

# Are Financial Advisors Money Doctors or Charlatans? Evidence on Trust, Advice, and Risk Taking in Delegated Asset Management

**Qizhang Sun (Qizhang.Sun@usi.ch)**

Institute of Marketing and Communication Management, USI  
Lugano-6900, Switzerland

**Michael Gibbert (Michael.Gibbert@usi.ch)**

Institute of Marketing and Communication Management, USI  
Lugano-6900, Switzerland

**Thomas T. Hills (T.T.Hills@warwick.ac.uk)**

Department of Psychology, University of Warwick  
Coventry, CV4 7AL, United Kingdom

**Eric Nowak (Eric.Nowak@usi.ch)**

Institute of Finance, USI  
Lugano-6900, Switzerland

## Abstract

We test the effects of advice and trust on risk-taking in three online experiments designed to elucidate under what conditions financial advice may increase risk-taking, irrespective of advisor performance. In our study, investors made 100 decisions, selecting between one of two alternatives: risky or conservative. We manipulate the suggestion of an advisor (risky vs. non-risky investments), the fee of the advice, as well as the trustworthiness of the advisor (by increasing the transparency of the advice presented) to test the effect of the advice on risk-taking. The results show that individuals asymmetrically follow the advice they received, with a bias towards following more risky than conservative advice. Moreover, trusted advice was more persuasive irrespective of what the advisor suggested and even the fee is higher.

**Keywords:** Advice taking; Financial advice; Money doctors; Risk taking; Trust

A central finding of the literature on advice-taking in financial economics is that many investors seek advice even though it often performs poorly relative to market benchmarks (Bergstresser et al., 2009; Chalmers and Reuter, 2012; Del Guercion and Reuter, 2014). In psychology, research also found that individuals keep looking for advice even though they understand that investors perform poorly (Sun et al., 2014). Gennaioli, Shleifer and Vishny (2015) in an analytical paper suggest this is because the trusted advice enables them to be more audacious than they would be otherwise, thus enabling them to take more risk, irrespective of the advisor's actual performance. Our study uses an experimental method as a first empirical test of this hypothesis, thereby bridging the financial and psychological dimension of advice-taking.

In our study, we hypothesize that (1) advisors will enable individuals to take more risks, in line with the core assumption of the model built by Gennaioli et al. (2015), but only when advice favors the risky alternative; (2) Compared

to mere advice, trustworthy advice is more effective; moreover (3) trustworthy advice has a larger effect on encouraging individuals to take more risk than justified advice for more conservative investments. (4) Individuals still select the high trust advisor even though it is more expensive.

## Money Doctor and Our Study

In a recent analytical paper in financial economics, entitled "Money Doctors", Gennaioli et al. (2015) present a new model of money management, in which investors delegate portfolio management to professional advisors based not on performance but on trust. In the model, the advisor decreases the investor's perception of the riskiness of a given investment, which allows advisors to charge fees to investors who trust them, even though the actual performance of advisors might be poor relative to market benchmarks. However, this still benefits investors, because the advisor encourages them to take higher risks, which they would not dare to bear just by themselves, and so earn superior returns. The central assumption of their work is that advisors charge investors to reduce their anxiety, which then enables investors to take these higher risks. By themselves, investors tend to be reluctant, or even anxious, to choose a risky alternative. However, the risky alternative often comes with a higher pay-off in the long-run. Financial advisors provide an important function in this situation. Specifically, the advisor seems to decrease the investor's perception of the riskiness of a given investment, reducing investor anxiety, enabling the investor to take more risk (and get more reward). To our knowledge, we provide the first study investigating these claims using an experimental method with randomly chosen survey participants. We conduct two different sets of survey experiments. In Experiment 1, we show that trusted advisors enable investors to choose riskier investment options. In Experiment 2, we extend the basic design by

manipulating the trustworthiness of the advisor (via increasing the transparency of the advice presented), and find that non-trustworthy advice attenuates the effect.

In both experiments, financial advisors provide risky as well as conservative advice, and we do model this for two reasons. The first reason is that financial advisors vary – both over time and in the cross-section - in how much risk they advise their clients in real life. Changing economic environments will influence performance criteria. This suggests that even mildly cognizant money managers should change their risk evaluations over time. In some cases, money managers do give conservative advice. Indeed, this is likely to be very common right after a market crash, especially as managers sometimes turn into “noise traders pandering to investors” (Gennaioli et al., 2015). Second, conservative advice is a necessary control to test for asymmetric influences of advice. Conservative advice is necessary in order to test the asymmetry of “anxiety reduction in risk-taking” (Gennaioli et al., 2015). Without conservative advice, we can only establish that people follow advice, which in the laboratory environment may be due simply to participant expectations that this is what the experimenter wants the participant to do.

### Repeated Choice Paradigm

Investors rarely do have the true full information set about their investment alternatives. Instead, they need to refer to either their own experience by sampling or other’s experiences (e.g., market history). This is classic risk under uncertainty, where the true probabilities of payoffs are unknown and may even be changing. Unlike decisions from description (Kahneman & Tversky, 1979), the decisions from experience paradigm is especially appropriate to decisions under uncertainty, as it requires decision makers to infer the properties of alternatives based on personal experience (Hertwig & Erev, 2009; Hills, Noguchi, & Gibbert, 2013). In particular, we use the decision from experience paradigm based on repeated choice from behavioral economics. In the repeated choice paradigm, participants choose alternatives and receive payoffs after each choice. Prior to decision making, decision makers do not get any information about alternatives.

### General Method

We conduct an online survey experiment with Amazon’s Mechanical Turk (mTurk). mTurk has recently been advocated to being utilized in large randomized online studies in experimental economics, for example by Kuziemko et al. (2015) to analyses preferences for redistributive policies. Participants were recruited from mTurk. Each participant received a participation fee \$0.10 plus a performance-based bonus, which depended on their accumulated investment outcome. The participants were given the opportunity to provide informed consent and then received instructions about the experiment. Subsequently, they were required to complete the experiment task and the

socio-demographic questionnaire, including age, gender, nationality, personal investment experience, financial consultant experience, organizational investment experience and professional financial knowledge.

In the experiment task, participants were asked to invest \$1 on one of two alternatives, and they were required to choose one of the two alternatives for each of 100 consecutive virtual days. At the end of each day, they were informed about the outcome of the investment, and whether they earned or lost money. The outcome was presented on the selected alternative for one second. The investment alternatives were presented as boxes. Participants were allowed to choose an alternative (one of the presented boxes) by clicking on it. Unbeknownst to the participants, the two alternatives were a risky alternative (e.g., stock) and a safe alternative (e.g., savings account or bond). Every time the participants selected an alternative, they received a random draw from the alternative’s underlying payoff distribution.

In the experimental groups, the participants were given an advisor at the very beginning of the experiment. No other information was provided about the advisor. Participants were free to ask (or not to ask) and to take (or not to take) the advice. The participants clicked on a female silhouette to solicit the (free) advice. The advisor only provided advice once, when asked, but the advice stayed on the screen until the very end of the experiment task. In the control group, there was no advisor available to be solicited.

## Experiment 1

### Method

Participants were 756 individuals randomly recruited from the online experimental platform mTurk. Excluding the missing data, the total number of participants is 721. A 3 (environment type: risky, neutral, or safe choice has the best expected value) X 2 (advice type: risky vs. conservative) X 2 (advice present or absent) between-subject design was used for the experiment. As the control group did not have an advisor to be manipulated, there were nine conditions in total.

One percent of the accumulated investment outcome was paid into the participants’ MTurk account. The actual bonus range is from \$0.23 to \$1.36. The distribution of the alternatives are showed in Table 1. The participants were asked to rate the advisor every five trials on trial 6, 11, 16 and so forth, if they have asked for advice on that trial or the trial before. They were asked “how helpful did you find the advice? Please select from 1 (not at all helpful) to 7 (very helpful)”.

Table 1: Distribution of the alternatives in Experiment 1.

	Risky alternative	Conservative alternatives
Risky environment	N ~ (0.75, 1)	always 0.5
Neutral environment	N ~ (0.5, 1)	always 0.5
Bearish environment	N ~ (0.5, 1)	always 0.75

The advice in the risky advice group was “I would recommend 'Alternative 1'. The returns for 'Alternative 1' are, in the long-run, greater than 'Alternative 2.' Although you may occasionally lose money in the short run, 'Alternative 1' offers the best long-run prospect for future returns”, while in the conservative advice group the advice is “I would recommend 'Alternative 2'. You may not make huge jumps in earnings as in 'Alternative 1', but you don’t lose large amounts of money and it gives you a secure payoff if you keep choosing it”. Here ‘Alternative 1’ and ‘Alternative 2’ refer to the risky or safe option, respectively, which were randomized in location across participants.

## Results and Discussion

**Money Doctors.** To test the intuition of the Money Doctors model by Gennaioli et al. (2015), we focus on whether (or not) advisors enable the investors to take more risk. To answer this question, we use a generalized linear mixed effects model to test Model 1, where “followed” means followed advice or not (binomial); “consult” stands for before or after advice seeking (binomial); that is, whether or not participants had advice on that trial (day), which aims to add the probability of selecting the suggested alternative before the advice as a baseline; “1 | participants” represent the individuals are used as an intercept random factor.

$$\text{Followed} \sim \text{consult} + (1 | \text{participants}) \quad (\text{Model 1})$$

The results show that participants are 5 times more likely to select the risky alternative after risky advice as before advice seeking ( $B = 1.61, SE = 0.09, z = 17.50, p < .001$ ). This result supports the assumption in money doctor model, that a financial advisor enables the investor to take more risk. However, not only risky advice is followed, the conservative alternatives are also 2.77 times more likely to be selected after receiving conservative advice as before the advice seeking ( $B = 1.02, SE = 0.09, z = 11.79, p < .001$ ).

A second Model 2 tests if the participants follow risky advice more than conservative advice, where “condition” means if the advisor provide a risky or conservative advice (binomial). The interaction represents the difference in advice following (the difference in the probability of following advice after advice taking) between the two advice conditions (risky advice and conservative advice).

$$\text{Followed} \sim \text{consult} + \text{condition} + \text{consult} * \text{condition} + (1 | \text{participants}) \quad (\text{Model 2})$$

The results show that the participants are 1.79 times more likely to follow the risky advice than the conservative advice ( $B = 0.58, SE = 0.13, z = 4.60, p < .001$ , Figure 1), which represents the “asymmetric effect” of being more likely to follow risky advice than conservative advice.

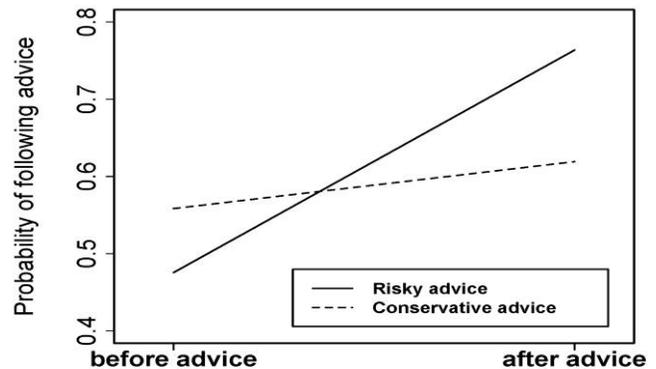


Figure 1. Asymmetric effect (the interaction)

**Investment Environment.** By comparing the Model 2 and Model 2.1, we are able to test how the macro-economic environment influences advice following. The results show that the three-way interaction,  $\chi^2(2) = 0.42, p > .05$ , is not significant. Breaking down the three-way interaction, we find that the coefficient of the asymmetric effect in the bullish, neutral and bearish economic environment respectively are 0.63 ( $SE = 0.23, z = 2.73, p < .01$ ), 0.77 ( $SE = 0.23, z = 3.36, p < .001$ ), and 0.53 ( $SE = 0.20, z = 2.62, p < .01$ ).

$$\begin{aligned} \text{Followed} \sim & \text{consult} + \text{consult} + \text{envir.} + (1 | \text{participants}) \\ & + \text{consult} * \text{condition} + \text{consult} * \text{envir.} + \text{envir.} * \text{condition} \\ & + \text{consult} * \text{condition} * \text{envir.} \quad (\text{Model 2.1}) \end{aligned}$$

The results show that they are more likely to follow the risky advice regardless the macro-economic environments. Is it because people are not able to understand the investment environment? To answer this question, we asked if participants could detect the better alternatives in the absence of advice (i.e., the control group). The results show that in the control group, those who were in the bullish investment environment select the risky alternative more than by chance,  $V = 2575, p < .05$ , 95% confident interval (CI) is from 0.52 to 0.64, and those who were in the bearish environment selected the conservative alternative more than chance,  $V = 740, p < .001$ , 95% CI is from 0.29 to 0.40.

At the end of the experiment, we asked 3 questions- “which alternative do you think is better,” “which alternative do you think has a larger value in the long run (larger average value)” and “which alternative do you think has a larger chance to get a larger value outcome”- to the participants to confirm their understanding to the environment. The results show that more than half of the participants in the bullish environment think that the risky alternative is better,  $\chi^2(1) = 15.68, p < .001$ , has a larger value in the long run,  $\chi^2(1) = 11.52, p < .001$  and has a larger chance to get a larger value outcome,  $\chi^2(1) = 18.00, p < .001$ ; more than half of the participants in the bearish environment think that the conservative alternative is better,  $\chi^2(1) = 21.36, p < .001$ , has a larger value in the long run,  $\chi^2(1) = 24.2, p < .001$  yet do not have a larger chance to get a larger value outcome,  $\chi^2(1) = 2.69, p > .05$  (only 37.78% of the people select alternative 2; that is conservative alternative, for this question).

These results show that the asymmetric effect is robust in different macro-economic environment. Even though they sense the macro-economic environment, they are still more likely to follow the risk favouring advice. These results suggest that the financial advisor does enable individuals to take more risk (and hope for a larger pay-off), irrespective of the advisor's actual performance— an assumption that is strikingly central to the Money Doctor model of Gennaioli et al. (2015).

**Financial Advisors.** Are participants able to detect the quality of the advisors? Do they follow the advice simply because they do not sense the quality of the advisor? We test if participants who are in consistent conditions (conservative advice in bearish environments or risky advice in bullish environments) rate the advisor better than those who are in inconsistent conditions. The Wilcoxon rank sum test with continuity correction result is negative,  $W = 21143.5, p > .05$ . In other words, participants are not able to perceive the quality of the advisor. If investors do not sense the quality of the advisor and clear the macro-economic environment in mind, why are they more likely to follow the risky advice? Gennaioli et al. (2015) suggest it is because they trust the advisor, which is to be tested in the Experiment 2.

**Financial Experience.** We also test the link between financial experience and the asymmetric effect by adding personal information into the model (Model 2). The results show that those who have personal investment experience (three-way interaction:  $B = -0.19, SE = 0.26, z = -0.75, p > .05$ , the interaction represents the asymmetric effect) and consultant experience (three-way interaction:  $B = 0.17, SE = 0.32, z = 0.53, p > .05$ ) do not show a larger asymmetric effect.

However, those who have the organizational investment experience (three-way interaction:  $B = 0.79, SE = 0.38, z = 2.09, p < .05$ ) and professional knowledge do (three-way interaction:  $B = 1.63, SE = 0.54, z = 3.02, p < .01$ ). These results suggest that those with financial investment training rather than personal experience are less likely to follow the conservative advice. These results are complementary to those of Von Gaudecker (2015) on the effect of financial literacy and financial advice on the diversification of Dutch household portfolios.

## Experiment 2

In Experiment 1, we showed that advisors enable people to take more risks irrespective of the quality of the advice. In Experiment 2, we manipulate advisor trust by manipulating the phrasing of the advice.

### Method

Participants were 400 individuals randomly recruited from the online experimental platform mTurk. Excluding the missing data, the total number of participants is 387. A 2 (justification: justified vs. non-justified) X 2 (advice type: risky vs. conservative advice) X 2 (advisor presence: present

or absent) between-subject design was used. As the control group did not have an advisor to be manipulated, there were five conditions in total. Fifteen percent of the accumulated investment outcome was paid into the participants' MTurk account. The actual bonus range is from \$0 to \$4.57. Regarding the distribution of the alternatives, the conservative alternative always has an outcome of \$0.05, while the risky alternative has a mean of 0.1, and a standard deviation of 1.0. Participants were not asked to rate the advisor.

Advisor trust was manipulated by altering the phrasing of the advice: in the conservative justified group, the advice was "I would recommend 'Alternative 2'. You may not make huge jumps in earnings, but you don't lose anything and it gives you a secure payoff". In the risky justified group, the participants read the advice as "I would recommend 'Alternative 1'. The returns for 'Alternative 1' are, in the long run, greater than 'Alternative 2.' Although you may occasionally lose a large amount of money, you will earn it back if you keep choosing it". In contrast, the participants in the non-justifying groups only saw the advice as "Choose:'Alternative 1'" and "Choose:'Alternative 2'" in the risky and conservative group respectively.

## Results and discussion

**Trusted Advisor.** We test the phrasing of the advice on the probability of selecting a risky alternative using Model 3, where "followed" means followed advice or not (binomial); "consult" stands for before or after advice seeking (binomial); "phrasing" means whether the advice is justified or non-justified; "1 | participants" shows that individuals are used as fixed effects. The interaction represents the difference in advice following between justified advice and non-justified advice.

$Followed \sim consult * Phrasing + (1 | participants)(Model 3)$

The results show that people receiving the justified advice are more likely to follow the advice (interaction:  $B = 0.48, SE = 0.15, z = 3.19, p = .001$ , Figure 2). This result suggests that the phrasing of the advice plays a role in advice following, which is in line with our hypothesis. As the trust on the advisor can be manipulated by the phrasing of the advice, this result also supports another key finding in the money doctors model: investors follow financial advisors based on trust.

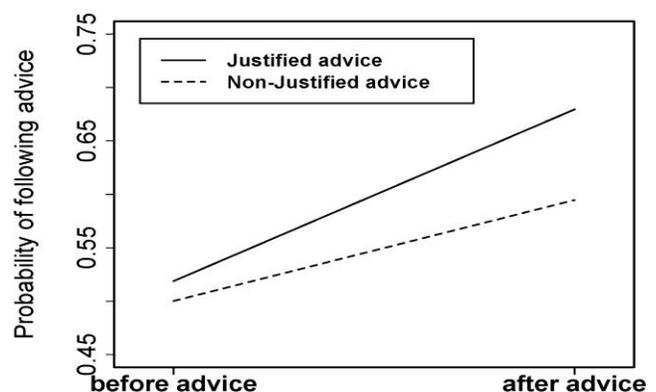


Figure 2. The effect of advice phrasing.

After adding the advice condition (risky advice or conservative advice) into the model (Model 3), the results show that the effect of the advice phrasing is stronger in risky advice (three-way interaction:  $B = 1.93, SE = 0.37, z = 5.27, p < .001$ ). To further break down the interaction, we compare the justified advice condition to the non-justified condition. People were more likely to follow justified than non-justified advice in the risky condition (interaction:  $B = 2.33, SD = 0.32, z = 7.36, p < .001$ , Figure 3). Further analyses show that people increase the probability of selecting risky alternatives after the advice comparing to before the advice was given in justified condition ( $B = 2.35, SD = 0.28, z = 8.29, p < .001$ ), but not in the non-justified condition. This result means the advisor enables the investors to take more risk only if the investors trust in the advisor. Otherwise, the effect does not kick in. This underlines the importance of trust in terms of boosting risk taking and demonstrates the third assumption of the money doctors model.

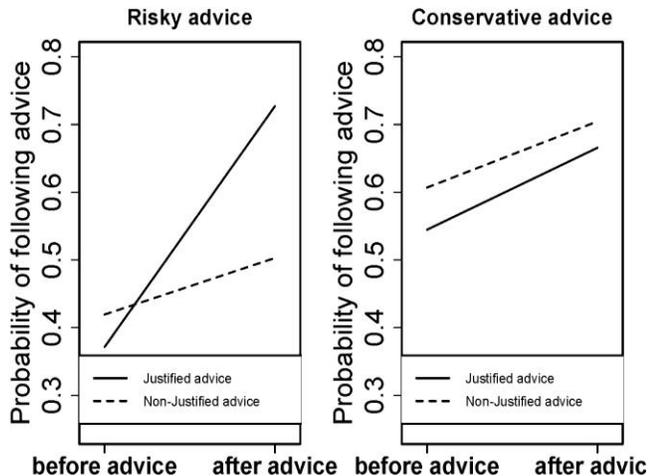


Figure 3. Simple effect of trust in Experiment 2.

In the conservative condition, people were less likely to follow the justified advice (interaction:  $B = -0.40, SD = 0.18, z = -2.18, p < .01$ , Figure 3). Further analyses show that people increase the probability of selecting conservative alternatives after the advice comparing to before the advice in the justified condition ( $B = 0.75, SD = 0.13, z = 5.72, p < .001$ ), but the effect is also found in the non-justified condition ( $B = 1.15, SD = 0.13, z = 8.94, p < .001$ ). Here, trust in the advisor does not make them more likely to follow the advice compare to those without trust.

**Asymmetric effect.** Using the justified advice condition and Model 2, we find a strong asymmetric effect; people are more likely to follow risky than conservative advice (interaction:  $B = 1.62, SD = 0.32, z = 5.09, p < .001$ , Figure 4). To look closer, we separate the risky advice and conservative advice. The results show that people follow both risky advice ( $B = 2.35, SD = 0.28, z = 8.29, p < .001$ ) and conservative advice

( $B = 0.75, SD = 0.13, z = 5.72, p < .001$ ). That means people tend to follow trusted advice, but are still more likely to follow risky than conservative advice.

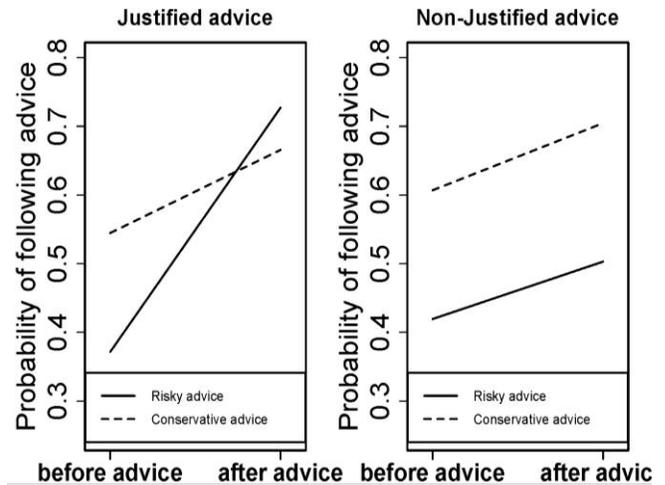


Figure 4. The asymmetric effect in Experiment 2.

We also test the effect in non-justified condition, and the asymmetric effect is reversed (Figure 4), which means people are more likely to follow the conservative advice in this case (interaction:  $B = -1.11, SD = 0.18, z = -6.13, p < .001$ , Figure 4). Separating the risky and conservative advice condition, we find that under the unjustified condition, people do not follow the risky advice ( $B = 0.04, SD = 0.13, z = 0.30, p > .05$ ), while people follow the conservative advice ( $B = 1.15, SD = 0.13, z = 8.94, p < .001$ ). These results imply that people need to trust the advisor to take more risk, whereas to follow a conservative advice, the advisors do not necessarily need to be trusted. Although people can follow the conservative advice anyway - but only follow a trusted advisor to take risk, people are much more likely to follow the risky advice than the conservative advice once they consider the financial advisor to be trustworthy.

### Experiment 3

In Experiment 3, we manipulate the trust on advisors to test the robustness of the trust effect. We also assign different prices to the advisors, in order to prove that an investor prefers a trusted advisor and enables managers to charge a higher fee and still keep them (Gennaioli et al., 2015).

### Method

Participants were 118 individuals randomly recruited from the online experimental platform mTurk. Excluding the missing data, the total number of participants is 104. One percent of the accumulated investment outcome was paid into the participants' mTurk account. The actual bonus range is from \$0.29 to \$1.4.

A 2 (high vs. low trust, within subject) X 2 (same price vs. different price, between subject) mixed design was used. There were two phases in the experiment. In both phases, the

participants were forced to make a decision between two alternatives. The first 30 decisions manipulated the participants' trust on the advisors. Then, in the second phase, there were 70 decisions. They were instructed that all the alternatives were different from the previous 30 rounds and the participants still could get a piece of advice from one of our advisors (who were exactly the same advisors as in the first 30 rounds.) However, during the second phase, the advisors charged them a certain fee. They are free to ask (or not to ask), take (or not to take) the advice and choose one of the advisors.

In the first phase, we set one alternative as better than the other in a very obvious manner. The better alternative (alternative 1) followed a normal distribution with a mean 1.5 and standard deviation 0.5, while the worse alternative (alternative 2) followed a normal distribution with a mean 0.2 and standard deviation 1. All participants saw two advisors with their own advice. The advice was directly showed to the participants next to its advisor's profile. To manipulate the trust on the advisor, we made the quality of the advisor easily judgeable by the participants. The high trust advisor suggested the better alternative in a justifying way- "I would recommend 'Alternative 1'. The returns for 'Alternative 1' are greater than 'Alternative 2.' In addition, it is less risk and more secure. Plus, you almost do not lose money if you select 'Alternative 1', whereas you have almost half a chance of losing money if you select 'Alternative 2'"; The low trust advisor simply suggested to the participants who went for the worse one in a non-justifying way- "choose: alternative 2".

In the second phase, the risky alternative (alternative 1) followed a normal distribution with a mean 0.88 and standard deviation 1.5, while the conservative alternative (alternative 2) followed a normal distribution with a mean 0.3 and standard deviation 0.1. Irrespective of the advisor chosen, the participants receive the justifying advice suggesting the risky alternative. In the same price group, both advisors charged 50 cents. In the different price group, high trust advisor charged 100 cents, while the low trust one charged 50 cents.

## Results and discussion

**Manipulation Check.** We asked the participants which advisor they trust more at the end of the first phrase. Ninety-two participants selected the high trust advisor and twelve participants select the other. Chi-squared test result shows that the number of participants selecting the high trust advisor is significantly higher than the number of participants selecting the low trust advisor,  $\chi^2(1) = 61.54, p < .001$ . This suggests that the first phrase has successfully manipulated participants' trust on the advisors.

**Trust.** We test whether participants tend to select the high trust advisor in the task phrase. Across the price condition, 47 and 12 participants selected the high trust advisor. Chi-square test results shows that investors are more likely to select the advisor they trust,  $\chi^2(1) = 20.76, p < .001$ . Breaking down the price conditions, both conditions had more investors buying the high trust advisor. In the same price condition, 20

participants bought the high trust advisor and only 3 bought the low trust advisor,  $\chi^2(1) = 12.57, p < .001$ . In the different price condition, 27 participants bought the high trust advisor and 9 bought the low trust advisor,  $\chi^2(1) = 9, p < .01$ . These results show that the investors selected the advisor because of trust, which is in line with our hypotheses and the money doctors model.

**Price.** After we prove that the investors select advisors because of trust, we move to the next step; that is to prove trust enables managers to charge the investor a higher fee and still keep him. To test this hypotheses, we use a generalized linear model to examine whether the increased price reduces the probability of selecting the high trust advisor. The tested model is with "advisor" as dependent variable and "condition" as independent variable, where "advisor" is which advisor the investors choose (binomial) and "condition" is the price variable (binomial). The result shows a negative effect,  $B = -0.80, z = -1.10, p > .05$ . This means that the probability of selecting the high trust advisor does not drop down because of the increased price. Together with the findings about trust in this experiment, all these results prove the arguments put forth by money doctors model.

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