The Market for Financial Advice: An Audit Study*

Sendhil Mullainathan (Harvard University)

Markus Nöth (University of Hamburg)

Antoinette Schoar (Massachusetts Institute of Technology)

April, 2011

A growing literature shows that households are prone to behavioral biases in choosing portfolios. Yet a large market for advice exists which can potentially insulate households from these biases. Advisers may efficiently mitigate these biases, especially given the competition between them. But advisers' self interest – and individuals' insufficiently correcting for it – may also lead to them giving faulty advice. We use an audit study methodology with four treatments to document the quality of the advice in the retail market. The results suggest that the advice market, if anything, likely exaggerates existing biases. Advisers encourage chasing returns, push for actively managed funds, and even actively push them on auditors who begin with a well-diversified low fee portfolio.

Keywords: financial advice, audit study

JEL: D14, G11

* We thank John Campbell and Michael Haliassos, and seminar participants at Columbia, York, MIT Sloan, SAVE Deidesheim, and ESSFM Gerzensee 2010 for their helpful comments.

1. Introduction

A growing body of lab – and to a lesser extent field – evidence argues that individual investors make poor financial decisions. Drawing on research in psychology, this evidence argues that consumers' beliefs and decision processes lead them astray. They chase trends, are overconfident, use heuristics and generally fall prey to biases that lead them to choose in ways at odds with basic portfolio theory. For example, the median household rebalances its retirement portfolio zero times (Samuelson and Zeckhauser, 1988), whereas in traditional portfolio theory rebalancing would be optimal in response to aging and the realization of uncertain returns. To cite another example, Benartzi and Thaler (2001) powerfully illustrate one heuristic. They argue that employees follow a naïve diversification strategy of mechanically spreading their money equally across the funds they are offered (what they call 1/n rule), generating quite perverse outcomes since the equity mix depends on the investment menu. Using actual trade data, Barber and Odean (2000) document excess trade in brokerage accounts with investors earning significantly lower returns than buy and hold strategies. In short, the past decade of research has produced a large body of such evidence suggesting households on their own may be bad at choosing portfolios.[1]

Yet households do not choose in a vacuum. A variety of forces influence them; in particular they receive financial advice from third parties.[2] Hung et al (2008) found that 73% of all investors consult a financial adviser before purchasing shares. As a result, even if individuals are biased, one might argue that advisers have a chance to correct their choices. Most financial advisers provide personalized, face-to-face advice, advice that is not just generic but specific in terms of what stocks or funds to invest in. This specificity and immediacy gives them a chance to de-bias individuals and correct their mistakes. As a result these intermediaries could guide investors toward portfolio allocations that are more consistent with optimal portfolio theory than individual psychology might suggest. In addition, advisers help clients to gather additional information on financial products, provide aggregated tax information, and even might provide psychological reassurance to their customers. Given the relatively small size of the average portfolio it is not economically sustainable for advisers to spend a lot of time catering to individual clients. Therefore, the financial advisers that we are targeting in this study do not actively manage people's portfolios and thus the psychological benefits such as reassurance should be relatively limited.

On the other side of the debate are concerns that advisers may supply bad advice. Financial incentives may distort advice; many (though not all) advisers are paid in ways that encourage them to push certain funds. The quality of advice may also be constrained by the quality of advisers, who themselves may not be as knowledgeable in finance as necessary or expected. These effects are particularly strong if investors who are unable to make good portfolio decisions are equally unable to differentiate between bad, self-

[1] Due to space constraints we are not able to review this body of literature. See Barberis and Thaler (2003), Benartzi and Thaler (2007) and Campbell (2006) for some overviews.

[2] The Investment Advisers Act of 1940 defines (see section 202(11)): "`Investment adviser´ means any person who, for compensation, engages in the business of advising others, either directly or through publications or writings, as to the value of securities or as to the advisability of investing in, purchasing, or selling securities, or who, for compensation and as part of a regular business, issues or promulgates analyses or reports concerning securities; (…)."

interested advice and good, independent advice.[3] In that case even advisers with good intentions might be forced to abandon a low fee strategy since they cannot stay in business otherwise with fewer clients and lower fees per client. The experience of Vanguard which offered the first index funds is a case in point: The firm had to modify their sole reliance on low cost funds since consumers seem susceptible to high cost advertising, see Bogle (2000). If the demand for advice does not sufficiently reward quality, the market for financial advice may not mitigate behavioral biases and may even exacerbate.

In short, the market for financial advice determines how individual biases translate into aggregate market outcomes. Understanding how well it debiases individuals is important for knowing how to model "representative" agents in macro-consumption models, how to model equity prices and for numerous policy applications. Despite the (growing) importance of advisers in the investment process, e.g. due to an increasing number of defined contribution plans, very little is known about the market for financial advice.[4] For example, Campbell (2006) highlights our relative ignorance about this important sector.[5]

We use an "audit study" to quantify the nature of advice provided in the retail market. Audit studies have been used to measure discrimination in the labor and housing markets (Fix and Turner (1998), Altonji and Blank (1999) and Heckman (1998) for reviews). With a few exceptions (see recent work by Iyer and Schoar, 2009) they have not been used in the financial context. In an audit study, trained auditors visit financial advisers posing as clients. The auditors track the information requested of them, the advice that is given and other features of the interaction. Our protocol records the specific advice given via exit surveys of the auditors and written communication of the portfolio suggestions by the adviser.

Importantly, an audit study also allows one to vary characteristics of the auditor. In this context we vary demographic characteristics (age/gender) but also use random assignment to vary other personal characteristics. Specifically, auditors are randomly assigned to portfolios and income/occupation backgrounds. The portfolios indicate their current asset holdings. Two of our portfolios reflected individuals who were biased. As our "bias scenarios" we selected two of the most common biases described in the literature. In one ("chasing fund returns"), the auditor holds a portfolio such that 30% of the portfolio is invested in one sector exchange traded fund that had performed well in the previous year (i.e. 2007) and expresses interest in identifying industries that had done well recently. In another ("employer stocks") auditors hold 30% of their portfolio in their assigned employer and expressed positive attitudes towards them. Whereas in the first case the incentives of the adviser and the client are not aligned, it is in the best interest of both in the second case to reduce or eliminate the bias.[6] These two treatments were complemented by rather unbiased treatments. In one of these, the advisee simply holds certificates of deposits and

[3] Of course, understanding this effect requires a deeper understanding of a different source of cognitive bias- people's perceptions of what constitutes good advice and what constitutes independent advice. See Moore, Cain, Loewenstein and Bazerman (2005) for work on this topic.

[4] The market for financial advice generates between US$ 20bn and US$ 50bn fees per year depending on the definition of advice and compensation models for advisers.

[5] Perhaps the most noted study is Canner, Mankiw and Weil (1997) who examine the generic written advice given by investment advisers, on broad rules of thumb. We are interested in the specific advice that dominates the market. See also Bodie and Crane (1997). More recent work by Bergstresser, Chalmers and Tufano (2009), Bluethgen et. al. (2008) and Hackethal et. al. (2010) uses portfolio outcomes to quantify the benefits of financial advice. While interesting, it does not inform us much about how the market for advice itself operates.

[6] The advice to sell employer stocks and to invest the money in a diversified portfolio enhances the client's portfolio and generates fees for the adviser. However, catering to the "chasing fund returns" bias generates more (repeated) fees that to invest in a diversified portfolio. Thus, incentives are misaligned.

does not espouse a particular view except for a willingness to increase the risk for higher returns. In the other the auditor holds a diversified low fee portfolio consisting of index funds and bond, in effect an efficient portfolio. This variation in treatment groups will allow us to test how responsive advisers are to the needs of the clients. The combination of audit and random assignment of auditors to treatments allows us to document the type and quality of the advice that is given: Does it match optimal portfolio theory? Is it unbiased? Does it depend on the type of portfolio the individual had initially?

The audit produces three main findings. First, consistent with portfolio theory, advisers are interested in demographic characteristics which may determine risk-preferences, time-horizon and human capital risks and covariance. Overall we find that in more than 75% of the visits ask for this kind of information; specifically income, other savings (e.g. 401(k) plan) besides what they are investing with the adviser, occupation, and marital and parental status. In a few cases, their use of this information is also consistent with portfolio theory. The recommended investment in stocks and domestic assets significantly increases in annual income, a fact that may be explained by an assumed higher risk or loss tolerance for the well-off. Married clients are told to hold less in liquid assets. This is consistent with a model of spousal labor supply providing insurance, reducing the need for liquidity. Other correlations, though significant, are harder to understand through traditional theory. The recommended exposure to stock decreases with amount invested. Female clients are asked to hold more liquidity. By and large, though, this is the arena where advisers are closest to traditional theory: attempting to match portfolios to characteristics. The levels of portfolio advice are also broadly consistent with portfolio theory, with advisers suggesting a high equity mix (roughly 2/3) and thereby potentially reducing any bias that may generate an equity premium.

Second, we find that advisers have a dramatic bias towards active management. In nearly 50% of the visits the adviser suggests an actively managed fund, whereas in only 7.5% of the advice sessions (21 visits) advisers encourage an investment in an index fund. Moreover, though advisers mention fees, they do so in order to downplay it. For example, they often say "this fund has 2% fee but that is not very much above industry average". Interestingly, they are also more likely to mention fees spontaneously as the auditor is older, potentially suggestive of a belief that older auditors would have asked themselves.[7] Their responses to the different portfolios reinforce these facts. They are broadly supportive of the trend-chasing portfolio but unsupportive of the index fund portfolio. Most strikingly they are unsupportive of the efficient portfolio and suggest a change to actively managed funds.

Finally, we find some evidence of 'catering', wherein advisers find the need to cater to certain beliefs simply to establish credibility. Specifically, auditors who come in with company stock face ambiguous support. On the one hand, advisers do not actively encourage it. But on the other hand, they do not actively discourage it either. Speaking ill of an employer might under-cut the credibility of the adviser. Interestingly we also find that the adviser is much less likely to suggest actively managed funds in the employer-owned stock case. This could be explained if the adviser believes employer-stock clients are more passive in their approach.

Overall the audits suggest that the market for advice works imperfectly. The advice by and large fails to debias and if anything may exaggerate existing biases. But in a few cases,

[7] Note that "mentioning fees" may include statements like "this is a no-load fund", i.e. not all relevant fees are mentioned.

especially in tailoring advice to demographic groups, the advice (broadly) matches portfolio theory. The evidence further suggests that adviser self-interest plays a role in generating the low-quality advice even when incentives of both the adviser and the client are aligned as in our "employer stock" treatment.

2. Study Design and Hypotheses

2.1. Overview of Audit

In order to investigate the type of financial advice that is commonly given to clients and to evaluate the quality of the provided advice, we set up an audit study in the Boston area. We sent trained auditors to impersonate regular customers who are seeking advice on how to invest their retirement savings.[8] Our auditors were assigned portfolios in two different wealth ranges, either between $45,000 and $55,000 or between $95,000 and $105,000. These ranges were picked to mimic the savings for average US households.[9] As a result, our study focuses on financial advisers at the lower end of the advice spectrum, e.g. hedge fund advisers or private wealth managers are not among our subjects. The modal adviser in our study is working either for a bank, retail investment firm or independent advisers focusing on the lower end of the retail segment. Most of them are paid on commission by their employer only a small subset of the advisers are independent and would be paid directly by the client on a per visit basis. The fraction of this latter type of advisers are very minimal in our sample since they usually only deal with wealthier clients.[10]

Setting up the Meeting

The auditors called their assigned financial adviser and set up an in-person meeting at a time convenient to both sides.[11] As a reason for the visit, the auditor stated that they were seeking advice on how to invest privately-held retirement savings they have outside of employer provided vehicles (401(k) and defined benefit plans).

Meeting with the Adviser

After the consultation session was set up the auditor would meet with the adviser for a consultation of about one hour usually in the adviser's office. During the meeting, the auditor would follow the general script provided by us (see appendix A2 for the details). Depending on their treatment assignment, they would explain their existing investment strategy and ask for advice with their investment. Auditors were assigned different portfolios and investment strategies that we will describe below. The auditors were asked to write down their assigned portfolio on a piece of paper or even print them out so that they can show to the adviser what they had done before. We ensured that there was enough variation in the way the information was presented to the advisers that they would not be suspicious of any potential repetitions. Aside from the actual treatment assignment, auditors were told to answer truthfully any information about their name or social security

[8] If the shopper was asked for a 401(k) plan investment, the standardized answer was that a 401(k) plan existed but she wanted advice on how to invest the extra money. With respect to owning or renting real estate, we told our auditors to always say that they rent their apartment.

[9] In addition, these amounts are varied around the average annual household income in the Boston area (about US$ 75,000).

[10] Financial advice by independent advisers who are compensated by the hour is often not available or is too expensive at several hundred dollars for a first visit.

[11] In the next section we will explain in more detail how auditors were randomized to their respective visits with financial advisors.

number or any other demographic information such as number of children or marital status.

Tracking Advice
We also encouraged auditors to write down any information that the adviser gave them to increase accuracy. Taking notes is quite natural in an advice situation and thus did not create any suspicion. Again we made sure that the auditors had enough variation in how they would put down the notes to avoid any potentially suspicious repetitions. One caveat about the scope of advice is that many advisers are unwilling to provide detailed personalized advice (e.g. advice on the allocation of assets to specific funds) unless the client has moved his or her funds to the adviser's firm.[12] Since our auditors were not able to provide the adviser with those funds, some advisers were reluctant to provide such specific advice and rather commented in general terms about the quality of the clients existing portfolio and the preferred allocation going forward. Therefore, in most of the study we will focus on the type of advice given and the associated reasoning.

We further debriefed auditors to collect data. After the visit, auditors were asked to fill out an online exit survey that was as a multiple choice survey. They had 24 hours to fill out this information after the conclusion of the visit to make sure that they do not forget the information they obtained. In addition, each auditor had to send in the business card of the advisor such that the audit company could make random calls to verify that the auditor actually had shown up to the visit.[13] If the questionnaire was not available within 24 hours, the auditor was contacted by a supervisor and reminded to provide the information. This procedure helped to extract high quality and complete information after the visit. Moreover, auditors were only paid after filling in the form. If auditors had received additional written information at or after the meeting with their adviser, they forwarded this material to us and we coded the written recommendations if any were made. There was only one auditor who did not fill out his surveys in the necessary time and was subsequently dropped from the study. We also conducted an exit interview with each auditor after their first visit to an adviser to verify that auditors were comfortable with the set up.

2.2. Logistics of Audit

To implement the actual logistics of the visits, we hired a financial audit firm that specializes in identifying and training auditors.[14] We worked very closely with the firm to select suitable people as auditors for the study and we were also intimately involved in training the auditors.[15] We designed all the training scripts for and set up the schedule of which auditors were randomized to visits with predefined advisers. To ensure that auditors are able to understand the advice that is given to them they have to know at least some basics of financial products and get some guidelines on how to ask for specific advice (see Appendix A3a). Auditors were trained first by using our online manuscript about financial literacy. Then, they participated in a training session via video conference with the supervisors and our staff. Finally, audit candidates had to take a short online test in which 10% of the pre-selected auditors failed and were excluded from this study (see Appendix

[12] This behavior is to some extent comparable to a car dealer who asks first for a down payment before agreeing to a test drive of a car.
[13] Information on the adviser's identity was not passed on to us.
[14] Neither the financial audit firm nor the auditors knew why and how we chose specific parameters in this (double-blind) study.
[15] Auditors had to be college-educated and had to match our gender/age requirements.

A3b). If they failed the test they were not allowed to participate in this study (about 10% of tested auditors). Auditors were assigned to one treatment only to avoid confusion and retraining.

The audit firm provided the logistics of monitoring and implementing the scheduling of visits, setting up online survey forms, finding and compensating auditors. Auditors were paid on a per visit basis and were told that they would not be invited for a repeat assignment if we heard any complaints about their behavior. We also sent our research associate to do random spot checks in order to observe whether the client was meeting with the adviser. To minimize any demand effects, the company was told that the aim of our study is to conduct an assessment of the quality of the market for financial advice but any variation in the treatment arms was instituted to create variation in order to minimize detection and suspicion.

2.3. Treatments

To understand how advisers react to preexisting investment strategies or biases of clients, we set up four different treatments to vary the severity and effects of a bias for advisers. In particular we want to analyze how the advisers' incentives interact with the clients' biases. On the one hand advisers want to maximize their own income which means they should recommend high-fee funds and/or investment strategies that lead to frequent trading requirements which increases fee income. This self-interest motive should lead advisers to counteract client biases that lead to low fee income (e.g. excessive investment in company stock) but reinforce biases that increase the adviser's fees such as trend chasing. On the other hand an adviser might be limited by the pre-existing believes of the clients since they might risk losing the client if they contradict the person's prior beliefs too strongly. In that case we should expect that advisers are more restricted in the advice they can give if the client has strong prior beliefs, but an adviser is less restricted when the client has no predetermined opinion.

To test the importance of these countervailing forces, we selected four different treatments that are presented to the advisors (and impersonated by our auditors). As our "bias scenarios" we selected two of the most common biases: chasing fund returns and investing in employer stocks. We complemented these with two "unbiased scenarios" – a diversified low fee stock/bond portfolio and all cash.

In scenario 1 ("chasing fund returns") our auditors indicate their interest to look for trades in their portfolio that outperform the market by identifying industries that had excess returns in the recent past. In the advice session the auditor will present the adviser with a portfolio that is concentrated in a few industries which had high returns in the last year and ask the adviser to help identify more stocks and industries of this type. Note that de-biasing a client by diversifying the current portfolio would lead to (one time) returns for the adviser but he can profit even more by catering to the bias. We set up the portfolio such that 30% of the portfolio is invested in one sector exchange traded fund that had performed well in the previous year (i.e. 2007).[16] These sectors included telecommunication, oil & gas, metals & mining, and US aerospace & defense. Depending on the age group (about 30 or 45 years old) 20% or 35% was invested in an intermediate US high credit quality bond funds.

[16] We fixed the proportion at 30% for two main reasons. First, we want to give the adviser the opportunity to invest more in this strategy although this would lead to less diversification. Second, we believe that the more extreme a portfolio allocation the higher the probability that an adviser remembers a portfolio s/he saw some days ago from another potential client.

The rest of the portfolio was invested in a single S&P 500 index fund. We varied the selection of index funds and the exact amount invested to reduce the probability that an advisor would recognize the portfolio from a previous visit.[17] The average performance of the four selected sectors compared to the S&P 500 over 1.5 years *after* the end of our audit study has been about -6.5% p.a., i.e. the 30% investment in this sector resulted in an underperformance between US$ 1,000 and US$ 2,000 per year depending on the portfolio size.

In scenario 2 ("employer stock"), we assigned the client to one of the 50 largest employers in the Boston area and assumed that 30% of the person's portfolio is invested in the employer's stock.[18] Depending on the age group, 20% or 35% was invested in bonds and the rest in the S&P 500 (as in scenario 1). In this scenario, it is in the interest of both, the financial advisor and the client to restructure the existing portfolio. The adviser can earn money in the portfolio rebalancing process and the client will most likely end up with a better diversified portfolio. To allocate 30% of the portfolio to one stock increases portfolio risk even if we ignore human capital risk. Let's assume a standard deviation of the market of 20% and a risk premium of 6% p.a. whereas the company stock has a 50% standard deviation, unit beta, and 6% risk premium. Then, a 30% allocation to company stock lowers the Sharpe ratio from 0.3 to 0.247 translating for a given risk to a return loss of 1.29% or $1,032 per year for an $80,000 portfolio.[19] Appendix A1 contains examples of scenario 1 and 2 portfolios and additional client background information.

In addition to these two scenarios with inherent biases, in scenario 3, auditors were assigned a well diversified portfolio consisting of low-fee US index stock funds and bonds using the same allocation to bonds depending on the age group as in all other scenarios. While the portfolio is the most efficient of all the treatments used in the study, this treatment does have a (US) home bias and thus a value-enhancing adjustment of the portfolio might be to suggest more international diversification.[20] Moving the low fee portfolio to a portfolio with the same risk/return profile but using instead actively managed funds with average management fees, would result in additional costs of about one percentage point per year, i.e. between US$ 500 and US$ 1,000 in our scenario.[21]

Scenario 4 is our control treatment since the available money is currently invested in a short-term certificate of deposit and the auditor does not display any preconceived biases. In this scenario, only the investment amount and the demographics are varied as before. The adviser receives no hints how the client would like to invest the money except that the client would like help with a better investment strategy of the funds.

In addition, we interact these four scenarios with an orthogonal "fee treatment". In this treatment, auditors ask explicitly for the fees of the recommended financial products or assets. We also record if the adviser refuses to explain the fees in detail. Once the adviser explains the fee structure the auditor is asked to comment that these fees seem to be high and ask for an explanation from the adviser. We introduce the fee treatment in only half of our sample since initially we were concerned whether an insistence on more detailed

---

[17] Even though we used only ETFs both for the diversified part of the portfolio (treatments 1-3)) and the sectors in treatment 1, only one adviser mentioned this fact and asked about it.

[18] Auditors were assigned to one of these employers in all treatments.

[19] We thank John Campbell for this example.

[20] Given the high volatility of currency exchange rates over the last ten years, it is not obvious whether international diversification helps to improve the portfolio.

[21] Given the rather long investment horizons of 15 and 30 years the additional management fee would reduce the expected final portfolio value by about 13% or 24%, respectively.

explanations of fees could signal to the adviser that the client is more sophisticated or alternatively could lead to a tense relationship between adviser and advisee.

Auditors were randomly assigned to one of the four scenarios (and the "fee/no fee" treatment) and received background characteristics to match their own ones. They are college educated men and women in two age groups. One group is in their early 30s with financial wealth of about US$ 50,000. The other group is in their mid to late 40s and has about US$ 100,000 to invest. All auditors were assigned to one of the 50 largest employers in the Boston area. In scenario 2 (employer stocks), the employer had to be listed on an exchange. All other characteristics like marital status, children, etc. that auditors may talk about with their advisers were their own characteristics such that they could talk naturally about them. The investment horizon of all auditors was until retirement age, i.e. about 30 years for the first group and about 15 years for the second group.

3. Summary Statistics and Randomization Fidelity

The audit data of 284 client visits was collected between April and August 2008, i.e. after the problems of Bear Stearns surfaced but before the bankruptcy of Lehman Brothers in mid-September. We unfortunately had to stop our audit study prematurely, since in the ensuing financial contraction the market for financial advice in the Boston area was significantly restructured.[22] Moreover, the changing economic conditions were especially important for the *chasing returns* treatment.

As a result our four scenarios are not evenly covered. **Table 1** shows the distribution of visits across the four different scenarios: there are 103 visits in scenario 1, 62 in scenario 2, 49 visits in scenario 3 and 70 visits in the last scenario. However, **Table 1** confirms that despite the reduced sample size, the randomization of visits to advisers still seems to be intact. The average age of auditors does not vary across the treatment groups and is centered around 39-40 year. The average assigned annual income is US$ 80,000 and again there is no significant difference between the four cells. The same is true for the investment amounts; the average investment is between US$ 77,000 and US$ 80,000. Finally, on average the fraction of female auditors is about 77% and there are no significant differences between the different treatment groups.

Table 1: Randomization across Scenarios

[22] Financial advisors started to consolidate their advisory business by reducing the number of advisors. Thus, arranging visits within our design and given the previous visits became almost impossible.

Scenarios	Chasing Returns PF (1)	Company Stock PF (2)	Index Funds PF (3)	All Cash (4)
Number of Observations	103	62	49	70
Age	39	40	40	40
Annual Income	$81.000	$80.000	$82.000	$81.000
Investment Amount	$77.000	$81.000	$80.000	$79.000
% Female Auditors	77%	80%	78%	75%

This table shows the distribution over the four different scenarios of the 284 audit visits at financial advisers between April and August 2008. In scenario 1, 30% of the client's portfolio (PF) was invested in a sector that out-performed the S&P 500 in the year prior to the audit study (Chasing Returns). In scenario 2, clients' current portfolios contained 30% company stock. Scenario 3 refers to a diversified client portfolio with only low-fee index funds. In scenario 4, the client said that all the money was invested in a certificate of deposit at a local bank. The auditor's actual age was used whereas the annual income and the investment amount were assigned by the study.

While the power of the tests is lowered due to the smaller sample size, it is reassuring that the randomization largely holds despite the smaller sample.

4. Results

4.1. Typical Audit

In **Table 2**, we look at the actual flow of the visit with the advisor. Recall we asked our auditors to note whether the adviser asked them for basic personal characteristics such as age, income, whether they have children, and whether they have a 401(k) plan. The results in **Table 2** show that in the vast majority of cases advisors do ask for this information. When we look at the recommendations that the advisers are making in the same table we see that advisers have a much higher propensity to suggest actively managed mutual funds than index funds. In only 7.5% of the advice sessions (21 visits) did the advisers encourage the client to invest in index funds. In contrast in 50% of the visits does the advisor suggest investing in actively managed funds. This stark discrepancy is a first indication that advisers might be trying to guide clients to high fee investments. In that context it is interesting to see that a majority of advisers mention (some) fees of the recommended funds spontaneously, without the client having to ask for it. But when we look at the actual details of the explanations in many cases the discussion involves a downplaying of the impact of fees, e.g. “this fund has a 2% fee but that is not very much give the industry average”.

Finally it is also interesting to note that advisers on average try to change the clients fund allocation. This might not be too surprising since clients usually come to advisers in order to receive help with their investment. What is interesting, however, is that they tended to move shoppers away from the existing strategy but did so regardless of the initial portfolio, i.e. even when they looked at a low-fee diversified portfolio. Overall, advisers do not encourage investment in (low-fee) index funds – they were mentioned in only 21 adviser-client discussions index funds. Instead and aligned with their own incentives advisers suggested an investment in (high-fee) actively managed funds in 142 discussions. Another interesting finding, inferred from clients’ free form answers, is that some advisers (84 visits or roughly 30%) refused to offer any somewhat specific advice until the auditor transferred resources to the adviser. This is interesting because it illustrates a screening problem for

customers: it is hard for them to judge the value of an adviser without choosing them.

Table 2: Descriptive Statistics about the Adviser-Client Conversation

VARIABLES	Yes	No	Total
Advisers encourage more of current strategy?	27	179	206
Advisers suggest change of current strategy?	139	67	206
Initial Reaction Positive	35	171	206
Initial Reaction Negative	82	124	206
Recommend Index Funds	21	263	284
Recommend Actively Managed Funds	142	142	284
Spontaneously mention fees	160	121	281
Ask about age	236	48	284
Ask about current occupation	217	67	284
Ask about annual income	212	72	284
Ask about 401k	252	32	284
Ask about number of children	200	84	284
Auditor would go back to this adviser with own money	200	84	284

This table contains descriptive statistics for the 284 audit visits at financial advisers. As answers to the question "Did the adviser make any comments about how you should modify your existing portfolio?" auditors could choose from multiple choice answers (a) "Adviser encouraged me to invest more in the existing strategy", (b)"Adviser said that I should not change the allocation in my existing strategy but not invest more" or (c)"Adviser discouraged me to invest more in the existing strategy". The answer is counted as an encouragement if the auditor answered (a). If the adviser picked answer (c), he suggested a change of the current strategy. An initial positive or negative reaction to the clients' current portfolio has been recorded, too. Auditors entered in the online exit questionnaire whether index funds or actively managed funds were recommended and whether any fees were mentioned by the adviser without being asked. Finally, auditors recorded whether they were asked at some point during their visit about their age, current occupation, annual income, the existence of a 401(k) plan or children.

Finally, the mix of allocations is interesting (see **Table 3**). Advisers recommended on average an investment of about 66% in equity, about 24% in bonds and about 9% in cash. However, the mean advice suggests an international equity allocation of about 27% of the portfolio. While this is a smaller international allocation than optimal portfolio theory suggests, this is an aggressive equity allocation and in that sense leans against any bias that might generate an equity premium.

Table 3: Average Portfolio Recommendation

VARIABLES	Mean	Median
Recommended % of portfolio in:		
Bonds	24	20
Stocks	66	70
Liquidity / Money Market	9	10
Domestic securities	63	71
International securities	27	25

This table contains the average (mean/median) adviser's allocation recommendation of asset classes (bonds, stocks, liquidity) and of the geographical distribution (US domestic, international) based on all 284 audit visits at financial advisers between April and August 2008.

4.2 Regression Results

We now examine how personal characteristics and treatment assignments influence advice received. First, in **Table 4** we focus on the overall reaction of the advisor to the auditor's assigned portfolio[23] as a function of the different scenarios presented by the auditors. This analysis excludes the cash only treatment. In that treatment it is not really possible for the adviser to express support of the "strategy" since the client explicitly asks for help in improving the investment strategy. If advisers serve to debias they should not be supportive of the trend-chasing or employer-stock strategy but should be supportive of the diversified portfolio strategy. At most they should suggest some international diversification in that case. In contrast, if advisers aim to maximize their fee income they should be supportive of trend chasing but not supportive of the trend-chasing or efficient portfolio strategy since these will not generate a high number of transactions and fees.

Table 4 contains regression results that are clustered at the individual client level.[24] Our regression results show that broadly speaking advisers indeed seem to support strategies that result in more transactions and higher management fees. Column (1) reports the results from a regression of a dummy indicating encouragement on the treatment dummies where the omitted category is chasing fund returns. The regression controls for the age and income level of the auditors, since these were the two variables we stratified auditors on. We also include month fixed effects since the study was implemented over a five months period to reduce the likelihood of detection. The results show that advisers are least supportive of the efficient portfolio followed by the company stock treatment with

[23] The encouragement variable is based on the question "Did the adviser make any comments about how you should modify your existing portfolio?" Auditors could choose from multiple choice answers (a) "Adviser encouraged me to invest more in the existing strategy", (b) "Adviser said that I should not change the allocation in my existing strategy but not invest more" or (c) "Adviser discouraged me to invest more in the existing strategy" is the encouragement variable is coded as 1 if the auditor answered (a) and 0 otherwise. Negative comments (discouragement) to the same question are coded as 1 if the auditor chose (c) and 0 otherwise. The correlation between the two dummy variables is -0.5374.

[24] We have too many banks and too few repeat visits in our sample such that we cannot include bank fixed effects. Probit regressions or using random effects instead of clustering at the auditor level have qualitatively the same results and are available on request.

coefficients of -.28 and -.17, respectively.[25] In turn this means that advisers supported the chasing fund returns strategy significantly more often than the other two.

Table 4: Adviser's initial reaction and (non-) supportive recommendations

VARIABLES	(1) adviser **encouraged** client to invest more in the existing strategy	(2)	(3)	(4)	(5) adviser **discouraged** client to invest more in the existing strategy	(6)	(7)	(8)	(9) positive **initial reaction**	(10) negative **initial reaction**
Investment Amount			≈$100k	≈$50k			≈$100k	≈$50k		
Company Stock PF	-0.165**	-0.185**	-0.216	-0.205*	0.110	0.162	0.0550	0.297**	0.0137	0.252*
	(0.0807)	(0.0780)	(0.154)	(0.102)	(0.0908)	(0.111)	(0.179)	(0.117)	(0.0766)	(0.125)
Index Funds PF	-0.284**	-0.304**	-0.418*	-0.300**	0.397***	0.438***	0.476**	0.521***	0.199**	0.195
	(0.111)	(0.116)	(0.210)	(0.108)	(0.0989)	(0.109)	(0.176)	(0.147)	(0.0884)	(0.167)
log(Auditor's Age)	0.0965	0.0121	0.991	-0.681	-0.0175	0.380	0.394	1.888**	0.327*	0.265
	(0.152)	(0.396)	(0.732)	(0.489)	(0.181)	(0.485)	(0.481)	(0.775)	(0.181)	(0.275)
log(Annual Income)	-0.266	-0.249	-0.124	-0.801***	0.358	0.381	0.123	0.751**	0.194	-0.0901
	(0.228)	(0.260)	(0.349)	(0.166)	(0.252)	(0.262)	(0.390)	(0.275)	(0.357)	(0.353)
log(Investment Amount)		0.0190				-0.186				
		(0.258)				(0.293)				
Marital Status		-0.0354				0.0866				
		(0.0355)				(0.0924)				
Children		-0.125*				0.135				
		(0.0682)				(0.119)				
Gender		-0.0119				-0.0871				
		(0.108)				(0.127)				
Constant	2.612	2.561	-2.026	11.24***	-3.911	-3.539	-2.442	-14.86***	-3.287	0.0809
	(2.273)	(2.185)	(3.556)	(2.984)	(2.781)	(3.039)	(3.308)	(4.765)	(4.006)	(3.494)
Observations	204	203	105	99	204	203	105	99	204	204
R-squared	0.093	0.116	0.137	0.158	0.107	0.127	0.148	0.165	0.075	0.172

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

This table shows regression results for advisers' reactions to the clients' current portfolios based on 284 audit visits at financial advisers between April (omitted) and August 2008 -- did they encourage the client to pursue the current strategy or did they discourage the client? The two variables are coded based on the question "Did the adviser make any comments about how you should modify your existing portfolio?" Auditors could choose from multiple choice answers (a) "Adviser encouraged me to invest more in the existing strategy", (b)"Adviser said that I should not change the allocation in my existing strategy but not invest more" or (c)"Adviser discouraged me to invest more in the existing strategy". The answer is counted as an encouragement (=1) if the auditor answered (a) and 0 otherwise. The answer is seen as discouraging (=1) if the auditor chose (c) and 0 otherwise. An initial positive (yes: 1/no: 0) or negative (yes: 1/no: 0) reaction to the clients' current portfolio are used as dependent variables for regressions (9) and (10).

The explanatory variables are dummy variables for the first three scenarios: In scenario 1 (omitted), clients were chasing fund returns. In scenario 2, clients' current portfolios (PF) contained 30% company stock. Scenario 3 refers to a diversified client portfolio with only low-fee index funds. The auditor's actual age, her annual income assigned by the study, and the investment amount assigned by the study are used, as well. Finally, the client's actual marital status (married=1), the existence of at least one child in the household, and the client's gender (female=1) enter as dummy variables.

In column (2) we replicate the regression set up of column (1) but include additional characteristics of the clients such as gender, marital status, and investment amount. We see that none of the characteristics are significant. Including these controls does not change the coefficients on the treatment dummies, as is to be expected given random assignment. In columns (3) and (4) we now break out customers with an assigned investment amount of about US$ 100,000 and about US$ 50,000, respectively. The idea is to see if the advice across the scenarios differs for wealthier clients and we find no support for any such differences.

We do not expect advisers to completely eliminate an existing bias since it would fly in the face of a sales situation. But advisers should at least attempt to move in the right direction. We try to capture this type of reasoning by distinguishing between initial reaction and support for the strategy going forward. In columns (5) to (8) we now repeat the regression set up of the first four columns but use as a left hand side variable whether the advisor strongly discouraged investing further in the existing strategy. We again find

[25] In these regressions we use scenario 2 as the benchmark case to detect differences between scenarios 2 and 3. These results are available on request.

consistently with the prior results that advisers are most negative on the efficient portfolio. The coefficient is .4 and significant at the 1% level. There is no significant difference for company stock, however. These results strongly suggest that advisers try to dissuade clients from investing in an efficient portfolio likely because minimizes the fee income for the adviser. Interestingly this incentive seems to be so strong that advisers are willing to push clients out of investments portfolios that are close to perfectly efficient (index scenario). However it does seem that the investor is more constrained in the case of company stock, perhaps because of an attempt to cater to the clients' bias. This produces a perverse situation where the adviser is actively leaning against an efficient portfolio but will not lean against what is actually a biased strategy.

In columns (9) and (10) we now repeat the prior regressions but look at the initial reactions of the adviser. The difference between the dependent variable here and in columns (1) through (4) is that here we focus on the adviser's very first reaction to the client's portfolio. This first reaction could be interpreted as a judgment of the client's prior behavior. In contrast, the dependent variable in columns (1) through (4) focuses on how the adviser argued the portfolio should be structured or restructured going forward. Interestingly, we now find very different results. Initially, advisers react significantly more positive to the index portfolio relative to the return-chasing portfolio. But there is no significant difference between company stock and return chasing. In addition, these differences are much less pronounced than in the first eight columns. All this suggests that advisers are more moderated in their initial reactions. And they seem much less willing to make overtly negative comments about the clients' prior choices.

In the next step we analyze the content of the advice that was recommended to the auditors **(see Table 5).** As mentioned before, in a large fraction of the visits we did not get very detailed quantitative advice about which specific funds to invest in, since many advisors insisted that the client should first place the funds with the advisor's company. The two most concrete dimensions of advice that we can measure are whether the adviser recommended actively managed funds and/or (passive) index funds as an investment to the client. These two dimensions are of interest since finance theory as well as a large body of literature on mutual fund returns suggest that actively managed funds on average have lower returns but allow fund companies and advisors to charge higher fees. In contrast, index funds have been shown to be a better investment option for retail investors since they provide access to investing in a well diversified portfolio at a low fee structure (see for example Gruber 1996). In the regressions in **Table 5** we will now include all four different scenarios including the cash treatment (scenario 4), since we look at the recommendations that the advisor makes for the portfolio going forward.

The regression set up in **Table 5 here is parallel to Table 4**. In column (1) we regress an indicator variable equal to one if the adviser recommended investing in index funds and zero otherwise on dummies for the four scenarios (again the return chasing scenario is the omitted category) and controls for the age and income level of the client. All the regressions are clustered at the auditor level. The results in column (1) show that advisors are significantly more likely to recommend index funds to clients who come in with an "all cash" portfolio relative to the return chasing treatment (the coefficient on the "all cash" scenario is 0.18 and is significant at the 5% level). The coefficients on all other scenarios are close to zero and statistically insignificant. It is interesting to note that the coefficient on scenario 3 (index fund) is negative but not significant. In column (2) we repeat the same regression but include further controls for client characteristics such as gender, marital

status, number of children and the amount they client wants to invest. The results are unchanged to column (1). In columns (3) and (4) we break out the sample into the visits where auditors were assigned an investment amount around US$ 100,000 versus US$ 50,000 respectively. We see that the results are mainly concentrated for the (perceived) wealthier clients. Advisers are much more likely to mention index funds in general to these clients, especially to those who come in with a "cash" portfolio.

Table 5: Advisers' Recommendations

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	adviser recommends **index funds**				adviser recommends **actively managed funds**				adviser talks **spontaneously about (any) fees**			
Investment Amount			?$100k	?$50k			?$100k	?$50k			?$100k	?$50k
Company Stock PF	0.0166	0.0157	0.0222	0.102	-0.198**	-0.149*	-0.00673	-0.455**	-0.108	-0.0967	-0.0133	-0.0774
	(0.0540)	(0.0567)	(0.0246)	(0.179)	(0.0906)	(0.0737)	(0.0796)	(0.180)	(0.0966)	(0.103)	(0.152)	(0.157)
Index Funds PF	-0.0191	-0.0218	0.0442	0.105	0.255*	0.308**	0.663***	-0.101	-0.0149	-0.0444	0.372*	-0.248
	(0.0354)	(0.0415)	(0.0429)	(0.100)	(0.138)	(0.119)	(0.0978)	(0.167)	(0.142)	(0.133)	(0.215)	(0.146)
All Cash PF	0.183**	0.168**	0.256***	0.181	0.318***	0.292***	0.517***	0.0750	-0.0106	-0.0274	0.0860	0.0421
	(0.0827)	(0.0697)	(0.0658)	(0.137)	(0.104)	(0.105)	(0.0704)	(0.144)	(0.114)	(0.107)	(0.167)	(0.118)
log(Auditor's Age)	-0.0847	0.129	-0.541	1.559	0.287	0.504**	-0.231	1.600	0.325	0.494**	-0.563	1.190
	(0.120)	(0.110)	(0.410)	(0.969)	(0.172)	(0.193)	(0.560)	(1.050)	(0.196)	(0.205)	(0.911)	(0.782)
log(Annual Income)	0.0313	0.0292	0.142	-0.165	-0.170	-0.267	-0.0744	0.186	-0.134	-0.131	0.223	-0.526
	(0.141)	(0.126)	(0.119)	(0.183)	(0.291)	(0.273)	(0.272)	(0.458)	(0.240)	(0.220)	(0.401)	(0.312)
log(Investment Amount)		-0.109***				-0.0783***				-0.0620***		
		(0.0110)				(0.0220)				(0.0175)		
Marital Status		0.0271				0.00512				0.106		
		(0.0365)				(0.0623)				(0.0889)		
Children		-0.0521				0.272***				-0.0638		
		(0.0518)				(0.0913)				(0.0997)		
Gender		0.0553				-0.134*				0.0409		
		(0.0490)				(0.0744)				(0.101)		
Constant	-0.0528	0.321	0.217	-3.570	0.884	2.188	2.067	-7.605*	0.849	0.934	0.0365	2.371
	(1.349)	(1.285)	(1.847)	(3.211)	(3.311)	(2.968)	(3.105)	(4.085)	(2.862)	(2.673)	(5.195)	(4.307)
Observations	284	283	148	136	284	283	148	136	281	280	148	133
R-squared	0.101	0.177	0.185	0.144	0.180	0.226	0.301	0.211	0.028	0.049	0.070	0.094

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

This table shows regression results for advisers' investment recommendations of index funds or actively managed funds (yes: 1/no: 0) based on 284 audit visits at financial advisors between April (omitted) and August 2008. In addition, regression results are shown for advisers' mentioning of fees (yes: 1/no: 0) without being prompted by the client. The explanatory variables are dummy variables for all four scenarios: In scenario 1 (omitted), clients were chasing fund returns. In scenario 2, clients' current portfolios (PF) contained 30% company stock. Scenario 3 refers to a diversified client portfolio with only low-fee index funds. In scenario 4, the client claimed that all the money was invested in a certificate of deposit at a local bank. The auditor's actual age, her annual income assigned by the study, investment amount assigned by the study. In addition, we use the client's actual marital status (married=1), the existence of at least one child in the household, and the client's gender (female=1) as dummy variables.

These findings suggests that advisers are most likely to mention index funds when clients are coming with "cash" and are least likely to mention index funds if people already are invested in index funds. But overall index funds are only mentioned in about 7.5% of the 281 visits indicating that advisers' do not actively encourage clients to choose this investment option.[26]

In contrast, in columns (5) to (8) we repeat the same regression set up as before but the dependent variable now is a dummy for whether the adviser suggested actively managed funds to the clients. It is important to note that advisers recommended actively managed funds in about half of all visits while they only recommended index funds in about 8% of visits. The baseline regression in column (5) shows that advisers are much more likely to recommend actively managed funds to clients who come in with a either the index fund portfolio (scenario 3) or the all cash portfolio scenario 4). Instead advisers are almost 20% less likely to mention actively managed funds to clients in the company stock portfolio (scenario 2). Again the results are unchanged when addition additional controls for client characteristics in column (6). As before we then break out the sub-sample of clients that have about US$ 100,000 to invest (column 7) and those that have about US$ 50,000 to

[26] The percentage improves to 10.7% when we eliminate those visits in which advisers are not willing to provide any advice before the client transfers her portfolio.

invest (column 8). Interestingly, clients with higher investment amounts tend to be recommended actively managed funds in scenarios 3 and 4 at a much higher rate than clients that are less wealthy.

Overall these results are in line with an interpretation where the adviser's goal is to maximize fees by placing more weight on actively managed funds that create more income for the adviser. Most strikingly, even if a client had a well-diversified index funds portfolio, the adviser encourages investment in actively managed funds. The objective of the adviser in this behavior might be to signal that they can add value to the client by suggesting something different from the existing portfolio. We see that this behavior is particularly pronounced for wealthier clients where the fee income matters more to the adviser. In general, advisers do not proactively reach out to clients to rebalance the portfolio due to changing circumstances of the client, but only to sell them new funds and generate fees. The advice that we observe in our treatments are a good proxy for the different situations that an adviser might encounter with their clients throughout a longer term relationship. The evidence suggests that most of the interaction is driven by the need to generate fees rather than to respond to the clients rebalancing needs.

But advisers also seem to attempt to cater to their clients' perceived preferences. For clients that come in with a company stock portfolio, advisers are much less likely to suggest actively managed funds. One could hypothesize that high concentration in company stock might suggest to the adviser that this client is more risk averse and passive in their investment approach and thus might not be comfortable investing in an actively managed fund. Given that actively managed funds are recommended to half of the clients, it is no surprise that advisers spontaneously mention fees as often or as seldom in all scenarios and with respect to most control variables. However, advisers spontaneously address fees with an increasing likelihood if clients are older and with a decreasing investment amount (regression (10)). The first result can be explained by an assumed higher experience level, i.e. advisers pre-empt an often heard question in this age group. The second result may seem to be surprising given that less wealthy clients get more recommendations of actively managed funds. But mentioning fees can involve talking about load fees (or discount of load fees) as well as the in the long run more important management fees. Thus, advisers may talk more about the less relevant fees with decreasing wealth and reduce talk about (all) fees with increasing wealth.

Asset allocation

In the next step we evaluate the overall asset allocation (stocks, bonds, domestic or international investments) that is recommended by the advisers. In all regressions in **Table 6** the dependent variable is the recommended percentage of the portfolio that should be invested in one of the respective asset classes. **Table 6** shows that we lose about 45% of the sample in these regressions since many advisers did not provide specific enough recommendations. We also used and indicator variable for whether the adviser did at all mention investment in any of the above mentioned asset classes and the results are qualitatively very similar. Column (1) of **Table 6** follows the usual baseline setup where we regress the recommended fraction in bonds on the dummies for the four scenarios (again scenario 1 is the omitted one) and controls for the client characteristics. The fraction of bonds that is recommended for the client's portfolio does not seem to vary with the different scenarios. The same is true in columns (2) through (4) when looking at the allocations to the other asset classes. Again the advice does not seem to vary by the

scenario. The one exception is that clients in the all cash scenario 4 have significantly lower exposure to stocks (column 2). This could suggest that clients who are in scenario 4 are considered to be very risk averse (or even unsophisticated) by the advisers and therefore the advisers might think that these clients would not be able to handle the risk exposure of a high fraction of equities. But the results are quite noisy which is most likely due to the much smaller sample size.

Table 6: Advisers' Asset Allocation Recommendations

VARIABLES	(1)	(2)	(3)	(4)
	adviser recommends to invest % of portfolio			
	in bonds	in stocks	internationally	domestically
Company Stock PF	-0.351	0.0278	-4.347	-0.306
	(4.569)	(5.735)	(6.797)	(7.785)
Index Funds PF	7.108	3.776	-3.595	10.24
	(4.963)	(6.792)	(6.094)	(6.699)
All Cash PF	-2.435	-9.851*	-3.595	-13.06
	(6.046)	(5.143)	(8.691)	(8.925)
log(Auditor's Age)	7.866	-0.812	5.149	-2.739
	(8.620)	(12.66)	(10.34)	(14.09)
log(Annual Income)	12.57	27.52**	-19.63	33.42*
	(11.96)	(12.72)	(15.05)	(19.23)
log(Investment Amount)	-2.444	-3.982***	-0.127	-2.437*
	(1.526)	(0.905)	(0.766)	(1.293)
Martial Status	0.908	20.44***	10.92**	14.26*
	(3.890)	(3.804)	(4.676)	(7.364)
Children	-6.962	6.187	4.131	-15.49*
	(4.221)	(4.496)	(6.536)	(7.871)
Gender	-11.57**	-9.621*	-11.31**	-10.76
	(4.314)	(5.252)	(4.970)	(8.484)
Constant	-116.7	-205.4	237.6	-251.3
	(150.3)	(156.4)	(177.0)	(255.5)
Observations	167	172	152	152
R-squared	0.174	0.211	0.128	0.334

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

This table shows regression results for advisers' portfolio allocation recommendations for bonds, stocks, internationally and domestically (all in%) based on 284 audit visits at financial advisers between April (omitted) and August 2008. The explanatory variables are dummy variables for all four scenarios: In scenario 1 (omitted), clients were chasing fund returns. In scenario 2, clients' current portfolios (PF) contained 30% company stock. Scenario 3 refers to a diversified client portfolio with only low-fee index funds. In scenario 4, the client claimed that all the money was invested in a certificate of deposit at a local bank. The auditor's actual age, her annual income assigned by the study, investment amount assigned by the study. In addition, we use the client's actual martial status (married=1), the existence of at least one child in the household, and the client's gender (female=1) as dummy variables.

The recommended investment in stocks and domestic assets significantly increases in annual income that may be explained by an assumed higher risk or loss tolerance. However, the recommended exposure to stocks decreases with an increasing investment amount. Married clients are advised to have significantly more bond and stock investments at the expense of liquidity whereas female clients should invest significantly less investment in both asset classes based on their adviser's recommendation. The months following the collapse of Bear Stearns have an effect on recommended domestic investments only – clients are told in May through July to invest domestically significantly less.

These different recommendations based on personal characteristics may be caused by the adviser's information collection process. Note that clients always disclose the investment amount at the beginning of the conversation since they ask for advice with respect to their current portfolio. The likelihood of being asked for the current occupation (regression (2)) or the annual income (regression (3)) was significantly decreasing with an increasing investment amount (see **Table 7).**

Personal characteristics and adviser's information gathering

In **Table 7** we now look at the questions that the advisers ask the auditors during their conversation. This information is important to understand the financial situation of the clients, their ability to handle portfolio risk and the exposure to market risk that they might already have through their other investments. Some of the basic information that an adviser should ask about are items such as the income level of the client, whether they have savings in a 401(k) plan apart from the money they want to invest with the adviser, their occupation and whether they have children. We form indicator variables equal to 1 if the adviser asked for the specific information at some point in the consultation and zero otherwise.

Overall we find that advisers are pretty consistent in asking for these types of information: in more than 75% of the visits did the advisers ask for this information. In column (1) of **Table 7** we regress a dummy for whether the adviser asked about the client's age on the gender and log age of the client. We focus on these two characteristics since they are most easily observable from the outset of the visit. We find that women were asked for their age less often while the coefficient on log age is not significant but positive. Similarly, in columns (2) through (4) we see that women auditors are asked about their personal and financial situation less often than men. Columns (3) and (4) of **Table 7** show that older people are asked about their financial situation concerning income and whether they have a 401(k) plan more often than younger people.

Table 7: Personal characteristics and adviser's information gathering

VARIABLES	(1)	(2)	(3)	(4)
	adviser asks his client about …			
	her age	her current occupation	her annual income	a 401(k) plan
log(Auditor's Age)	0.127	0.205	0.342**	0.321**
	(0.153)	(0.169)	(0.165)	(0.141)
Gender	-0.171*	-0.106	-0.182*	-0.107**
	(0.101)	(0.0656)	(0.0931)	(0.0525)
Constant	-5.234*	-7.865***	-5.709**	-1.243
	(2.737)	(2.785)	(2.201)	(1.765)
Observations	283	283	283	283
R-squared	0.178	0.129	0.111	0.127

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

This table shows regression results for advisers' questions about the auditor's age, her current occupation, her annual income and the existence of a 401(k) plan (all variables yes: 1/no: 0) based on 284 audit visits at financial advisers between April (omitted) and August 2008. The additional explanatory variables are the auditor's actual age her gender (female=1) as dummy variables.

These results are interesting since they might suggest that advisers approach the seriousness of the consultation differently depending on the type of client. If advisers are less likely to ask women some basic question about their financial situation, it might be a sign that they do not take these clients as serious but it also leads to worse advice since the adviser does not have the full information.

In **Table 8** we first analyze the advice that is given as a function of the client characteristics. Characteristics such as gender and age can be inferred relatively easily by meeting the client. We also include characteristics of the client's personal situation that the adviser learns from the conversation, such as the client's marital status, the number of children, and the income level. Standard finance theory would suggest that advisers should take the personal situation of the client into account when setting the investment strategy. For example, clients with a shorter horizon such as older people should not be invested in risky long-term strategies. Similarly, risk averse clients should not be guided towards risky investments, such as having a high percentage in of their portfolio in stocks or actively managed funds.

In column (1) we first investigate whether the adviser encouraged the auditor to invest in index funds as a function of the auditor's characteristics. Standard errors in all regressions are clustered at the auditor level. We see that the coefficient on log of age is positive but not significant. Similarly none of the other coefficients on the client characteristics are significant. Thus, there are no discernable differences in which clients are encouraged to invest in index funds. But it is important to keep in mind that the overall incidence of suggesting index funds is very low (8%). In column (2) we repeat the same regression set up but use an indicator variable for whether the adviser suggested actively managed funds as the dependent variable. Now the coefficient on log of age is large and statistically significant. Older people are more often encouraged to invest in actively managed funds. Similarly people with children are encouraged to invest in actively managed funds. In contrast the coefficient on the gender dummy is negative and highly

significant. This suggests that advisers are less likely to recommend actively managed funds to female clients. This could be in line with the belief that women are more risk averse and thus would have a lesser tolerance for actively managed funds.

Table 8: Advice as a function of auditor characteristics

VARIABLES	(1) adviser recommends index funds	(2) adviser recommends actively managed funds	(3) adviser mentions fees	(4) advice after money transfer only
log(Auditor's Age)	0.190	0.643***	0.527**	-1.283
	(0.118)	(0.217)	(0.197)	(0.811)
log(Annual Income)	-0.0683	-0.361	-0.106	0.488
	(0.120)	(0.272)	(0.219)	(0.350)
Marital Status	0.0557	0.107	0.130	-0.124
	(0.0366)	(0.0876)	(0.0804)	(0.105)
Children	-0.0203	0.320***	-0.0471	0.138
	(0.0438)	(0.0813)	(0.101)	(0.151)
Gender	0.0194	-0.209**	0.0146	0.383***
	(0.0417)	(0.0979)	(0.101)	(0.116)
Constant	1.366	2.884	0.574	-11.20**
	(1.248)	(3.068)	(2.688)	(4.488)
Observations	283	283	280	128
R-squared	0.113	0.124	0.045	0.218

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

This table shows regression results for advisers' recommendations of index funds and actively managed funds based on all 284 audit visits at financial advisers between April (omitted) and August 2008. The other regressions evaluate when advisers spontaneously mention (any) fees and why advisers offer advice only after the portfolio or money is transfered to the new account. The additional explanatory variables are the auditor's actual age, her assigned annual income, her actual marital status (married=1) and the client's gender (female=1) as dummy variables.

In column (3) we now look at whether the adviser spontaneously mentioned the fees involved in the investment. We find that the only significant and economically very large coefficient is log age. Advisers tend to explain the fee structure of funds much more to older people than younger ones. None of the other coefficients on characteristics are significant. The belief must be that older people are more cost conscious and potentially better informed about investment options. Therefore advisers proactively discuss the fees rather than trying to ignore the topic.

Finally in column (4) we analyze the adviser's attitude towards the client relationship. We learned through the free text answers of our auditors that some advisers refused to offer any specific advice as long as the potential client has not transferred the account to the company of the advisor (n=84). The intention of the adviser seems to be that they first want to sign up the client before parting with any useful information. On the one hand it makes sense that advisers want to protect their time and insights so that clients do not replicate the advice for free. However, this situation is puzzling since it forces the client to choose and adviser without being able to get any indication about the person's quality upfront. The result in column (4) shows that this behavior is most pronounced towards female auditors. Advisers are almost 40% more likely to tell female clients that they first have to transfer the balance to them. One could imagine that this behavior might be based on the perception that women are more docile or gullible.

5. Conclusions

These results are intriguing but they are also only a beginning. They open the door to a set of other questions on the market for advice that our current sample size or treatments do not allow us to answer. Two questions stand out. First, does the nature and quality of the advice depend on the adviser's incentives? Answering this question will require a larger sample of fee-only based advisers. Though such advisers have grown in recent years, they are still a minority in the market. More importantly, auditing them would raise the costs of audits significantly since each audit would now entail a fee. Second, what does the demand for advice look like? Specifically, how do individuals assess the quality of advice? This again would require a different methodology where the unit of observation would need to be potential investors. These two questions, however, are essential to understanding the forces that shape the equilibrium in the market for advice.

Appendix A – Audit study design and examples

Appendix A1 – Portfolio and background information examples

Scenario 1 (chasing fund returns)

Shopper ID	3		
Scenario	1	Company	Haemonetics
Gender	Female	Occupation	Product Development
Age	30-35	Annual Income	$65.000
		$ to Invest	$45.000
		Portfolo ID	1T1
		Portfolio	$45.000,00
		SPDR S&P Metals & Mining (XME)	$13.500,00
		Vanguard 500 (VFINX)	$22.500,00
		Vanguard Interm-Term Bond Index (VBIIX)	$9.000,00
			On-line account on E-Trade (mention only if asked)

Scenario 2 (employer stocks)

Shopper ID	52		
Scenario	2	Company	Analog Devices
Gender	Male	Occupation	Intellectual Property
Age	30-35	Annual Income	$75.000
		$ to Invest	$49.000
		Portfolo ID	1T2
		Portfolio	$49.000,00
		Analog Devices Stocks (ADI)*	$14.700,00
		Vanguard 500 (VFINX)	$24.500,00
		Vanguard Interm-Term Bond Index (VBIIX)	$9.800,00
			On-line account on E-Trade (mention only if asked)

Appendix A2 – Recruiting and briefing of auditors

Auditors were recruited by a large US mystery shopping firm providing services for the financial industry. All auditors had to be college-educated, to have some experience in mystery shopping for financial services, and to match our age requirement. In addition, the mystery shopping firm had to recruit both male and female shoppers.

In the next step, auditors received some basic training (see Appendix A3) and they had to pass a test (see Appendix 3b) to ensure that they would understand the necessary financial terms for their task. Then they were assigned to one treatment (including the current portfolio, annual income and employer) and went through all information, procedures and exit survey questions with a mystery shopping firm employee and one of our research assistants.

After completing this training and information session, the auditors received the address for their first visit. As soon as they had entered their answers in the data base, they received their payment and the next adviser's address.

Appendix A3 – The Financial Advice Market, Key Words

1. Portfolio

A portfolio is a collection of investments held by a person (or institution). Portfolios of individuals usually are composed of mutual funds, stocks and bonds.

2. Rate of Return

In finance, the rate of return (ROR) or return on investment (ROI), or sometimes just return, is the ratio of money gained or lost on an investment relative to the amount of money invested. The amount of money gained or lost may be referred to as interest, profit/loss, gain/loss, or net income/loss. The money invested may be referred to as the asset, capital, principal of the investment.

3. Stocks

Stocks represent shares of ownership in a publicly traded company. Examples of public companies include IBM, Microsoft, Ford, Coca-Cola, or General Mills. Stocks are the most common way to hold an **ownership stake** (also called **equity**) in a public company. Shareholders can make money on stocks in two ways: (1) If the stock price of a company goes up returns go up (and the other way round if the stock price goes down). (2) Shareholders can also make money if the company pays dividends. **Dividends** are payments made by a company to its shareholders. When a company earns a profit, that money can either be re-invested in the business or it can be paid to the shareholders of the company as a dividend.

4. Bonds

Bonds are present investments in the debt of a public company or the government. Bond holders make money from the interest payments that the company (or government) pays on the bond. The interest rate is higher if the institution is more likely to default. The safest investments are US Government bonds. Bonds are the most common **lending** instrument traded in the market.

5. Mutual Funds

A mutual fund is a financial intermediary that allows a group of investors to pool their money together with a predetermined investment objective. The mutual fund will have a fund manager who is responsible for investing the pool of money into specific securities (usually stocks or bonds). When you invest in a mutual fund, you are buying shares (or portions) of the mutual fund and become a shareholder of the fund. There are different types of mutual funds:

5.a Index Funds

> These types of mutual funds try to mimic a chosen market index. An index is simply a group of stocks chosen to represent a particular segment of the market. Usually this is accomplished by purchasing small amounts of each stock in a market. Examples of indices include the S&P 500, NASDAQ, the Russell 2000, and others. There are also Bond Index Funds.

5.b Actively Managed (Equity) Mutual Funds

> These funds invest in certain segments or types of firms and the manager of the funds actively tries to pick stocks that s/he believes might outperform the market. Therefore the manager of the fund is more important in actively managed funds than in index funds. This often also means that the fees are higher in actively managed funds.

5.c Types of (Equity) Mutual Funds

> Actively managed mutual funds can follow many different investment approaches by

choosing specific sectors, investment strategies or firm size focus. We describe the most common fund types here:

- Investment Strategies. These funds invest in:
    - Growth Funds: stocks of fastest growing companies in the market.
    - Value Funds: large and mid-sized companies that tend to pay dividends.
    - Blended Funds: a "blend" of both growth and value stocks.
- Firm Size Focus. These funds invest in:
    - Large-Cap Funds - well-established, large corporations.
    - Mid-Cap Funds - mid-sized companies.
    - Small-Cap Funds - emerging companies that are still growing
- International Funds. These funds invest in:
    - Global Funds - both U.S. and International stocks.
    - Foreign Funds - outside the U.S.
    - Country Specific Funds – focus on one country or region of the world.
    - Emerging Markets Funds – developing countries.
- Sector Funds. These funds invest in:
    - a particular industry or segment
    - examples: technology, banking, biotechnology, health care, utilities etc.

5.d Bond Funds

These types of mutual funds invest in debt that is issued by firms or institutions such as governments. Bond funds are usually categorized by the type of institution that is issuing the bond, since the risk of the bond depends on the institution.

- Municipal Bond Funds –tax-exempt bonds issued by state and local governments.
- Corporate Bond Funds - debt obligations of corporations.
- Mortgage-Backed Securities Funds - securities of residential mortgages.
- U.S. Government Bond Funds - U.S. treasury or government securities.

Another way to categorize bond funds based on the maturity of the debt that means the time that is left before the debt expires and the institution has to pay it back:

- Short-term Bond Funds – holdings have up to two years left to maturity.
- Intermediate-term Bond Funds –holdings have between 2-10 years until maturity.
- Long-term Bond Funds –usually holdings have over 10 years left to maturity.

5.e Exchange Traded Funds- ETFs

They are similar to index mutual funds, but are traded more like a stock. Exchange Traded Funds (ETFs) represent a basket of securities that are traded on an exchange.

6. Fund families

A family of mutual funds is a group of funds that are marketed and managed under a common brand name. There are several hundred families of mutual funds in the United States, some with a single fund and others offering dozens. Examples of well-known fund families are: Fidelity, Vanguard, Oppenheimer, Alliance Bernstein, Putnam, etc.

7. 401(k)

The 401(k) plan is a type of retirement savings account that is sponsored by an employee's firm. It is often provided instead of a pension plan. In many firms the employer provides a company match to the employee's savings.

8. Securities

A security is a negotiable instrument representing financial value. Securities are broadly categorized into debt securities, such as banknotes, bonds and debentures, and equity securities, e.g. common stocks. They include shares of corporate stock or mutual funds, bonds issued by corporations or governmental agencies, stock options or other options, and other formal investment instruments that are negotiable.

9. Fees

Investment companies charge investors compensation fees. There are different kinds of fees. **Loads** are sales charges or commissions to compensate a sales intermediary (broker, financial planner, investment advisor, etc.) for his or her time and expertise in selecting an appropriate fund for the investor. The load can be paid up front at the time of purchase (front-end load), when the shares are sold (back-end load), or as long as the fund is held by the investor (level-load). There are load-funds and no-load funds.

Some fees are less visible to the investor since they are charged directly from the fund, so investors do not pay for them explicitly, although they affect the fund's returns. For example: **management fees** are intended to compensate the managers for their time and expertise, they can also include investor relations expenses and the administration costs of the fund. The **Total Expense Ratio – TER –** is a measure of the total costs of a fund investment; it can include costs of trading, auditing and other expenses.

Specific Advice

The main goal of your visit is to get specific advice. You want to know how exactly to invest your money. That means which securities in particular to buy, not only which type of securities. All of the above described terms are types of investments. If the advisor gives you these general recommendations, please ask for specific fund names.

Getting specific advice means getting specific fund names and if possible Ticker symbols (in parenthesis)

Examples: Fidelity Magellan Fund (FMAGX)

Vanguard Index 500 (VFINX)

You need to get advice that includes how your final portfolio should look like. Please see example of the evaluation form. For a US$50,000 portfolio, this is an example received in one visit:

Investment	%/ US$	Fees
Alliance Bernstein Intl Growth A (AWPAX)	25% $12,500	Front Load 4.25%
Federated Kaufmann A (KAUAX)	25% $12,500	Front Load 5.50%
Hartford Capital Appreciation A (ITHAX)	25% $12,500	Front Load 5.50%
Van Kampen Equity and Income A (ACEIX)	25% $12,500	Front Load 5.75%

Appendix A3b – Test for potential auditors

1. Please give an example of a fund family?
a. General Mills
b. Vanguard
c. US Government
d. Sovereign Bank

2. What do advisors mean when they talk of actively managed funds?
a. Funds where the manager picks securities in which to invest the money
b. Any fund that has a manager
c. Funds that track the market portfolio

3. Usually index funds have lower fees than actively managed funds?
True/false

4. The definition of dividends is
a. the profits that a company retains each year to invest in new projects
b. a name for the increase in annual stock price of a company
c. the part of profit that a company pays to its investors each year

5. Which of the following is not a "security"?
a. Procter and Gamble stock
b. Dividend from Coca-Cola
c. US Government bond
d. Oppenheimer Capital Appreciation A (OPTFX)

6. Advisors will usually recommend that your portfolio should be diversified between bonds, stocks and mutual funds. Imagine you had $20,000 to invest and wanted to invest 60% in equity and 40% in bonds, which of the following portfolios should you pick?
a. $6,000 in Vanguard S&P 500 index
$4,000 in MFS high Income Municipal
$10,000 in Certificate of Deposit

b. $8,000 US Government bonds
$ 1,000 Ford Motor stock
$6,000 in Vanguard S&P 500 index
$5,000 in Alliance Bernstein Intl Growth A

c. $8,000 MFS high Income Municipal
$10,000 IBM stock

d. $8,000 Vanguard 500 Index
$12,000 US Government Bonds

7. What is the relation between risk of default and return of a corporate bond?
a. The higher the risk of default the lower should be the interest rate
b. The lower the risk of default the lower the interest rate
c. More trustworthy debtors offer higher interest rates
d. Return is independent of risk

8. A Front load is
a. A sales commission the investor has to pay periodically for holding a fund
b. A Fund with a heavy concentration in short term securities
c. A measure of the operational costs of the fund
d. A Sales charge the investor pays when buying a mutual fund

References (incomplete)

Altonji, Joseph G. and Rebecca M. Blank, 1999, Race and gender in the labor market, In Orley C. Ashenfelter and David E. Card (eds.), Handbook of Labor Economics, edition 1, volume 3, chapter 48, 3143–3259, Amsterdam: Elsevier Science.

Barber, Brad M. and Terrance Odean, 2000, Trading Is Hazardous To Your Wealth: The Common Stock Investment Performance of Individual Investors, Journal of Finance 55, 773–806.

Barberis, Nicholas and Richard H. Thaler, 2003, A Survey of Behavioral Finance. In G. Constantinides, M. Harris, and R. Stulz (eds.), Handbook of Economics of Finance, 1052–1121, Amsterdam: Elsevier Science.

Benartzi, Shlomo and Richard H. Thaler, 2001, Naive Diversification Strategies in Retirement Saving Plans, American Economic Review, 91.1 (March), 79–98.

Benartzi, Shlomo and Richard H. Thaler, 2007, Heuristics and Biases in Retirement Savings Behavior, Journal of Economic Perspectives 21.3 (Summer), 81–04.

Bergstresser, Daniel, John M.R. Chalmers, and Peter Tufano, 2009, Assessing the Costs and Benefits of Brokers: A Preliminary Analysis of the Mutual Fund Industry, Review of Financial Studies 22, 4129–4156.

Bluethgen, Ralph, Andreas Gintschel, Armin Müller, and Andreas Hackethal, 2008, Financial Advice and Individual Investors' Portfolios, Goethe Universität Frankfurt am Main.

Bodie, Zvi and Dwight B. Crane, 1997, Personal Investing: Advice, Theory, and Evidence from a Survey of TIAA-CREF Participants, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=36158.

Bogle, John C., 2000, John Bogle on Investing: The First 50 Years, New York: McGraw-Hill.

Campbell, John Y., 2006, Household Finance, Journal of Finance 61, 1553–1604.

Canner, Niko, N. Gregory Mankiw, and David N. Weil, 1997, An Asset Allocation Puzzle, American Economic Review 87.1 (March), 181–191.

Fix, Michael and Margery A. Turner, 1998, A National Report Card on Discrimination in America: The Role of Testing, Washington, DC: Urban Institute Press.

Iyer, Rajkamal and Antoinette Schoar, 2009, The Role of Culture in Financial Negotiations: Evidence from an Audit Study, joint with Rajkamal Iyer, in: International Differences in Entrepreneurship, NBER Conference Volume (forthcoming).

Hackethal, Andreas, Michael Haliassos, and Tullio Jappelli, 2010, Financial Advisors: A Case of Babysitters?, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1360440

Heckman, James J., 1998, Detecting Discrimination, Journal of Economic Perspectives 12.2 (Spring), 101-16.

Hung, Angela A. , Noreen Clancy, Jeff Dominitz, Eric Talley, Claude Berrebi, and Farrukh Suvankulov, 2008, Investor and Industry Perspectives on Investment Advisers and Broker-Dealers, Technical Report, RAND Center for Corporate Ethics and Governance.

Moore, Don A., George Loewenstein, Daylian Cain, and Max H. Bazerman (eds.), 2005, Conflicts of Interest. Cambridge University Press.

Samuelson, William and Richard Zeckhauser, 1988, Status Quo Bias in Decision Making, Journal of Risk and Uncertainty 1.1 (March), 7–59.