

# **Individual Judgment and Trust Formation: An Experimental Investigation of Online Financial Advice**

Date of First Draft: October 18, 2013

Date of this Draft: March 30, 2014

## **Julie Agnew**

Mason School of Business, College of William and Mary

## **Hazel Bateman**

Australian School of Business, University of New South Wales

## **Christine Eckert**

UTS Business School, University of Technology Sydney

## **Fedor Iskhakov**

ARC Centre of Excellence in Population Ageing Research (CEPAR), University of New South Wales

## **Jordan Louviere**

The Institute for Choice, University of South Australia

## **Susan Thorp**

UTS Business School, University of Technology Sydney

### **Abstract**

*This paper explores how individuals assess the quality of financial advice they are given and how they form judgments about the trustworthiness and expertise of their advisers. Using an incentivized discrete choice experiment, we demonstrate how client's opinions of adviser quality can be manipulated over time via a simple and easily replicated confirmation strategy. Results also show how clients will use external signals, such as professional credentials, to guide their choices when the quality of advice is unclear. Improvements to regulation and monitoring of financial adviser qualifications are warranted.*

The authors would like to thank Edward Wei and Karen Cong for their expert research and programming assistance related to the development and implementation of the survey. We thank Gail Bradford for her excellent assistance coordinating the project and working with the video producers. We also acknowledge PostBox (<http://www.thepostbox.com.au>) for their outstanding work producing the videos.

Corresponding Author: Julie Agnew

Address: Mason School of Business, The College of William and Mary, P.O. Box 8795, Williamsburg, VA 23187

Phone: 757-221-2672 E-mail: [julie.agnew@mason.wm.edu](mailto:julie.agnew@mason.wm.edu)

Given the growing responsibility individuals have for their finances and the documented lack of financial literacy of many, academics are searching for ways to improve consumer financial decision-making. Enlisting the services of a financial adviser could be a solution, but the theoretical and empirical literature suggests that agency problems and poor advice abound. If advice is to improve decisions, it is critical that consumers go to advisers who deliver high quality and unbiased recommendations.

Using choices from an incentivized discrete choice experiment, this paper explores how individuals assess the quality of financial advice and how they form judgments about the trustworthiness of their advisers over time. Our focus on trust is motivated by recent research that highlights its important role in analyst selection and advice use (Lachance and Tang 2012, Georgarakos and Inderst 2011). While trustworthiness is a valuable attribute for a financial adviser to possess, problems arise where a client's perception of their adviser's trustworthiness is faulty, leading to a relationship with a low quality, or poorly motivated, adviser.

Our research has two main goals, both addressing gaps in the current literature. First, we investigate why a consumer might continue to trust an adviser who starts making poor recommendations. Second, we test how external signals that are independent of advice quality in the experiment, but could be correlated with advice quality in real settings, influence decision-making. We home in on the influence of professional credentials, since these can be regulated and monitored by professional associations to protect clients. To limit variability from extraneous factors and control the information flow to subjects, our unique online experiment utilizes videos of professional actors playing financial advisers and delivering carefully scripted advice.<sup>1</sup> To our knowledge, this is the first study in this area to use this approach and is another contribution of the paper. Our tests are based on the responses of over 1,200 respondents drawn from a nationally representative panel.

---

<sup>1</sup> To view one example of just the experimental task, go to <http://survey.confermit.com/wix5/p2552279525.aspx>. Choice experiments have been shown to be consistently predictive of 'real' decisions (Louviere et al. 2000).

The experimental method overcomes many of the potential limitations of research conducted in field or live laboratory settings. For one, by administering the advice online in videos, we minimized variation in the delivery of adviser recommendations. In addition, by presenting to each respondent a sequence of advice from two advisers, we were able to gain insight into how respondents change their choices over time and thus form opinions of adviser quality. This approach also let us control which two advisers each respondent saw, the order in which the advice topics was presented, and the quality of the advice given by each adviser for each topic. Finally, we gained a clearer identification of the effects of the advisers' attributes than would have been possible using administrative data or field approaches alone. The attributes we varied (age, gender, and financial credentials) can be correlated with advice quality in the real world, but in this experiment they are independent of advice quality. As a result, by systematically changing these attributes across respondents, and carefully controlling other aspects of the setting, we can measure whether and to what extent these features independently influence respondents' evaluations of the advice.

Our paper contributes to the empirical and experimental literature in several ways. First, we are able to demonstrate how trust in an adviser can be manipulated over time using a simple and easily replicated confirmation strategy. The confirmation strategy we identify has a theoretical basis in the Bayesian updating model with clear and ambiguous signals of Fryer et al. (2013). The evidence we present for malleable trust suggest that clients need help choosing advisers, especially since advisers can use confirmation strategies to build trust even when it is not deserved. Second, our findings show that external signals, such as a display of an adviser's professional credentials, can influence judgments separately from advice quality. These results highlight the importance of regulating adviser credentials in the U.S. and other countries today, where meaningless labels are common. Taken together, the study's results provide interesting new insights into how individuals judge financial advisers over time and generate timely public policy implications regarding adviser certification practices and regulation.

## 1. Literature Background

Existing studies expose a complicated relationship between consumers and financial advisers that is still not well understood. While Hackethal et al. (2012) suggest that, in theory, financial advisers should ameliorate the disadvantages of weak consumer financial literacy, other research warns that agency problems are likely to emerge (Inderst and Ottaviani 2009, 2012a) and that financial advice can be used to exploit a consumer's lack of financial literacy and inexperience (Hackethal and Inderst 2012).

Empirical literature provides similarly mixed evidence. In favor of financial advice, Bhattacharya et al. (2012) find that those who follow unbiased computer generated advice enjoy an improvement in portfolio efficiency.<sup>2</sup> Finke (2013) shows that having consulted a financial planner is positively related to net worth and retirement wealth, and makes the use of tax-preferred savings vehicles more likely. On the negative side, broker-sold funds and portfolios constructed by brokers in the U.S. underperform benchmarks (Bergstresser, Chalmers and Tufano 2009, Chalmers and Reuter 2013), advisers do not undo the behavioral biases and misconceptions of their clients (Bergstresser, Chalmers and Tufano 2009, Mullainathan et al. 2012), and advisers encourage excessive trading and purchases of unsuitable products by clients (Hackethal et al. 2012). Hackethal et al (2012) finds evidence that even experienced clients who do not monitor their advisers are susceptible to manipulation. These studies raise the question of why people seek financial advice, and more puzzlingly, why they continue to follow advice of dubious value.

In light of this theoretical and empirical evidence, the need for consumers to carefully select and monitor their advisers is clear. However, there is limited research investigating how consumers make this decision. The existing literature suggests that individuals focus on a multitude of more or less salient factors when selecting a financial adviser, such as perceived

---

<sup>2</sup> While this study suggests that unbiased sound advice can improve performance, it highlights that the mere availability of sound advice does not produce demand for advice. In this study less than 5% of customers offered the advice, sought it, and even fewer eventually acted on it. This is supported by similar findings from a choice experiment conducted by Hung and Yoong (2013).

expertise (Holden 2013) and trustworthiness (Lachance and Tang 2012, and Gergarakos and Inderst 2011).

This study focuses on the effect of perceived expertise on individual's choices between good and bad advice, and on the process of building and maintaining adviser trust. In particular, we test the effects of age, gender and professional credentials, all possible signals of expertise. Studies from the organizational behavior literature suggest that individuals are less likely to discount advice from perceived experts or people with experience (Feng and MacGeorge 2006, Harvey and Fischer 1997, Nadler et al. 2003) and Holden (2013) confirms these findings in the context of the financial adviser/client relationship. Here we can identify the influence of each of these signals independent of true advice quality.

Similarly, trust is an important driver of analyst selection and advice use: industry surveys rank trustworthiness as the most important factor in choosing an adviser (Certified Financial Planner Board of Standards 2004, State Street Global Advisors 2007), a finding supported by academic research (Lachance and Tang 2012). Furthermore, Georgarakos and Inderst (2011) demonstrate that clients with limited financial capability are more likely to follow advice if they trust their adviser. Hence, if we want to understand the adviser/client relationships we must understand trust formation.

Earned trust depends on many factors, including the consumer's capability, the accuracy and quality of the information provided, and a belief that the adviser and consumer's incentives are aligned (Yaniv and Kleinberger 2000, Sniezek and Van Swol 2001).<sup>3</sup> However there is also evidence that the trust of many consumers is easily won but not always deserved. For example, analyses of administrative data (Hackethal et al. 2012) and field studies (Mullainathan et al. 2012; Australian Securities and Investment Commission (ASIC) 2012) show clients often continue

---

<sup>3</sup> These findings are consistent with a large body of organizational behavior literature that does not focus solely on financial decisions. See Bonaccio and Dalal (2006) for a review.

trusting advisers who give poor quality and/or self-interested advice. Indeed, Mullainathan et al. (2012) report that a large majority of auditors employed for their study would go back to the advisers they met during the research, with their own money, even though the auditors were often given biased advice. Likewise over 80% of ‘shadow shoppers’ who met with financial advisers during an ASIC study said they trusted the adviser they met, despite only 5% of these ‘shadow shoppers’ receiving good advice according to objective ratings. The ASIC (2012) report blames the complexity of the financial decisions for some of the lack of discernment of clients.

It is not surprising that advisers might consciously employ strategies to build client trust. For example, to establish credibility and not alienate potential clients, the adviser may initially ‘cater’ to their client by supporting the client’s existing strategy, diverging from that direction once trust is established (Mullainathan et al. 2012).

We take up this puzzle by explicitly studying whether a ‘catering’ strategy by advisers can build trust even in an artificial, video advice setting. We also study whether attributes that might correlate with expertise, such as a certification, influence decisions. The next section details our research method, survey and experimental design.

## **2. Research Approach**

### **2.1 General Overview**

To answer our research questions, we designed and implemented an incentivized online choice experiment, and embedded it in a larger survey. The survey began by screening participants by age and gender to ensure a representative sample, and then progressed through four parts.<sup>4</sup> The first part measured general financial knowledge (inflation, interest rates and diversification from Lusardi and Mitchell 2011); numeracy skills (Lipkus et al. 2001); and questions to elicit knowledge and understanding of the four advice topics that were related to the

---

<sup>4</sup> A full set of screenshots from the survey including the wording of all questions and instructions is available in Online Appendix A.

choice experiment. This part concluded with questions about knowledge of financial products and experience (and attitudes towards) financial advisers.

The second survey component was a choice experiment, discussed in detail in subsection 2.2. Following this experiment, respondents were asked to rate the advisers assigned to them on several personal and professional traits: trustworthiness; competence; attractiveness; understanding; professionalism; genuineness; and persuasiveness.

The third component collected demographics (e.g., marital status, household size and number of dependents, education, labor market status, income, gross assets and debts/liabilities) and personal characteristics, including personality traits and risk attitudes.<sup>5</sup> The final component of the survey was a debriefing where respondents were reminded that the experimental task involved extremely simplified versions of actual financial situations, and were encouraged to go to a professional financial adviser when making personal financial decisions. The debriefing provided clear explanations of the correct recommendations for the four advice topics. The survey concluded with four questions to test whether respondents understood the debriefing, and an invitation for open-ended feedback on the whole survey. The feedback was overwhelmingly positive.

We ensured incentive compatibility in the choice task and debriefing by offering monetary prizes (Camerer and Hogarth 1999). Specifically, respondents were offered an incentive to choose the correct recommendation in each advice topic, and another incentive to choose correct answers during the debriefing at the end of the survey (The incentive in each case was one entry in a \$A50 draw for each correct answer).<sup>6</sup> We paid the panel provider \$A12.75 per

---

<sup>5</sup> Several of the risk questions were adopted from the Finametrica risk tolerance questionnaire that was developed in Australia and is used around the world by financial advisers, including in the U.S., Canada and Europe.

<sup>6</sup> The incentive read: “If you choose the best advice, you will be eligible to enter a prize draw for a bonus \$50 Pureprofile reward points. The chances of winning the draw increases with the number of times you choose the best advice.” After the respondent had chosen their preferred advice on each of the topics, they saw a screen that reported the number of questions they had answered correctly and the number of entries they had in the prize draw as a result: “You have answered X of the previous questions correctly and are

completed survey, and the provider in turn paid respondents a proportion of that amount that we are not allowed to disclose. We also included two sets of instructional manipulation checks (IMCs), designed to measure whether respondents were paying attention to the survey (Oppenheimer et al. 2009).<sup>7</sup>

## 2.2 Basic Design of the Discrete Choice Experiment

For each respondent, the experimental task started with a short introductory video where a trustworthy narrator (selected through pretesting) described the task setting.<sup>8</sup> The narrator welcomed people to the study, explained the task and associated questions and made some important statements necessary for approval from the Institutional Review Board (IRB) at William and Mary. Regarding the task and associated questions, she stated:

*Over the next few minutes, you will hear recommendations from two different financial advisers relating to four financial scenarios, some of which you may have already experienced. For each scenario, we will ask you which advice you would be most likely to follow if you were in this situation. Following that, we have a few questions for you to complete in an online survey.*

---

eligible for X entries into the draw for a bonus \$50 Pureprofile reward points.” Just before the debriefing, respondents read “In the debriefing that follows on the next screen, we will explain important elements of the survey you just completed. It is important that you read this thoroughly as some of the advice you have just seen could be considered ‘bad’ advice. After that, we will ask four questions about the debriefing. If you answer the questions correctly, you will be eligible to enter another prize draw for a bonus \$50 Pureprofile reward points. Your chance of winning the draw increases the more questions you answer correctly.” Three prizes were drawn and paid out.

<sup>7</sup> These instructional manipulation checks (IMCs) ask questions that look similar to others in the survey, but can be answered correctly only by people who read the detailed instructions. The IMCs were shown in a screen comprised of two questions from earlier in the survey, followed by the question, ‘Have you seen these questions previously in this survey?’ One IMC was placed before the choice experiment and one after.

<sup>8</sup> We pretested narrators from several actors and chose the one perceived to be the most unbiased and trustworthy. We also pretested the key aspects of the experimental design including the actors playing the financial advisers, the adviser names, the advice topics and the adviser credentials – see Online Appendix B.

After the introduction, a separate page explained the details of the monetary incentives to give correct answers (as described earlier). Next the respondents were assigned to a sequence of four choice sets each containing one correct and one incorrect recommendation on a financial topic, and asked to choose the advice (recommendation) they would most likely follow.

Each of the four choice sets started with another short introduction on the particular topic by the narrator. Figure 1 shows a screen shot of one choice task screen with two advisers placed side-by-side. Respondents first viewed the video of the adviser on the left (adviser 1), then viewed the video of the adviser on the right (adviser 2). After watching both videos, respondents could view them again (as many times as they wished) before making their choice.

The sequence of topics, attributes of the advisers and whether the good advice for a specific topic was given by the adviser on the left or on the right were manipulated according to the theory of discrete choice experiments (DCEs).<sup>9,10</sup> The experiment used a within- and between-subject design. The between-subjects variation was created by assigning each respondent to a fixed pair of advisers with varying characteristics (Table 1, Panel A). The within-subject dimension involved the varying of the sequence of advice topics shown (Table 1, Panel B), as well as the sequence of good and bad advice provided by each adviser in the pair (Table 1, Panel C).

The manipulated attributes of the advisers were gender (male and female), age (younger and older) and evidence of professional credentials in the video. Credentials were shown by a text display of the label “Certified Financial Planner” near the adviser’s name. (This is the valid professional credential for financial advisers in Australia.) The text overlay appeared for several seconds while the specific adviser’s video was playing. The rationale for selecting these attributes is discussed in Section 2.3. We recruited a production studio and professional actors to represent the advisers. Extensive pretests and manipulation check tests were used to ensure the

---

<sup>9</sup> Correct and incorrect advice hereafter is termed “good” and “bad.”

<sup>10</sup> DCEs were developed by Louviere and Woodworth (1983), and Louviere et al. (2000) discuss them in the context of choice modeling more generally.

chosen actors indeed were seen as varying only on the manipulated factors and not based on other characteristics or personality traits.<sup>11</sup> The four chosen actors are illustrated in Figure 2.

Each respondent was assigned a pair of advisers that they viewed throughout the entire experiment. Table 1 (Panel A) provides an overview of the characteristics of the pairs. To keep the total number of treatment groups manageable in this between-subject manipulation, we used a foldover design requiring each of the eight possible adviser-types to be paired with their “mirror image” (that is, the exact opposite in each attribute, such as a younger woman adviser with a certification paired with an older male adviser without a certification). This design, consisting of 8 orthogonal pairs, is optimal and efficient under the assumption that a conditional multinomial logit choice model underlies the respondent choices (Street et al. 2005, Street and Burgess 2007).

Further variation in the DCE relates to the within-subject manipulation of the financial topic sequence and the order of the quality (good or bad) of the advice given by each adviser. Section 2.4 provides specifics related to the selection of the four financial topics. Independent variation of the sequences of the topic and the quality of the advice is essential for understanding the formation of perceptions of the trustworthiness and expertise of an adviser.

Regarding the topic order, there are 24 (=4!) possible different orders of the four advice topics, from which we use four sequences according to the Latin square design as shown in Table 1 (Panel B). In terms of advice quality, in 75 percent of the treatments each adviser gives a combination of both good and bad advice across the four topics. Table 1 (Panel C) demonstrates how the sequence of advice quality varies in the experiment. Notice that each respondent’s quality sequence is determined by one of the eight rows in the table. For quality sequence 1 (row 1), the first adviser provides only bad advice and the second adviser presents only good advice. In

---

<sup>11</sup> While filming the videos, we took care to have the actors deliver each piece of advice in a consistent tone and with natural but generally similar gestures and expressions. In addition, we provided wardrobes so that advisers were similarly dressed, make up and jewelry were essentially the same for each actor, and the director positioned each actor the same way in a generic office used for each video shoot. Videos were re-filmed until actors delivered each piece of advice with precisely the same wording. The pre-test results for the actors are discussed in Online Appendix B, Section B1.

the next quality sequence 2 (row 2), the respondent receives bad advice on the first two topics and good advice on the last two topics from adviser 1 and the ‘mirror’ quality from adviser 2.

A full model incorporating all sixteen ( $2^4$ ) possible quality orders, eight adviser pairs and four advice order sequences implied 512 treatment groups and presented a complex survey programming problem that would have required a very large number of respondents. Therefore, we used a fractional factorial design to reduce down to 256 within- and between-subject treatment groups comprised of 8 adviser pairs, 4 advice order sequences and a reduced 8 advice quality sequences.<sup>12</sup> We randomly assigned approximately five respondents to each of the treatment groups, and obtained a total sample of 1,274 respondents.

Finally, given the complexity of this experiment, we conclude this subsection with an example of how a treatment is generated from the three panels in Table 1. To design our treatment, we first select a pair of advisers from the second row of Panel A. Reading across this **bolded** row, we see that our first adviser is a younger male with a professional certification. The foldover design method leads to the second adviser being an older female with no professional certification displayed. Next, we select the topic order. We choose the **bolded** ‘Sequence 1’ column from Panel B. By reading down this column, we learn that the first advice topic presented by our two advisers is debt, the second diversification, the third fees and the final topic is retirement plan consolidation. Finally, we can combine this information with the **bolded** row from Panel C, which tells us the quality of the advice given by both advisers. Choosing quality sequence three, we see our first adviser provides bad advice on the first topic related to paying down existing debt, while the second adviser provides good advice. The second topic presented in sequence 1 (Panel B) is diversification. From Panel C, the first adviser gives good advice on the second topic while the second adviser gives bad advice. The third choice relates to index fund fees; the first adviser again gives bad advice while the second adviser gives good advice. Finally, the last choice relates to consolidation of retirement accounts; the first adviser gives good advice

---

<sup>12</sup> The experimental design required approximately 9 hours of video, including the 5 introductions.

while the second gives bad advice. The associated scripts for the good and bad advice are outlined in Table 2.

### **2.3 Selection of Adviser Attributes and Names**

A survey of Australian marketing materials created by firms who provide financial adviser services and a review of prior research related to advice use motivated the selection of our three attributes. Specifically, the promotional material for advisers we examined revealed that in Australia women are frequently portrayed as advisers. This stimulated our interest in investigating possible gender effects. In addition, the organizational behavior advice discounting literature suggested that individuals might be more responsive to advice from people who are older and have more life experiences or are perceived experts (Feng and MacGeorge 2006; Harvey and Fischer 1997, Nadler et al. 2003). Therefore, age (our signal of life experience) and credentials (our signal of expertise) emerged as natural options to test these theories.

Credentials were particularly appealing as an attribute in this study because of the associated policy implications and the current debate over their use in several countries. If our results suggest that consumers use credentials as signals of adviser quality, then these designations can be used as a tool to help individuals choose an adviser. For this experiment, we used the ‘Certified Financial Planner’ designation, which is the gold standard in Australia. To confirm that respondents recognized the name and consider it a good signal, we pre-tested adviser credentials. Respondents were presented 11 real and fake credentials and were asked to select the credential that an adviser would most likely have who provided good advice and also the credential for an adviser most likely to provide bad advice. Each credential received a calculated number on a ‘Most minus Least’ scale.<sup>13</sup> Our pre-test results (reported in Table 3) revealed that the respondents viewed the Certified Financial Planner as the highest quality designation with the

---

<sup>13</sup> A relatively high score on this scale suggests that respondents viewed the credential as a stronger signal of an adviser who would give good advice.

highest score (305) on the scale. While our pre-test supported our use of the designation, it also revealed a potential downside of credentials. While the gold standard credential was identified as the best certification, the two next most popular credentials (Master Financial Planner (236) and ‘Qualified Financial Planner with High Designation’ (45)) were fake and preferred over other real credentials. This suggests consumers may have difficulty discerning one credential from another. This is particularly problematic in countries like the U.S. where there are an overwhelming number of credentials.<sup>14</sup> Our finding here will be discussed more thoroughly in the conclusion.

Finally, motivated by recent literature, the names of the advisers in the experiment were also pre-tested to ensure that they were approximately equally “liked” and trusted.<sup>15</sup> The four adviser names were Michael Adams (younger male), Claire Harris (younger female), David Forbes (older male) and Elizabeth Turner (older female). Figure 2 shows the four advisers.

## **2.4 Selection of the Financial Topics and Advice Content**

The experimental design described in the previous section focuses on four financial topics. This section provides further detail related to the selection process and motivation for choosing each topic. When selecting the financial topics for the experiment, we sought to identify straightforward financial issues commonly faced by individuals around the world, but also associated with common mistakes. Equally importantly, we ensured each topic had only one correct answer. Given that sound financial advice depends on an individual’s specific situation and characteristics, this third criterion proved the most challenging to meet.<sup>16</sup>

The first topic, choosing a low-fee index fund, is an enduring puzzle in consumer finance where index funds that are essentially commodities often have a wide range of fees (Elton et al.

---

<sup>14</sup> The pre-testing of adviser credentials is discussed in Online Appendix B, Section B2.

<sup>15</sup> Prior literature suggests that advisers’ names affects individuals’ perception of their quality, i.e. Kumar (2012) show that US mutual fund managers with ‘foreign sounding names’ have lower fund flows than managers with typical American names and this effect persists in an experimental setting where skill differences do not exist. Pre-testing adviser names is discussed in Online Appendix B, Section B3.

<sup>16</sup> For example, based on Bodie et al. (1992), two individuals of the same age but with different levels of human capital risk should be advised to hold very different levels of equity risk in their financial portfolios.

2004; Hortacsu and Syverson 2004). Even relatively well-educated investors often fail to account for fees when comparing funds (Choi et al. 2010).

Similarly, existing research shows that the second topic, diversification, is widely misunderstood (Agnew et al. 2013; Lusardi and Mitchell 2011). For example, the percentage of surveyed respondents who knew that a well-diversified fund is less risky than a single stock in the U.S., Germany, the Netherlands and Australia was 34%, 32%, 33%, and 37% respectively (Lusardi 2013, Agnew et al. 2013). Furthermore, there is evidence that mistakes related to these two topics are made frequently in practice. For example, the U.S. Department of Labor in their final rule related to investment advice to participants in individual account plans listed payment of inefficiently high investment fees and inadequate diversification as two of five distinct errors people make in their retirement in the U.S. (Department of Labor, 2011).

The third topic, on paying down credit card debt is a concern to regulators in several economies, where cardholders commonly incur unnecessary fees and interest charges (Agarwal et al. 2013, Bagnall et al. 2011; Social Research Centre and ANZ 2011; FINRA, 2013).

And the fourth topic, consolidation of retirement accounts, is an important issue in economies with automatic enrolment into retirement plans. In Australia, employer contributions to retirement accounts are mandatory for most workers, and employees often have multiple accounts, particularly when taking part-time employment. Members with multiple accounts pay redundant administrative fees and insurance premiums.<sup>17</sup> Even worse, many retirement accounts become ‘lost’ when account holders leave firms (and so the retirement plan).<sup>18</sup> There are around 3.4 million lost accounts amounting to around \$A17 billion in unclaimed savings in Australia. In the U.S. missing 401(k)s are called ‘zombie accounts’ (Petcher 2013).

---

<sup>17</sup> In Australia, death and total permanent disability coverage is a default setting in retirement accounts so individuals usually pay multiple premiums if they have multiple accounts. In the event of death, or total permanent disability, usually only one insurer will pay out, so additional premiums are redundant.

<sup>18</sup> An account becomes ‘lost’ when the contact details for the account holder are missing and the account has been inactive.

Scripting ensured that each actor delivered introduction to the topics, good and bad advice in exactly the same way. Table 2 shows the exact wording delivered by the actors: the first column includes the advice topic and the narrator's introduction. The scripts for good and bad advice for each topic are in the second column; the underlined portions are the recommendation sections of the advice that differ depending on the quality of the advice.

We pre-tested these topics to confirm that a majority of people could indeed discern good and bad advice on these topics.<sup>19</sup> Pre-testing (reported in Table 4) also showed that recognizing good advice was easier than discounting bad advice. For example, almost half of respondents incorrectly labeled the bad advice as correct in the index fund fee topic, while only about one third incorrectly labeled the good advice incorrect for the same topic. Comparing figures in the two incorrect columns reveals this pattern is not limited to the fee topic. Taken together, the pre-tests show that many people are not completely secure in their opinions and may be open to misleading, persuasive arguments, particularly on the harder topics of fees and diversification. This separation of topics by difficulty plays an important role forming our predictions in the next section.

## **2.5 Theoretical and Empirical Basis for Trust Formation**

As mentioned earlier, empirical studies find evidence that clients tend to continue to trust advisers, despite being given poor quality advice. Two possibly interrelated explanations for this puzzle are the complexity of many financial problems (Australian Securities and Investments Commission 2012), which make the evaluation of the quality of the advice difficult, and a tendency for some advisers to 'cater' to clients' prior opinions (Mullainathan et al. 2012) in order to build a strong relationship.

In a recent theoretical study, Fryer et al. (2013) proposes a general model of Bayesian updating that can be applied in an advice setting to help understand the effects of both complexity

---

<sup>19</sup> See Online Appendix B, Section B4.

and ‘catering.’ Fryer et al. (2013) describe rational (Bayesian) agents who receive a series of either clear or ambiguous signals about two possible states of nature. The key difference between this set up and a more standard Bayesian updating approach is that Fryer et al. (2013) require agents to update their priors over the state as each signal arrives, rather than waiting for the whole stream of signals to complete in other models.<sup>20</sup> They demonstrate how agents who begin with different priors will end up with polarized views of the true state despite receiving the same stream of signals.

This model can broadly explain why ‘catering,’ or initially supporting the client’s existing financial decisions or views, can be an effective strategy for advisers to build client relationships and trust especially when providing advice on difficult topics. The difficulty of the advice topic directly relates to the type of signal the client receives. To apply the model, we must assume that the client begins with a favorable expectation of the adviser he is visiting, as well as holds a favorable opinion of his own portfolio. To initially reinforce the client’s favorable prior, the adviser first chooses to provide a ‘clear’ signal to the client of his quality by confirming the client’s existing financial choices, in other words ‘catering.’ Once the favorable prior is reconfirmed, the adviser can then follow with an ‘ambiguous signal’ by providing biased advice on a complex topic that the client does not understand. The ambiguity of the new signal forces the client, according to the model, to update his prior based on the original ‘clear’ signal. As a result, the client remains in favor of the adviser even though the adviser provided a biased recommendation. Using this approach over time, the client’s final recommended financial strategy could be very different than his initial, and despite receiving biased advice the client could remain more convinced than ever that the adviser is trustworthy. This outcome is noted by Mullainathan et al. (2012), who observed that the final strategies recommended to their auditors differed a lot from those the advisers confirmed at the start of a meeting.

---

<sup>20</sup> Fryer et al. (2013) ascribe this approach to ‘limited memory,’ where agents cannot recall the whole sequence of information.

Key aspects of the Fryer et al. (2013) theory fit features of our experiment. First, during the experiment, as respondents receive advice on each topic they first form, then update, a prior over which of the two advisers they see can be trusted, is competent, and should be followed. Second, the choice experiment structure forces updating of priors as each topic is presented, because respondents must make an explicit choice in each of the four video pairs and cannot be equivocal. Third, according to the pre-test, ‘signal quality’ varies from topic to topic. Recall the fee and diversification strategies were more difficult than the others. Thus, respondents received ‘clear signals’ on the easy topics of consolidation and debt, but ‘ambiguous signals’ on hard topics of fees and diversification. And finally, we collected respondents’ posterior views on the qualities of each adviser.

## **2.6 Model Predictions**

To collect the posterior views of the adviser qualities, respondents after making their four choices compared the two advisers they saw on trustworthiness, competence, attractiveness, understanding, professionalism, genuineness and persuasiveness. Respondents could rate either adviser as highest on each of these qualities or rate both advisers the same. This exercise made an ordered pair of ratings for each respondent for each adviser quality: where 1 indicates either agreement with the statement that the left (1,0) or right (0,1) adviser MOST displays this quality, or that both advisers are the same on this quality (1,1).

To expose the effect of clear and ambiguous signals sequences on adviser quality, and their relationship with good (G) and bad (B) advice, we separate topics into hard or ambiguous (index fund fees and stock diversification) and easy or clear (debt repayment and account consolidation). This was motivated by our pre-test findings discussed in Section 2.4. Our experimental design used eight sequences of good and bad advice: GGGG, GGBB, GBGB and GBBG and their opposites for the matching adviser (Table 1, Panel C). We focus on interactions of these ‘quality’ sequences with these two new ‘clarity’ sequences of hard (H) and easy (E)

topics: EHHE and HEEH. Returning to table 1, Panel B, topic sequences 1 and 3 constitute the EHHE ‘clarity’ sequence and sequence 2 and 4 constitute the HEEH ‘clarity’ sequence.

The first advice clarity sequence (EHHE) should give a clear signal to most respondents on adviser type in the first video pair, which, conditioning on other attributes, will lead to a revised prior over which adviser is more trustworthy and competent. According to the Bayesian updating process in Fryer et al. (2013), if an ambiguous (H) signal is received next, respondents who form a positive prior in the first choice set will update that prior by treating the ambiguous signal as good advice, and those who have formed a negative prior will do the reverse. We evaluate this prediction in section 3 below.

### **3. Results**

#### **3.1 Sample**

Our sample was selected from the Pureprofile online panel that has over 600,000 Australian members. We screened respondents (recruited with an initial email invitation from the panel provider) to match the population age distribution and ensure equal proportions of men and women.<sup>21</sup> In total, 1,274 respondents over 18 years completed the video survey. Summary statistics for the sample and the 2011 Census of the Australian population are in Table 5. The survey sample matches the population well except for including a larger proportion of university (college) graduates and a smaller proportion of people over the age of 75.

To understand the impact of different aspects of financial literacy, knowledge and numeracy, we constructed indices to summarize their key features. We also constructed indices for risk tolerance, conscientiousness and impulsiveness to determine if they had an impact on respondents’ choices. Table 6 defines each measure and Table 7 reports summary statistics on each from the sample.

---

<sup>21</sup> People who had participated in the pre-testing were excluded.

At the aggregate level, respondents chose good over bad advice 83% of the time. Consistent with our pre-tests, respondents found debt repayment was the easiest topic, and they chose good advice more than 90% of the time. Choosing an index fund manager on the basis of fees was considerably more difficult, as was deciding on the best stock diversification strategy. Even though each adviser gave equal numbers of good and bad recommendations, advice offered by the young female adviser was chosen marginally more often, and the older male's advice was chosen least often. Although the differences are small, this seems at odds with common stereotypes of financial advisers as middle-aged men, but fits with patterns we saw in ads for financial planning services, that often featured young women. On the other hand, advice delivered while showing the 'Certified Financial Planner' label along with the adviser's name was chosen slightly more often. Econometric analysis in section 3.3 estimates the conditional significance of these effects.

In the subsection to follow, we focus on how opinions are formed about a particular adviser over the sequence of choice sets.

### **3.2 Evaluation of Adviser Characteristics**

Respondents exhibited some similarity with predictions of a Fryer et al. (2013) updating process. If the first signal respondents got was good (bad) advice that confirmed (contradicted) their pre-existing views on an easy topic, the favorable (unfavorable) opinion of the adviser that resulted was not changed by bad (good) advice on a hard topic. Further, for the same number of good/bad and clear/ambiguous signals, we found that sequence matters. Respondents who received a clear bad signal first rate advisers worse than respondents who get a clear good signal first, even though they otherwise received similar information.

This effect is clearly seen in Figure 3. The dependent variable in the logit model underlying each panel is a binary variable where one indicates that the respondent rated the adviser as MOST displaying the relevant quality (trustworthy, competent, attractive, professional)

or being at least as good as the other adviser, and a zero indicates they were worse.<sup>22</sup> We regressed these ratings on adviser attributes (indicators for being female, older and not certified), the ‘quality’ sequence viewed by the respondent (BG combination) and the interaction between the quality sequence and an indicator variable equal to one when the respondent clarity sequence was HEEH and zero for EHHE.

Each panel of the figure shows the predictive marginal effects on adviser ratings of each quality sequence (BG combination) in the experiment, conditioning on the two ‘clarity’ sequences (HE combination). The pale boxes graph the 95% confidence interval around the predictive margins of the quality sequence shown on the horizontal axis, when the clarity sequence was EHHE, and the dark box graphs the same for the clarity sequence HEEH. Dashed outlines highlight two significantly different marginal effects based on a chi-square test of equality.

Advisers who gave a clear good signal in the first pair followed by bad advice on two ambiguous topics (GBBG/EHHE) were likely to be rated as just as trustworthy, competent and professional as advisers who gave only good advice (GGGG/EHHE). By contrast, if an adviser began with bad advice on an easy topic (BGGB/EHHE), respondents rated them less trustworthy than all advisers, apart from those giving only bad advice, despite having given good advice half the time. Comparing effects in the dashed boxes shows how bad advice on ambiguous topics was penalized much less than bad advice on easy topics.

In general, trustworthiness, professionalism and competence were rated higher for advisers whose first advice was the easy-good combination than for advisers who began with the easy-bad combination regardless of the rest of the sequence. This can be seen by comparing the height of the four pale boxes on the left hand side of the graphs with the consistently higher four boxes on the right hand side. (The exception was attractiveness ratings. In most respects the

---

<sup>22</sup> We estimate this (and later) equations using inbuilt STATA routines (with robust standard errors). Here we show the results for four of the seven characteristics tested in the survey. The full set of marginal effects confirm the conclusions and are reported in Online Appendix C.

clarity and quality sequence was irrelevant to attractiveness ratings, although advisers delivering only bad advice were rated much less attractive than those giving at least some good advice.) Clients were suspicious of advisers who contradicted their prejudices of what good advice should be, but were apparently easily persuaded to trust advisers who only gave bad advice on difficult topics, especially if they confirmed the client's views initially. As both Mullainathan et al. (2012) and ASIC (2012) surmise, this analysis demonstrates that the interaction between catering and complexity is indeed a key to understanding the tendency of clients to return to advisers who offer poor advice.<sup>23</sup>

One signal of quality and trustworthiness used in financial advice markets is professional certification. Now we consider how this, and other personal features of advisers can independently influence decisions about recommendation.

### **3.3 Effect of Credentials on Advice Choices**

Clients deciding on advisers are usually not able to discern quality *ex ante*, so they may rely on signals perceived to be correlated with expertise, trustworthiness and experience in making a choice. In real world settings it is difficult to disentangle the effects of signals, such as professional credentials, from advice quality. In this experimental setting we can isolate and measure the influence of three potential quality signals – gender, age and professional credentials on the discernment of respondents. The balanced experimental design combined with random assignment of respondents and carefully vetted advice topics ensures we can accurately assess the marginal effect of each signal. While regulators or professional associations would not, for

---

<sup>23</sup> In further analysis, reported in Online Appendix D, Section D1, we found some evidence of learning by respondents over the course of the survey. We compared responses to preliminary questions before the video advice with responses during the advice sequence and after the debriefing. For easier topics, we saw increased 'mistake' rates during the experiment itself that were corrected at the debriefing stage, suggesting that some respondents with sound views could be persuaded by the video content. In addition, transitions into incorrect states from correct states suggest that a subset of respondents were still confused about these very basic topics.

obvious reasons, stipulate the age and gender of financial advisers, displays of credentials can be controlled. The need for regulation depends on whether and to what extent clients take notice of qualifications or credentials even when they are not correlated with quality.

Table 8 reports marginal effects from the estimation of a conditional logit model of the probability of choosing the correct advice in the first choice set offered to respondents. In other words, these models evaluate the sign and size of relevant factors such as certification in an initial ‘meeting’ between a client and adviser. The dependent variable in the estimated model is a binary indicator where 1 indicates the correct advice choice by the respondent. Explanatory variables are the advice topic, adviser and respondent characteristics; the estimated models include all interactions between each adviser characteristic (gender, age, and certification) and advice topics and respondent characteristics. The reported marginal effects were computed by averaging individual marginal effects over all members of the sample, with standard errors calculated by the delta method.

People go to financial advisers for help with problems they can’t, or don’t wish, to manage on their own; and since many cannot discern good from bad on relatively simple financial questions, it is likely they will use other information available in an advice setting to help make judgments. These may be factors that are correlated with trustworthiness, experience or expertise in real settings.

Respondents discounted advice from advisers not identified as a ‘Certified Financial Planner’ which is a valid professional certification in the Australian setting. Respondents were about 5% less likely to choose good advice when offered by adviser who did not display this credential. This effect is likely to be larger in complex real-world settings where clients will find good advice much harder to discern, and shows that a good adviser who fails to display a qualification, when competing with advisers who do, is at a significant disadvantage.

An even larger effect is associated with adviser age, with respondents tending to discount good advice from older advisers and preferring females more strongly.<sup>24</sup> The respondents may view older advisers as less ‘up to date’ than younger and therefore lacking expertise. While this seems to be at odds with the hypothesis that people look for experience in an adviser, it does match our survey of advertisements for financial planning firms, which commonly feature younger (female) advisers.

Older, numerate, experienced and attentive respondents were significantly more likely to choose good advice. Respondents attending to the survey details (Passed IMC 1) were 10% more likely to choose good advice, and those with a past history of acting wisely on the topics in the advice experiment were 14% more likely to choose well. More numerate respondents were 6% more likely to choose good advice, whereas overall, financial literacy, product knowledge, conscientiousness and impulsiveness all had the expected sign and economically significant sizes, but were not statistically significant. Among the interesting significant interactions not reported separately here, was that people with high financial literacy were less influenced by the order of the videos, and people with high conscientiousness preferred the younger advisers less.

Characteristics of both advisers and respondents significantly influence the probability of choosing good from bad advice in the first round, but the largest effects are due to the topics themselves (Table 8). In these estimates, the reference category for topic is debt repayment, so the negative marginal effects show that correct advice is significantly less likely to be chosen on remaining topics. This is especially true for diversification and index fund fees, where topic switching accounts for a decrease of 22% and 34% in the probability of choosing good advice.<sup>25</sup>

In summary, while respondents were usually able to choose the best recommendation on these simple finance topics, decisions were significantly influenced by adviser characteristics,

---

<sup>24</sup> The result for females was economically but not statistically significant.

<sup>25</sup> Advice relationships usually last longer than a single meeting on a single topic. In supplementary results reported in Online Appendix D, Section D2, we found evidence of persistency, with respondents showing a tendency to stick to one adviser or another through their second, third and fourth choices.

suggesting that people who are uncertain of advice quality will look for signals from professional credentials and markers of expertise.

#### **4. Implications and Conclusion**

Our findings demonstrate how individuals' perceived trust in their advisers is easily manipulated over time and that professional credentials independently influence perceptions of advice quality. Specifically, we find advisers who can establish their trustworthiness early on by providing good advice on an 'easy' financial topic, remain trusted after giving wrong advice on 'hard' topics, and vice versa. This advice-giving strategy is consistent with 'catering' observed by Mullainathan et al. (2012), as well as Fryer's (2013) Bayesian updating model with ambiguous signals. We also find that individuals use professional credentials, independently of advice quality, to help decide between conflicting advice.

Taken together, these results have many important public policy implications, especially in light of the growing international evidence that advisers often give poor quality advice to their clients that is not in their client's best interests. For individuals with low financial literacy, the concern should be even greater because theoretical research suggests that in some contexts individuals with low financial literacy are more likely to be given poor recommendations. Further compounding this problem is the evidence from the empirical literature suggesting that this vulnerable group is also less likely to question the advice they are given and more likely to follow it in whole than others with greater financial literacy. All of this research provides the motivation for our policy recommendations.

The first immediate implication of our findings is that consumers need more assistance in choosing advisers. Our results suggest that individuals struggle to judge the quality of advice on complicated but common issues. One way to help individuals select a high quality adviser is to provide adviser certification. Our results show that attributes like credentials can have a

significantly positive effect on choice. This can be good or bad depending on how the certification is obtained.

In the U.S., too many certifications of variable quality exist, resulting in documented consumer confusion and the possibility that the certification is a misleading rather than effective signal of adviser quality. If the U. S. and countries in situations like the U.S. could endorse just one qualification that required passing rigorous and repeated examinations, as well as regular training on relevant issues, certification could become an effective signal. Advisers holding this certification should also be regulated and frequently reviewed in a timely fashion to ensure consistent quality.<sup>26</sup>

Regarding the hurdles for certification, the associated exam(s) should be challenging to pass. Other fields like health and law in the U.S. have well known examinations that significantly challenge testers. There is an advantage to such hard exams, which is that medical boards and bar exams weed out poor performers due to difficulty. Yet, hurdles for financial certifications in the U.S. and Australia are far lower than in these fields, raising an obvious question as to why the implications of poor financial planning are not just as serious as poor health choices or following bad legal advice? Assuming this is true, there is a compelling case for ensuring financial planners are well trained.

Remuneration strategies also should be designed to align adviser and client incentives. Guidance from Inderst and Ottaviani's (2012b) discussion of the empirical and theoretical literature related to this topic should be strongly considered when recommending and implementing methods.

---

<sup>26</sup> Finally, consumers in the U.S. also must be aware that even the most well respected designation in the U.S. (certified financial planner), does not guarantee a good adviser. A recent investigative report by the Wall Street Journal reveals that the granting organization has only 6 reviewers, equating to less than one reviewer for every 11,000 certified financial planners, and is slow to move (Zweig, October 4, 2013). While this certification and the advisers who have earned it are well regarded, their granting organization's ability to monitor its financial planners is clearly limited by the number of reviewers. Finally, the regulatory environment is confusing for all types of advisers overall leading to poor oversight (Bromberg and Cackly 2012, Laby 2012).

Finally, any advisers falling under an endorsed certification should be required to uphold the strictest standard of care for consumers. While certifications in some cases can ensure that advisers are knowledgeable and up-to-speed about developments in finance, it does not guarantee necessarily that they provide advice in their client's best interest. For example, in the U.S. financial planners can serve as both broker-dealers and investment advisers to the same client. These two job functions carry substantial differences in required standard of care as explained in Bromberg and Cackly (2012). Unfortunately, research suggests that consumers generally are unaware of the important distinction between the two (Hung and Yoong 2013, Hung et al. 2008, Infogroup 2010).<sup>27</sup> Therefore, in the U.S. the fiduciary standard should be implemented across the board for all types of advisers. By doing this, adviser responsibilities to clients when making recommendations would be clearly understood by everyone involved.

By implementing all or some of these measures, individuals with low levels of financial literacy can be better protected and the likelihood of selecting a good adviser increased. In the meantime, consumers should consider seeking second opinions when the financial decision being considered is high stakes and is complicated to understand. In addition, consumers should educate themselves about the regulated standards of care advisers must provide them, the methods for adviser remuneration and the meaning of different certifications in terms of supervision and required training and testing.<sup>28</sup> Unfortunately, this last recommendation demands a significant time investment and personal motivation on the part of everyday consumers to follow. Given evidence from past research, this type of complex information acquisition may be unrealistic to expect from most people particularly the most vulnerable populations characterized by limited financial literacy.

---

<sup>27</sup> Motivated by the Dodd-Frank Act, there is current debate about moving to one standard of care for all (Schoeff 2013, Cornfield 2013).

<sup>28</sup> The U.S. Financial Industry Regulatory Authority (FINRA) to provide consumers a web based tool to evaluate the over 100 credentials in the market. The website reveals that qualifications can vary dramatically across several important dimensions, including the requirements for continuing education, the option to file complaints and methods for confirming the credential Website: <http://www.finra.org/Investors/ToolsCalculators/ProfessionalDesignations/DesignationsLookup/>

## References:

- Agarwal, S., S. Chomsisengphet, N. Mahoney, and J. Stroebel. 2013. Regulating consumer financial products: Evidence from credit cards. Working paper.
- Agnew, J., H. Bateman, and S. Thorp. 2013. Financial literacy and retirement planning in Australia. *Numeracy* 6: Article 7.
- Australian Securities and Investment Commission (ASIC). 2012. Shadow shopping study of retirement advice, Report 279, Sydney.  
[http://www.asic.gov.au/asic/pdfflib.nsf/LookupByFileName/rep279-published-27-March-2012.pdf/\\$file/rep279-published-27-March-2012.pdf](http://www.asic.gov.au/asic/pdfflib.nsf/LookupByFileName/rep279-published-27-March-2012.pdf/$file/rep279-published-27-March-2012.pdf) (Accessed September 14, 2012)
- Bagnall, J., S. Chong, and K. Smith. 2011. Strategic Review of Innovation in the Payments System: Results of the Reserve Bank of Australia 2010 Consumer Payments Use Study. June 2011. Reserve Bank of Australia.
- Bergstresser, D., J. Chalmers, and P. Tufano. 2009. Assessing the costs and benefits of brokers in the mutual fund industry. *The Review of Financial Studies* 22: 4129-4156.
- Bhattacharya, U., A. Hackethal, S. Kaelser, B. Loos, and S. Meyer. 2012. Is unbiased financial advice to retail investors sufficient? Answers from a large field study. *Review of Financial Studies* 25: 975-1032.
- Bodie, Z., R.C. Merton, and W. Samuelson. 1992. Labor supply flexibility and portfolio choice in a lifecycle model. *Journal of Economic Dynamics and Control* 16: 427-449.
- Bonaccio, S., and R.S. Dalal, 2006. Advice taking and decision-making: An integrative literature review, and implications for the organizational sciences. *Organizational Behavior and Human Decision Processes* 101: 127-151.
- Bromberg, J., and A.P. Cackly. 2012. Regulating financial planners: Assessing the current system and some alternatives. PRC Working paper PRC WP 2012-18.
- Camerer, C., and R. Hogarth. 1999. The effects of financial incentives in experiments: A review and capital-labor production framework. *Journal of Risk and Uncertainty* 19(1): 7-42.
- Certified Financial Planner Board of Standards. 2004. *2004 Consumer Survey*. (available at <http://www.cfp.net/docs/news-events---research-facts-figures/cfpboard2004conssurvey.pdf?sfvrsn=2> )
- Chalmers, J., and J. Reuter. 2013. What is the impact of financial advisors on retirement portfolio choices and outcomes? Working paper.
- Choi, J. J., D. Laibson, and B.C. Madrian. 2010. Why does the law of one price fail? An experiment on index mutual funds. *Review of Financial Studies* 23 (4): 1405–1432.
- Cornfield, J. Groups urge SEC to uphold fiduciary standard. *Retirement Plan Advisors* June 5, 2013.
- Department of Labor. “Investment advice-Participants and beneficiaries; Final rule” 76 *Federal Register* 206 (25 October 2011), pp. 66136-66167.

- Elton, E., M. Gruber, and J. Busse. 2004. Are investors rational: Choices among index funds. *Journal of Finance* 59: 261-288.
- Feng, B., and E.L. MacGeorge. 2006. Predicting receptiveness to advice: Characteristics of the problem, the advice giver and the recipient. *Southern Journal of Communications* 71(1): 67-85.
- Finke, M. 2013. Financial advice: Does it make a difference? In *The Market for Retirement Financial Advice* edited by Olivia S Mitchell and Kent Smetters. Oxford University Press, 229-248.
- FINRA. 2013. Financial capability in the United States: Report of findings from the 2012 national financial capability study.
- Fryer, R. G., P. Harms, and M.O. Jackson. 2013. Updating beliefs with ambiguous evidence: Implications for polarization. NBER Working Paper 19114.
- Georgarakos, D. and R. Inderst. 2011. Financial advice and stock market participation. European Central Bank Working paper 1296.
- Hackethal, A., M. Haliassos, and T. Jappelli. 2012. Financial advisers: A case of babysitters? *Journal of Banking and Finance* 36: 509-524.
- Hackethal, A., and R. Inderst. 2012. How to make the market for financial advice work. PRC Working paper WP2012-14.
- Harvey, N. and I. Fischer. 1997. Taking Advice: Accepting help, improving judgment, and sharing responsibility. *Organizational Behavior and Human Decision Processes* 70: 117-133.
- Holden, S. 2013. When, why, and how do mutual fund investors use financial advisers? In *The Market for Retirement Financial Advice* edited by Olivia S Mitchell and Kent Smetters. Oxford University Press, 249-272.
- Hortacsu, A., and C. Syverson. 2004. Product differentiation, search costs, and competition in the mutual fund industry: A case study of S&P 500 index funds. *Quarterly Journal of Economics* 119: 402-456.
- Hung, A., and J. Yoong. 2013. Asking for help: Survey and experimental evidence on financial advice and behavior change. In *The Market for Retirement Financial Advice* edited by Olivia S Mitchell and Kent Smetters. Oxford University Press.
- Hung, A., N. Clancy, J. Dominitz, E. Talley, C. Berrebi, and F. Suvankulov. 2008. Investor and industry perspectives on investment advisers. RAND Institute for Civil Justice, Technical Report.
- Inderst, R., and M. Ottaviani. 2009. Misselling through Agents. *American Economic Review* 99: 883-908.
- Inderst, R., and M. Ottaviani. 2012a. How (not) to pay for advice: A framework for consumer financial protection. *Journal of Financial Economics* 105: 393-411.

- Inderst, R., and M. Ottaviani. 2012b. Financial advice. *Journal of Economic Literature* 50: 494-512.
- Infogroup. 2010. U.S. Investors and the Fiduciary Standard: A National Opinion Survey. Papillion, NE: Infogroup. <http://www.cfp.net/downloads/US-Investors-Opinion-Survey-2010-09-16.pdf>.
- Kumar, A., A. Niessen-Ruenzi, and O.G. Spalt. 2012. What is in a name? Mutual fund flows when managers have foreign-sounding names. Working paper.
- Laby, A. B. 2012. Harmonizing the Regulation of Financial Advisers. Pension Research Council Working Paper 2012-17.
- Lachance, M., and N. Tang. 2012. Financial advice and trust. *Financial Services Review* 21: 209-226.
- Lipkus, I.M., G. Samsa, B.K Rimer. 2001. General performance on a numeracy scale among highly educated samples. *Medical Decision Making* 21(1): 37-44.
- Louviere, J.J., and G.G. Woodworth. 1983. Design and analysis of simulated consumer choice or allocation experiments: An approach based on aggregate data. *Journal of Marketing Research* 20: 350-367.
- Louviere, J.J., D.A. Hensher, and J. Swait. 2000. Stated Choice Methods: Analysis and Applications. Cambridge University Press.
- Lusardi, A. 2013. Financial literacy around the world. *Insights: Financial Capability*. FINRA Investor Education Foundation, April 2013
- Lusardi, A., and O.S. Mitchell. 2011. Financial literacy around the world. *Journal of Pension Economics and Finance* 10: 497-508.
- Mullainathan, S., M. Noeth, and A. Schoar. 2012. The Market for Financial Advice: An Audit Study. NBER Working Paper 17929.
- Nadler, A., S. Ellis, and I. Bar. 2003. To seek or not to seek: The relationship between help seeking and job performance evaluations as moderated by task-relevant expertise. *Journal of Applied Social Psychology*, 33: 91-109.
- Oppenheimer, D. M, T. Meyvis, and M. Davidenko. 2009. Instructional manipulation checks: Detecting satisficing to increase statistical power. *Journal of Experimental Social Psychology* 45: 867-72.
- Petcher, J. Zombie 401(k) Accounts. *The Retirement Income Journal*. July, 31 2013.
- Scheoff, M. SIFMA squares off with SEC advisory group over fiduciary standard. *Investment News* October 17, 2013.
- Social Research Centre and ANZ. 2011. Adult Financial Literacy in Australia – 2011. ANZ Survey.

Snizek, J. A., and L. M. Van Swol. 2001. Trust, confidence and expertise in a judge-advisor system. *Organizational Behavior and Human Decision Processes* 84: 288-307.

State Street Global Advisors. 2007. Bridging the Trust Divide: The Financial Advisor-Client Relationship. Knowledge@Wharton special report, University of Pennsylvania. (available at <https://knowledge.wharton.upenn.edu/special-report/bridging-the-trust-divide-the-financial-advisor-client-relationship-2/>)

Street, D., Burgess, L.B., and J. J. Louviere, J.J. 2005. Quick and easy choice sets: Constructing optimal and nearly optimal stated choice experiments. *International Journal of Research in Marketing* 22(4): 459-470.

Street, D., L.B. Burgess. 2007. *The Construction of Optimal Stated Choice Experiments: Theory and Methods*. John Wiley and Sons, Hoboken, New Jersey.

Yaniv, I. and Eli, Kleinberger. 2000. Advice taking in decision making: Egocentric discounting and reputation formation. *Organizational Behavior and Human Decision Processes* 83: 260-281.

Zweig, Jason. 'Fee-only' financial advisers who don't charge fees alone. *The Wall Street Journal* September 20, 2013.

Zweig, Jason. When your financial planner doesn't tell all. *The Wall Street Journal* October 4, 2013.

**Table 1. Experimental design**

**Panel A. Design of advisers pairs seen**

Pair	Adviser 1 (Shown on left)			Adviser 2 (Shown on right-mirror image)		
	Gender	Age	Certification	Gender	Age	Certification
1	Male	Young	No	Female	Old	Yes
2	<b>Male</b>	<b>Young</b>	<b>Yes</b>	<b>Female</b>	<b>Old</b>	<b>No</b>
3	Male	Old	Yes	Female	Young	No
4	Male	Old	No	Female	Young	Yes
5	Female	Old	No	Male	Young	Yes
6	Female	Old	Yes	Male	Young	No
7	Female	Young	No	Male	Old	Yes
8	Female	Young	Yes	Male	Old	No

Notes: Panel shows the combination of adviser attributes using a foldover design for each possible adviser. Each respondent to the survey viewed one of the eight rows. Thus, they saw the same two advisers for the entire experiment and each adviser stayed on the same side of the screen throughout the experiment.

**Panel B. Sequence of advice topics**

Topic Order	Sequence 1 Clarity: EHHE	Sequence 2 Clarity: HEEH	Sequence 3 Clarity: EHHE	Sequence 4 Clarity: HEEH
1 <sup>st</sup> topic	<b>Debt</b>	Diversification	Consolidation	Fees
2 <sup>nd</sup> topic	<b>Diversification</b>	Debt	Fees	Consolidation
3 <sup>rd</sup> topic	<b>Fees</b>	Consolidation	Diversification	Debt
4 <sup>th</sup> topic	<b>Consolidation</b>	Fees	Debt	Diversification

Notes: Panel shows sequence of advice topics for each treatment in the experiment. Each respondent viewed one of the four columns, interacted with the rows in Panel C.

**Panel C. Design of the sequence of advice quality**

Quality Sequence	Advice from adviser 1 (shown on left)				Advice from adviser 2 (shown on the right - mirror image)			
	1 <sup>st</sup> topic	2 <sup>nd</sup> topic	3 <sup>rd</sup> topic	4 <sup>th</sup> topic	1 <sup>st</sup> topic	2 <sup>nd</sup> topic	3 <sup>rd</sup> topic	4 <sup>th</sup> topic
1	B	B	B	B	G	G	G	G
2	B	B	G	G	G	G	B	B
3	<b>B</b>	<b>G</b>	<b>B</b>	<b>G</b>	<b>G</b>	<b>B</b>	<b>G</b>	<b>B</b>
4	B	G	G	B	G	B	B	G
5	G	B	B	G	B	G	G	B
6	G	B	G	B	B	G	B	G
7	G	G	B	B	B	B	G	G
8	G	G	G	G	B	B	B	B

Notes: Panel shows the eight sequences of advice quality for each treatment in the experiment. Each respondent viewed one of the eight rows. G stands for good advice, while B stands for bad advice.

**Table 2. Financial advice scripts**

<b>Financial Topic &amp; Narrator Introduction</b>	<b>Advice</b>
<p><b>Paying Down Debt</b> In this scenario, you have accumulated some large outstanding credit card debt with a high associated interest rate. Recently, you have inherited some money unexpectedly and would like to know what to do with it. The next 2 financial advisers will recommend what you should do.</p>	<p><b>Good Advice:</b> I understand that you have some large credit card debt but recently inherited money. It is important to think about your overall financial position when making a decision about what to do. <u>It is easy to simply save this big sum of money in a savings account to achieve a savings goal, but the interest gained is far smaller than the high interest expense of not paying down your credit card debt.</u> Therefore, I recommend you pay off your credit card debt to eliminate the high interest charges.</p>
<p><b>Consolidating Retirement Accounts</b> In this scenario, suppose you have just changed jobs and started a new superannuation account. Currently, you already have two other superannuation accounts from past jobs. The next 2 financial advisers will recommend what you should do about it.</p>	<p><b>Bad Advice:</b> I understand that you have some large credit card debt but recently inherited money. It is important to think about your overall financial position when making a decision about what to do. <u>It is hard to save big sums of money so it is important to think about your special savings goals when making this decision. Therefore, I recommend you ignore your credit card debt for now and put your inheritance in a separate savings account.</u></p> <p><b>Good Advice:</b> I see that you have three superannuation accounts with different super funds. Did you know that people are typically charged regular fixed administration fees on all of these superannuation accounts? <u>As a result, I recommend that you roll all of these accounts together so you are not paying extra fees.</u></p> <p><b>Bad Advice:</b> I see that you have three superannuation accounts with different super funds. Did you know that people are typically charged regular fixed administration fees on all of these superannuation accounts? <u>Despite that, I recommend that you not roll all of these accounts together so you are diversified across different superannuation funds.</u></p>

**Table 2 Continued**

<b>Financial Topic &amp; Narrator Introduction</b>	<b>Advice</b>
<b>Choosing a Low-Fee Index Fund</b> In this scenario, you are thinking about investing in a managed share index fund. The next 2 financial advisers will recommend what you should do about it.	<b>Good Advice:</b> I understand you need help regarding your choice of share index fund. Did you know that all share index funds invest with the aim of matching the overall share market return? These various share index funds provide an almost identical product <u>so why pay a fund manager more than the others for the same thing. Therefore, I recommend that you choose the share index fund with the lowest management fees.</u> <b>Bad Advice:</b> I understand you need help regarding your choice of share index fund. Did you know that all share index funds invest with the aim of matching the overall share market return? These various share index funds provide an almost identical product <u>but some fund managers have better reputations than others and you get what you pay for. Therefore, I recommend that you avoid the share index funds with low management fees.</u>
<b>Diversifying a Stock Portfolio</b> In this scenario, you are thinking about investing in the share market. The next 2 financial advisers will recommend what you should do about it.	<b>Good Advice:</b> I understand you need help regarding how to invest your superannuation money. Did you know money invested in shares can go up and down? <u>It is good to try to balance out the shares that go up with the shares that go down. Therefore, I recommend that you spread your money across a variety of shares in different types of companies and industries.</u> <b>Bad Advice:</b> I understand you need help regarding how to invest your superannuation money. Did you know money invested in shares can go up and down? <u>That is why it is good to invest in something you know and can easily monitor. Therefore, I recommend that you invest your money in one blue chip company.</u>

**Table 3. Results of comparisons of financial adviser credentials**

<b>Qualifications</b>	<b>Most</b>	<b>Least</b>	<b>Most- Least</b>
Certified Financial Planner (CFP)	438	133	305
Certified Financial Analyst (CFA)	231	209	22
Certified Practising Accountant (CPA)	331	320	11
Certified Investment Management Analyst (CIMA)	184	227	-43
<i>Qualified Financial Analyst (QFAn)</i>	92	283	-191
<i>Qualified Financial Planner with High Designation (QFPHD)</i>	277	232	45
<i>Accredited Financial Expert (AFE)</i>	154	276	-122
<i>Commissioned Financial Practitioner (CFPr)</i>	108	330	-222
<i>Master Financial Planner (MFP)</i>	363	127	236
<i>Bachelor of Financial Practice (BFP)</i>	242	283	-41
<i>Accredited Financial advisor (AFA)</i>	220	220	0

Table 3 shows the relative rankings of the real and fictional credentials from pre-testing of 240 randomly selected online panel members. The real credentials for the Australian setting are shown in normal typeface and the fictional credentials are shown in italics. Full details of the pre-testing are in Online Appendix B. Respondents were asked to consider sets of five financial adviser qualifications and were told that some were real and some fake. They selected the qualification that would be held by an adviser who would most likely give good advice and who would most likely give bad advice.

**Table 4. Rates of correct and incorrect labeling of advice topics in pre-testing**

<b>Advice Topic</b>	<b>Presentation Order</b>	<b>Good Advice Shown</b>		<b>Bad Advice Shown</b>	
		<b>Correct</b>	<b>Incorrect</b>	<b>Correct</b>	<b>Incorrect</b>
<b>Index fund fees</b>	good shown first	67%	33%	53%	48%
	bad shown first	66%	34%	62%	38%
<b>Debt repayment</b>	good shown first	92%	8%	83%	18%
	bad shown first	91%	9%	80%	20%
<b>Stock Diversification</b>	good shown first	80%	20%	68%	33%
	bad shown first	78%	22%	63%	38%
<b>Account consolidation</b>	good shown first	94%	6%	70%	30%
	bad shown first	92%	8%	69%	31%

Table 4 reports consolidated results of pre-testing of financial advice topics on 240 randomly selected online panel members. The individuals who completed the pretest were excluded by the panel provider from the main experiment sample. (Full details of the pre-test are in Online Appendix B.) Respondents were presented with the financial scenarios used in the full experiment followed by two separate pieces of financial advice. After each piece of advice, they selected whether they thought the advice was ‘good’ or ‘bad.’ The percentages indicate whether the respondent correctly identified the quality of the advice or not. The order in which the advice was presented was varied.

**Table 5. Demographics, survey sample and Australian population (18 – 79 years)**

	Survey Respondent Sample	18-79 yrs Australian Population		Survey Respondent Sample	18-79 yrs Australian Population
<b>Gender</b>			<b>Marital Status</b>		
Male	50%	49%	Never Married	25%	30%
Female	50%	51%	Divorced/Separated	8%	13%
<b>Age</b>			Widowed	3%	3%
18-24 years	9%	10%	Married or long term relationship	64%	54%
25-29 years	11%	10%	<b>Personal Income</b>		
30-34 years	12%	10%	\$1-\$20,799 (i.e. less than \$399 a week)	22%	25%
35-39 years	12%	10%	\$20,800-\$51,999 (i.e. \$400-\$999 a week)	34%	32%
40-44 years	12%	10%	\$52,000-\$103,999 (i.e. \$1,000-\$1,999 a week)	30%	23%
45-49 years	10%	10%	\$104,000 (i.e. \$2,000 a week) or more	6%	7%
50-54 years	10%	10%	Negative or Nil Income	8%	6%
55-59 years	7%	9%	Not Stated	0%	7%
60-64 years	6%	8%			
65-69 years	7%	6%			
70-79 years <sup>a</sup>	3%	8%			
<b>Work Status</b>			<b>Highest level of Education</b>		
Employed	68%	63%	High School or Less	24%	40%
Unemployed	4%	3%	Vocational/Technical certificate	22%	20%
Not in the labor force	15%	29%	Tertiary diploma	12%	9%
Retired	13%	not broken out	Bachelor degree	25%	15%
Not stated	0%	5%	Graduate certificate, diploma or degree	16%	6%
			Not Stated	0%	10%

Notes: Table 5 shows percentages of survey sample of 1274 respondents by demographic category compared with the Australian census data for 2011. The sample was filtered to match population age and gender proportions.

Source: Survey results and Australian Bureau of Statistic.

<sup>a</sup> Survey sample includes all respondents over the age of 70 years.

**Table 6. Variable definitions**

Variable Name	Description
<i>Adviser characteristics</i>	
Female	Indicator variable that equals one if the adviser was female, zero for male.
Older	Indicator variable that equals one if the adviser was older, zero for younger.
Not certified	Indicator variable that equals one if adviser's name was displayed, zero when 'Certified Financial Planner' was also displayed.
<i>Advice</i>	
Correct advice shown first	Indicator variable that equals one if the correct advice was shown before the incorrect advice, zero otherwise
Topic: Account consolidation	Indicator variable that equals one if the topic was account consolidation, zero otherwise
Topic: Stock diversification	Indicator variable that equals one if the topic was stock diversification, zero otherwise
Topic: Index fund fee	Indicator variable that equals one if the topic was index fund management fees, zero otherwise
Topic: Debt repayment	Reference category for advice topic
<i>Respondent characteristics</i>	
Passed IMC 1	Indicator variable that equals one if the respondent answered the first instructional manipulation check correctly, zero otherwise
Passed IMC 2	Indicator variable that equals one if the respondent answered the second instructional manipulation check correctly, zero otherwise
Respondent female	An indicator variable that equals one if the respondent is a female, zero otherwise
Respondent age	An polychotomous variable that equals one if the respondent is 18-24 years and rising by one in 5 years steps
Financial literacy	An indicator variable that equals one if the respondent's correct percentage on four financial literacy questions is above the sample median, zero otherwise. Questions test simple interest, inflation, diversification and compound interest.
Numeracy	An indicator variable that equals one if the respondent's correct percentage on three numeracy questions is above the sample median, zero otherwise. Questions test fractions, percentages and probability.
Product knowledge	An indicator variable that equals one if the respondent's correct percentage on four financial product questions is above the sample median, zero otherwise. Questions test topics used in advice experiment: debt, index funds, account consolidation, diversification.
Conscientiousness	An indicator variable that equals one if the respondent's conscientiousness is above the sample median, zero otherwise. Respondents rated themselves as organized, responsible, hardworking and careless (reverse coded) on a four point scale. Ratings were averaged.
Impulsiveness	An indicator variable that equals one if the respondent's impulsiveness is above the sample median, zero otherwise. Respondents rated themselves as buying too much, buying impulsively, without planning and or unnecessarily on a five point scale. Ratings were averaged.
Past correct decisions	Continuous variable measuring the percentage of times the respondent reported having acted competently in past financial decisions, as measured by eight examples relating to diversification, debt management, consolidation and investment management fees.
Risk Tolerance	Continuous variable measuring respondents' Likert scale ratings on five of Finametrica risk survey questions: risk tolerance compared to others; willingness to take risk in financial decisions (job, investments, overall); and confidence in their ability to make good financial decisions. Ratings were rescaled with zero indicating very low and one indicating very high tolerance then summed.

**Table 7. Summary of survey responses**

---

<b>Variable</b>	
<hr/> <hr/>	
<i>Good advice chosen</i>	<i>% of total choices</i>
All topics	83
Topic: Account consolidation	90
Topic: Stock diversification	81
Topic: Index fund fee	68
Topic: Debt repayment	93
<i>Advisor Chosen</i>	
Younger male	25
Older male	24
Younger female	26
Older female	25
Certified planner	51
<hr/>	
<i>Respondent characteristics</i>	<i>% of respondents</i>
Passed IMC 1	89
Passed IMC 2	93
	<i>Median score</i>
High Financial literacy	0.75
High Numeracy	0.67
High Product knowledge	0.50
High Conscientiousness	3.40
High Impulsiveness	2.50
Past correct decisions	0.63
Risk Tolerance	2.34
<hr/> <hr/>	

**Table 8. Marginal effects from logit estimation of correct advice choices**

<i>Adviser characteristics</i>	
Female (=1)	0.027 (0.020)
Older (=1)	-0.063*** (0.020)
Not certified (=1)	-0.045** (0.020)
<i>Advice</i>	
Correct advice viewed first (=1)	-0.051** (0.020)
Topic: Account consolidation (=1)	-0.117*** (0.041)
Topic: Stock diversification (=1)	-0.219*** (0.039)
Topic: Index fund fee (=1)	-0.342*** (0.041)
<i>Respondent characteristics</i>	
Passed IMC 1 (=1)	0.100** (0.045)
Passed IMC 2 (=1)	0.062 (0.049)
Respondent female (=1)	0.025 (0.022)
Respondent age (5 yrs groups)	0.011*** (0.004)
High financial literacy (above median =1)	0.018 (0.024)
High product knowledge (above median =1)	0.038 (0.023)
High numeracy (above median =1)	0.056*** (0.021)
High conscientiousness (above median =1)	0.024 (0.022)
High impulsiveness (above median =1)	-0.007 (0.022)
Past correct decisions (percentage of 8 decisions)	0.139* (0.077)
Risk tolerance (Finametrica score)	0.033* (0.020)
Sample Size	1274
Pseudo R <sup>2</sup>	0.190

Notes: Table 8 shows the estimated marginal effects of adviser, advice and respondent characteristics on the probability of the good advice being selected at the first of four choice sets. The model includes main effects (18 coefficients) and a complete set of interactions between adviser characteristics (female, older, not certified) and whether the advice chosen was viewed first, and all topics and respondent characteristics (14x4 coefficients). Reference category for topic is debt repayment. Variables are defined in Table 6. Robust standard errors in brackets. \*p<0.1; \*\*p<0.05; \*\*\*p<0.01.

**Figure 1. Screen shot from online experimental task**



You can replay a video by simply clicking on either image above

**Whose advice would you be most likely to follow?**

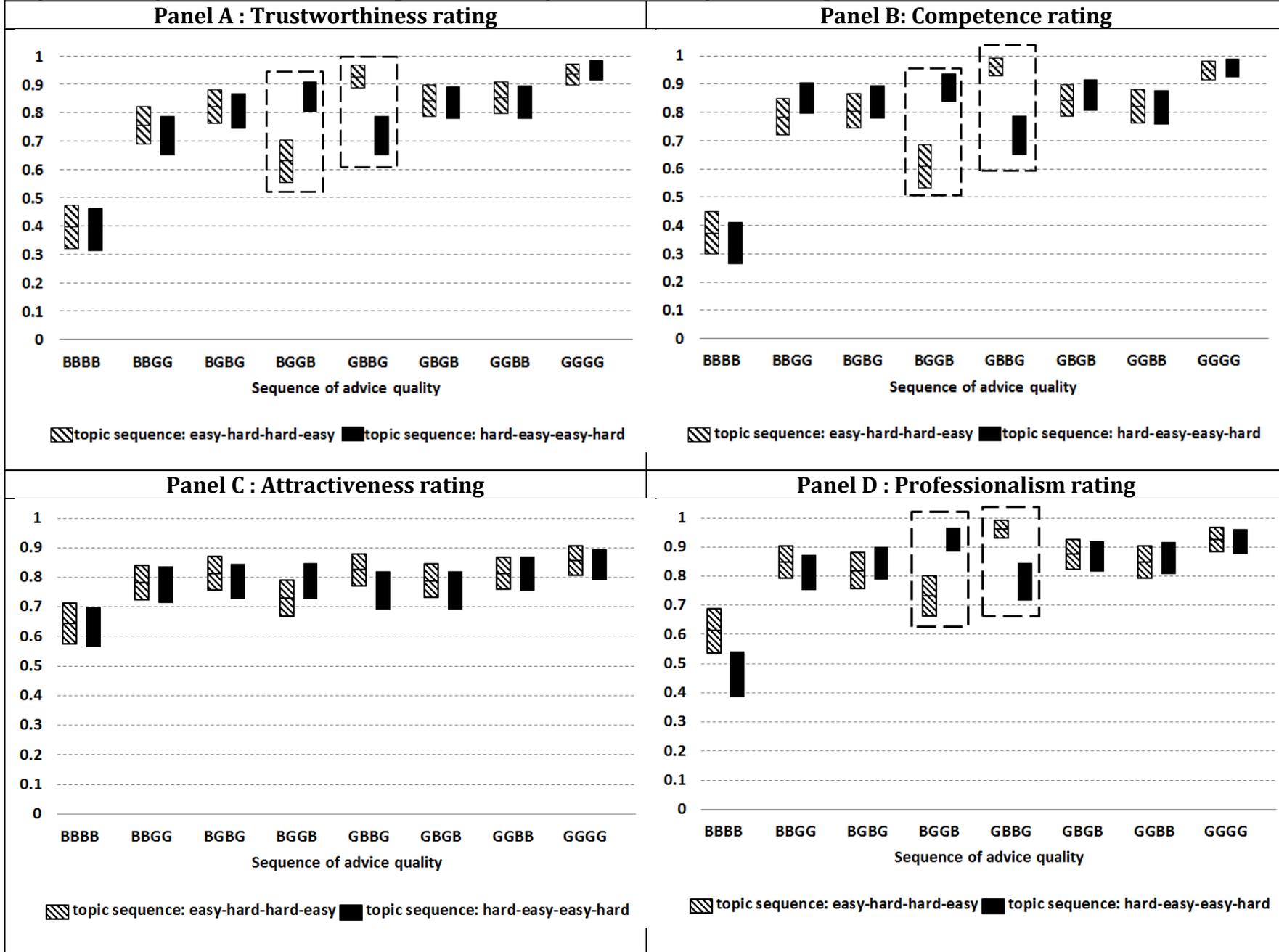
Financial Advisor A

Financial Advisor B

**Figure 2. Pictures of advisers**



**Figure 3. Marginal effects of advice sequence on ratings for left and right adviser qualities**



### **Figure 3. Marginal effects of advice sequence on ratings for left and right adviser qualities –continued-**

Notes: Underlying each figure is a logit model with a binary variable where one indicates that the respondent rated the adviser as MOST displaying the relevant quality (trustworthy, competent, attractive, professional) or being at least as good as the other adviser, and a zero indicates they were worse. We regressed these ratings on adviser attributes (indicators for being female, older and not certified), the ‘quality’ sequence viewed by the respondent (BG combination) and the interaction between the quality sequence and an indicator variable equal to one when the respondent clarity sequence was HEEH and zero for EHHE. Each panel of the figure shows the predictive marginal effects on adviser ratings of each quality sequence (BG combination) in the experiment, conditioning on the two ‘clarity’ sequences (HE combination). The pale boxes graph the 95% confidence interval around the predictive margins of the quality sequence shown on the horizontal axis, when the clarity sequence was EHHE, and the dark box graphs the same for the clarity sequence HEEH. Dashed outlines highlight two significantly different marginal effects based on a chi-square test of equality.