% level, respectively. Results use HRS weights.

	Full sample		Those receiving financial advice					
	<i>Help w/ financial mgmt (0/1)</i>		<i>Help w/ invst (0/1)</i>		<i>Help from profl/other non</i>		<i>'Free' profl help (0/1)</i>	
	(1) Probit	(2) IVProbit	(3) Probit	(4) IVProbit	(5) Probit	(6) IVProbit	(7) Probit	(8) IVProbit
Cognition score	-0.008 (0.004)	-0.008 (0.058)	0.015 (0.009)	0.012 (0.074)	0.022 ** (0.006)	0.019 ** (0.031)	0.007 * (0.003)	0.004 ** (0.052)
FinLit score	0.031 (0.021)	0.023 (0.176)	-0.009 (0.041)	0.001 (0.280)	0.050 (0.034)	0.054 ** (0.519)	-0.006 (0.020)	-0.013 (0.005)
Age	-0.002 (0.002)	-0.002 (0.007)	0.000 (0.003)	0.000 (0.008)	-0.001 (0.002)	-0.001 ** (0.005)	0.001 (0.001)	0.000 ** (0.008)
Male	-0.035 (0.034)	-0.032 (0.090)	-0.039 (0.072)	-0.041 (0.160)	-0.016 (0.051)	-0.012 * (0.172)	-0.008 (0.032)	-0.008 * (0.058)
White	0.115 ** (0.041)	0.138 (0.117)	0.207 * (0.094)	0.141 (0.263)	0.122 (0.077)	0.071 ** (0.116)	-0.031 (0.062)	-0.009 ** (0.136)
Hispanic	-0.060 (0.057)	-0.077 (0.066)	0.074 (0.118)	0.063 (0.128)	-0.006 (0.075)	0.010 (0.154)	-0.077 ** (0.020)	-0.207 (0.098)
Married	-0.001 (0.036)	-0.004 (0.058)	0.103 (0.075)	0.099 (0.139)	0.177 ** (0.058)	0.144 (0.082)	-0.011 (0.036)	-0.023 (0.055)
Education (yrs)	0.037 ** (0.008)	0.034 (0.031)	0.031 (0.017)	0.026 (0.072)	0.013 (0.010)	0.017 ** (0.027)	-0.006 (0.007)	-0.002 ** (0.040)
Good health	0.094 * (0.038)	0.080 (0.076)	0.191 * (0.083)	0.163 (0.224)	0.087 (0.063)	0.076 (0.084)	0.038 (0.030)	0.083 (0.085)
Non-housing wealth (/100k, 2014\$)	0.010 * (0.004)	0.009 (0.006)	-0.002 (0.008)	-0.002 (0.010)	0.013 * (0.006)	0.011 (0.007)	-0.001 (0.003)	0.000 (0.006)
Housing wealth (/100k, 2014\$)	0.001 (0.001)	0.001 (0.001)	0.054 ** (0.020)	0.047 (0.039)	0.021 (0.015)	0.021 (0.021)	0.000 (0.001)	0.000 (0.001)
N	1,594	1,594	417	417	439	439	439	439
Pseudo R-sq/Log likelihood	0.082	-40,189,660	0.138	-13,387,416	0.289	-13,226,950	0.048	-13,309,146

Table 3. Factors Associated with Not Seeking Financial Advice

This table presents marginal estimates from Probit analysis (odd-numbered columns) and IV Probit (even-numbered columns) for factors explaining why people did not seek financial advice: *Self-confidence*, *Distrust*, and *DK whom to ask*. These are regressed on *Cognition score* and *FinLit score* along with other controls. All dependent variables are binary; see Appendix 1 for detailed definitions. Regressors include missing data controls. Standard errors reported in parentheses and clustered at the household level. * and ** represent statistical significance at 5% and 1% level, respectively. Results use HRS weights.

	<i>No money help: Self-confidence (0/1)</i>		<i>No money help: Distrust (0/1)</i>		<i>No money help: DK whom to ask (0/1)</i>	
	(1) Probit	(2) IVProbit	(3) Probit	(4) IVProbit	(5) Probit	(6) IVProbit
Cognition score	-0.014 ** (0.005)	-0.013 (0.051)	0.000 (0.000)	0.002 ** (0.010)	0.003 (0.002)	0.004 (0.018)
FinLit score	0.017 (0.024)	0.014 (0.160)	0.001 (0.002)	0.007 (0.056)	-0.007 (0.006)	-0.013 (0.039)
Age	0.008 ** (0.002)	0.007 (0.009)	0.000 (0.000)	0.000 ** (0.002)	0.000 (0.000)	0.000 (0.002)
Male	0.051 (0.042)	0.045 (0.096)	0.006 * (0.003)	0.031 * (0.061)	0.013 (0.011)	0.016 (0.019)
White	0.073 (0.048)	0.055 (0.085)	-0.001 (0.003)	-0.009 * (0.035)	-0.047 ** (0.018)	-0.044 (0.024)
Hispanic	-0.019 (0.066)	0.000 (0.071)	-0.004 * (0.002)	-0.048 (0.085)	-0.017 ** (0.006)	-0.042 (0.031)
Married	0.045 (0.043)	0.044 (0.056)	0.002 (0.002)	0.014 (0.022)	0.015 (0.009)	0.021 (0.029)
Education (yrs)	0.005 (0.008)	0.003 (0.023)	0.000 (0.001)	-0.001 * (0.006)	-0.002 (0.002)	-0.003 (0.008)
Good health	0.075 (0.047)	0.072 (0.059)	0.002 (0.003)	0.014 (0.022)	0.011 (0.009)	0.014 (0.023)
Non-housing wealth (/100k, 2014\$)	0.003 (0.006)	0.003 (0.006)	0.000 (0.000)	0.001 (0.002)	-0.003 (0.003)	-0.004 (0.005)
Housing wealth (/100k, 2014\$)	0.000 (0.001)	0.001 (0.001)	0.000 (0.000)	0.000 (0.000)	0.000 (0.001)	0.000 (0.001)
N	1,155	1,155	1,130	1,130	1,130	1,130
Pseudo R-sq/Log likelihood	0.041	-26,712,344	0.112	-23,050,123	0.112	-23,176,645

Appendix Table A1. Variable Descriptions

Note: R refers to HRS Respondent

A. Financial Behaviors (questions detailed in the 2016 HRS Module)¹⁰

Seeks Any Financial Help

Help w/ financial mgmt. (0/1) is a binary variable equal to one if R got help with money management in past year (Item v106=1), 0 else.

Types of Financial Advice

Help w/ invst (0/1) is a binary variable equal to one if R got help with investing stocks, bonds or mutual funds, 0 else.

Help from profl/other non-family advisors (0/1) (v108=4, 5, 6, 7, 8; advisor_help3) =1 if R gets help from professional financial advisors or other nonfamily member; 0 else

Free' profl help (0/1) (v112=7; free_advice1) = 1 if R gets help for free from professional advisor; 0 else

Reasons for Not Seeking Advice

No money help: Overconfidence (0/1) is a binary variable equal to one if R did not receive financial advice because he can do financial management on his own, 0 else.

No money help: Distrust (0/1) is a binary variable equal to one if R did not receive financial advice due to no trust in financial advisors, 0 else.

No money help: DK whom to ask (0/1) is a binary variable equal to one if R did not financial advice because he knows no one to ask, 0 else.

B. Control variables (from HRS Core)

Cognition score: Sum of total word recall and mental status summary scores (0-35)

FinLit score: Sum of number of correct answers to four financial literacy questions.

Age: R age in years

Male: binary variable equal to one if R male, 0 else.

White: binary variable equal to one if R white, 0 else.

Hispanic: binary variable equal to one if R Hispanic, 0 else.

Married: binary variable equal to one if R married , 0 else.

Education: number of years of education

Good health: binary variable equal to one R reports health status excellent/good, 0 else.

Non-housing wealth: net value of non-housing financial wealth (stock, saving, CDs, bonds, and other saving less debt) in 2014 \$100,000s.

Housing wealth: net value of housing (value of 1ry residence less mortgages and home loans) in 2014 \$100,000s.

C. Instrumental variables

Vision problem: A binary variable equal to one if R has a vision problem (eyesight is fair, poor or legally blind), 0 else.

Economic class: A binary variable equal to one if R had an economics/finance class in school, 0 else.

¹⁰ <https://hrs.isr.umich.edu/documentation>

Appendix Table A2. Pairwise Correlations for Key Variables.

Results use HRS weights.

	Help w/ financial mgmt (0/1)	Help w/ invst (0/1)	Help from profl/other non-family advisors (0/1)	'Free' profl help (0/1)	No money help: Self- confidence (0/1)	No money help: Distrust (0/1)	No money help: DK whom to ask (0/1)
Help w/ financial mgmt (0/1)	1.00						
Help w/ invst (0/1)		1.00					
Help from profl/other non-family advisors (0/1)			0.40	1.00			
'Free' profl help (0/1)			0.08	0.22	1.00		
No money help: Self-confidence (0/1)					1.00		
No money help: Distrust (0/1)					-0.18	1.00	
No money help: DK whom to ask (0/1)					-0.20	-0.03	1.00
Cognition score	0.10	0.25	0.42	0.08	-0.10	0.07	0.06
FinLit score	0.14	0.13	0.31	-0.01	0.03	0.08	-0.02
Age	0.00	-0.05	-0.14	0.03	0.18	0.02	-0.05
Male	-0.01	-0.03	0.01	-0.03	0.07	0.10	0.05
White	0.15	0.16	0.21	0.02	0.07	0.01	-0.10
Hispanic	-0.13	-0.04	-0.07	-0.07	-0.04	-0.06	-0.04
Married	0.05	0.21	0.33	-0.02	0.04	0.06	0.06
Education (yrs)	0.23	0.27	0.34	0.01	0.02	0.05	0.01
Good health	0.16	0.22	0.25	0.06	0.07	0.05	0.03
Non-housing wealth (/100k, 2014\$)	0.15	0.11	0.18	-0.01	0.06	0.12	-0.03
Housing wealth (/100k, 2014\$)	0.04	0.06	0.05	-0.01	0.02	0.02	0.00
Vision problem	-0.13	-0.15	-0.18	0.04	-0.03	-0.06	-0.02
Economic class	0.08	0.09	0.08	0.02	0.04	-0.02	0.04
N	1,594	417	439	439	1,155	1,130	1,130

Appendix Table A3. First-Stage Regressions of Cognition and Financial Literacy on Instrumental Variables

This table presents coefficient estimates from the first-stage OLS regressions of Cognition and FinLit scores on two instrumental variables, respectively, *Vision problem* and *Economics class*, along with all other controls. Variables are described in Appendix 1. Regressors include missing data controls; standard errors reported in parentheses and clustered at the household level. * and ** represent statistical significance at 5% and 1% level, respectively. Results use HRS weights.

	Cognition	FinLit
Vision problem	-0.941 ** (0.333)	-0.249 ** (0.082)
Economics class	0.125 (0.283)	0.249 ** (0.058)
Age	-0.126 ** (0.013)	-0.010 ** (0.003)
Male	-0.578 * (0.257)	0.294 ** (0.051)
White	1.785 ** (0.300)	0.251 ** (0.067)
Hispanic	-0.206 (0.430)	-0.266 * (0.111)
Married	0.949 ** (0.256)	0.071 (0.053)
Education (yrs)	0.509 ** (0.056)	0.050 ** (0.012)
Good health	0.857 * (0.335)	0.128 (0.072)
Non-housing wealth (/100k, 2014\$)	0.075 ** (0.025)	0.015 ** (0.004)
Housing wealth (/100k, 2014\$)	0.005 (0.006)	0.002 ** (0.001)
Intercept	22.440 ** (1.175)	1.588 ** (0.241)
N	1,594	1,594
R-sq	0.318	0.226