Do Women Receive Worse Financial Advice?[*]

Utpal Bhattacharya[1]

Amit Kumar[2]

Sujata Visaria[3]

Jing Zhao[4]

This version: December 2020

[1] Hong Kong University of Science and Technology, ubhattac@ust.hk

[2] Hong Kong University of Science and Technology, amit.kumar@connect.ust.hk

[3] Hong Kong University of Science and Technology, svisaria@ust.hk

[4] Hong Kong Polytechnic University, jingzhao@polyu.edu.hk

Do Women Receive Worse Financial Advice?

ABSTRACT

Trained undercover men and women posed as potential clients and visited all 65 local financial advisory firms in Hong Kong that cater to retail investors. Each auditor was assigned to an "avatar" consisting of a specific combination of attributes. We find that women are more likely than men to receive advice to buy only individual or only local securities. This effect is significant for financial planners, but not for securities firms. Women who signal that they are highly confident, highly risk tolerant, or have a domestic outlook are especially likely to receive dominated advice. Our theoretical model interprets these patterns as an interaction between statistical discrimination and advisors' incentives. Taste-based discrimination appears to be an unlikely explanation.

"Do you have your husband's permission to buy this financial product?"

A question to a female finance professor from a financial advisor

Many retail investors find it difficult to choose financial portfolios, and seek the advice of professionals.[1] Women are increasingly becoming an important segment of retail investors and as a result, financial advisors are increasingly advising women clients.[2]

To the extent that women follow the advice they receive, the quality of this advice can have important consequences for gender inequality in wealth and women's economic empowerment.[3] However our knowledge about this issue is limited to descriptive evidence, which suggests that financial advisors spend less time with female than with male clients and offer them fewer product choices, and that, despite this, women report greater satisfaction with their advisors (Wang, 1994 and Borzykowski, 2013).

It can be challenging to objectively evaluate the quality of financial advice that a representative client receives from a representative advisor. Advisors and advisees match endogenously, and so the content of an average meeting may not tell us how the average advisor varies recommendations by advisee characteristics. Even if matches were random, advice may be affected by advisee characteristics that are unobservable to the researcher. It is also difficult to

---

[1] Lusardi, Michaud and Mitchell (2017) estimate that variation in financial knowledge explains 30-40 percent of the inequality in retirement wealth. Nearly 30 percent of American households say they would consult financial planners before making an investment (Federal Reserve Board 2016). In a representative survey of individuals across eight European Union member states, Chater, Huck, and Inderst (2010) found that 79 percent of household investors had consulted a financial professional, and 27 percent had specifically consulted a financial advisor. We estimate that in 2017, Hong Kong had 3.36 licensed financial advisors per 1000 members of the labor force.

[2] Globally, it is estimated that women hold 32 percent of total private wealth (Economist 2018) and that women would hold U.S.$72 trillion in investible wealth by the end of 2020 (S&P Global 2019). Since 2015, U.S. women have held more personal wealth than men (PIMCO Research, 2018).

[3] In 2014, more than 46 percent of all investors at the Hong Kong Stock Exchange were women (Hong Kong Exchange and Clearing Limited 2014). Some evidence suggests that compared to women elsewhere, more Hong Kong women may aspire to participate in financial markets. In a 2017 online survey, 62 percent of Hong Kong women respondents said that they planned to invest in stocks, in stark contrast to 5 percent of women respondents in the UK (IP Global 2017).

gauge the quality of the advice because quality is client-specific, and advice that is ex-ante optimal may not generate the best outcomes ex-post.

Our audit study addresses these difficulties.[4] In 2018-19 we commissioned a market research firm to train men and women to pose as potential clients. We then randomly assigned these undercover "auditors" to visit the offices of all local Hong Kong financial advisory firms that cater to retail investors. Following a free-flowing prepared script, these auditors engaged the financial advisor in a conversation, explaining that they wanted to invest toward their retirement, and requesting recommendations on investing in financial products. Each undercover auditor was assigned to play a particular role (or "avatar") consisting of three attributes: either high or low risk tolerance, high or low confidence, and domestic or international outlook. After the visit, they answered an online exit survey, and *inter alia*, reported the names of all the products the advisor recommended to them. Experimentally-induced random variation in the assignment of auditor gender and avatars to financial advisors, as well as stratified random matching of auditors and financial advisory firms, ensures that the advice that we observe is not confounded by endogenous matching of advisor and advisee, or by underlying unobserved differences in auditor characteristics.

To measure advice quality, we rely on the observation from classical finance that, regardless of risk appetite, a diversified portfolio dominates an undiversified one. Accordingly, we view financial advice as *dominated* if it is either "undiversified", meaning that it *only* consists of recommendations to purchase individual risky securities, or if it is "home-biased", that is, it *only*

---

[4]A literature has emerged around audit studies in financial markets (Anagol, Cole, and Sarkar 2013; Gine, Cuellar, and Mazer 2014; Mowl and Boudot 2014; Sane and Halan 2016). Although not the focus of their study, Mullainathan, Noeth, and Schoar (2012) find that women investors in the US were discouraged from buying actively managed or international funds, and encouraged to hold more liquid assets. Alesina, Lotti and Mistrulli (2013) and Brock and De Haas (2019) also study gender differences in financial markets. Bertrand (2016) reviews the existing field experiment literature on the prevalence of discrimination.

includes recommendations to purchase local securities.[5] Our results are similar when we instead use market-adjusted return as an ex-post measure of financial advice.

Our data suggest that retail clients in Hong Kong receive advice of poor quality. In 38% of the visits, the advisor recommended *only* individual risky securities. In a similar 39% of visits, the advisor recommended *only* local securities.

Importantly, our study allows us to hypothesize and examine why advisors give dominated advice. Advisory firms in our study belong to two distinct categories: securities firms and financial planners. Securities firms earn most of their revenues from trading commissions, and so have an incentive to recommend traded individual risky securities.[6] In line with this, in 41% of the auditors' visits at securities firms, the advisor recommended only risky individual securities. On the other hand, financial planners attempt to build relationships with their clients and hope to advise them over the long term. Their commissions depend on the one-time sale of products, and trading commissions are less important. Consistent with this, financial planning firms recommended only risky individual securities in a smaller, although substantial, 25% of the visits.

Remarkably, although they are more likely to give dominated advice overall, our data indicate that securities firms are "equal opportunity" bad advisors. Both men and women who visit securities firms are about equally likely to receive dominated advice. In contrast, financial planners treat men and women differently: they are significantly more likely to give undiversified (home-biased) advice to female than to male auditors.

---

[5]Some researchers have evaluated advice quality in terms of the management fee, since regardless of advisee characteristics, the lowest fee index fund is the optimal choice for every investor (Elton, Gruber and Busse 2004, Choi, Laibson and Madrian 2010, Mullainathan, Noeth, and Schoar 2012, Bucher-Koenen et al 2020). This approach cannot be applied in our context because only three funds in Hong Kong are linked to the broad index.

[6] Financial advisors in securities firms (SFs) are similar to full-service brokers in the U.S. Possibly because the compensation of SFs comes mostly from trading commissions, they have an incentive to recommend only financial products that trade in large volumes in the secondary market. Financial planning firms (FPs) fall into a distinct category in Hong Kong, and are similar to private wealth managers in the U.S. Their business model involves long-term relationships with individual clients, whom they advise on a wide range of financial products. Second, possibly because they either do not obtain trading commissions at all, or because they split their trading commissions with brokers, they also have an incentive to recommend financial products that do not trade in the secondary market.

This is driven by the fact that financial planners respond to women clients' risk tolerance, confidence and geographic outlook significantly more than they respond to the same attributes when exhibited by men. Specifically, financial planners give dominated advice to women who signal high confidence, high risk tolerance, and domestic outlook, but are less likely to do this when men signal the same attributes.

Our stylized theoretical model rationalizes our findings as the result of an interaction between advisors' incentives and their stereotypical beliefs about the financial knowledge of their advisees.[7] We assume that financial advisors gain from the trading commissions that their clients generate, which incentivizes them to recommend individual securities that would be traded frequently. However, if discerning clients detect that the advice is dominated, they might end the relationship.[8] Compared to securities firms, financial planners offer a larger variety of products and offer customized advice. They have the incentive to cater their advice to individual client characteristics in the hope of retaining this client over the longer term. This may induce them to provide undiversified advice to risk-tolerant and highly confident clients, or home-biased advice to clients with a domestic outlook. However, if the financial planner perceives that the male client is discerning but the female client is not, then this tendency to provide dominated, catered advice is mitigated when the client is male, but not when the client is female.

To our knowledge, only one other paper has examined whether men and women receive financial advice of different quality. Bucher-Koenen et al. (2020) study the minutes of about 27,000 advisor-client meetings and archival data on clients' portfolios from a large German bank. Presumably due to their lower financial literacy, they find that within each risk category, women pay higher fund management fees and are less likely to receive rebates (discounts). Women with higher literacy scores reject low-quality advice more often.

---

[7] Bertrand (2020) discusses "sticky" stereotypes about gender-specific skills and gender-specific roles.

[8] Several scholars have argued that financial advisors have conflicts of interest (Mehran and Stulz 2007, Stoughton, Wu and Zechner 2011, Inderst and Ottaviani 2012a, 2012b, 2012c; Chen and Gesche 2017). An alternative explanation for poor advice is that advisors themselves lack the knowledge to advise appropriately (Linnainmaa, Melzer and Previtero 2020). Note that in Hong Kong financial advisors must pass a licensing examination, and are unlikely to lack financial knowledge.

Our work differs from Bucher-Koenen et al. (2020) in two ways. First, our study randomly varies the attributes of auditors, and randomly assigns auditors to advisors; this allows us to cleanly identify differences in advice quality. Since we orthogonally vary *multiple* attributes of the auditors, we can examine whether advisors respond differently to the same attribute (risk tolerance, confidence, or geographic outlook) when it is exhibited by a male versus a female client. In this way we can empirically establish that it is not the "bundle" of women's financial knowledge, risk tolerance, confidence or outlook attributes that drive our results.[9] In fact, we find that financial planners give dominated advice to women who signal high confidence, high risk tolerance, and a domestic outlook.

Second, and more importantly, the variation in different advisors' incentives allows us to go beyond this. We highlight the fact that conflicts of interest alone do not generate gender differences in advice. Securities firms, who have the strongest conflict of interest to give worse advice overall, *do not* differentiate by client gender.

An alternative explanation for our findings might be that advisors engage in taste-based discrimination against women who defy the gender stereotype that women are risk-averse and diffident investors.[10] However, since we find gender differences only among firms of a single type, this appears to be an unlikely explanation.

We must note that an audit study can only be conducted at the initial contact point between the client and the advisor, and so we only observe how financial professionals advise prospective clients. We cannot rule out the possibility that the same advisors might have advised same clients better after the client had become their customer. It is hard to imagine why the advisors would

---

[9] There is evidence that women make more conservative financial choices and trade less frequently than men do (Bajtelsmit and Bernasek 1996, Barber and Odean 2001). Some experimental studies have argued that women are less risk-tolerant (Bertrand 2010) and are less confident in their ability to save and invest than men are (Merrill Lynch 2018). Some research suggests that among wealthy advisees there are no gender differences in confidence (Baeckstrom, Marsh, and Silvester 2019). All our auditors were selected to be representative of the average middle-income Hong Kong person.

[10] Statistical discrimination refers to the phenomenon where the principal attributes to the individual the traits of their average group member (Phelps, 1972, Arrow, 1973), whereas taste-based discrimination occurs when the principal receives disutility from interacting with an individual of a particular group (Becker, 1957).

give systematically worse advice at the first meeting than at subsequent meetings. In any case, the central question remains: why is there a gender difference in the quality of (initial) advice?

The paper is organized as follows. Section I describes our empirical context. Section II develops the theoretical model that guides our empirical analysis. Section III details our study design. Section IV checks whether our audits were balanced across different auditor avatars and advisory firm branch offices and describes our auditors' characteristics. Section V presents our main results. In Section VI we address ancillary questions. Section VII concludes.

I.   Empirical Context

In 2019, the market capitalization of listed domestic companies in the Hong Kong Exchange was USD 4.9 trillion (World Bank, 2019), making Hong Kong one of the world's top financial centers. Individual retail investors are important players in this market. According to the Hong Kong Exchange and Clearing Limited (2014), 36.5% of the adult population of Hong Kong-owned stocks and/or derivatives listed on the HKEX, and nearly one-half of the retail equity investors were women. As women's education, labor force participation, and wealth increases all over the world, and they become important clients of the retail advising industry, insights from Hong Kong's advising industry can provide lessons for what to expect.

Financial advising is a regulated activity in Hong Kong. An individual can only practice as a financial advisor after obtaining a Type 4 license issued by Hong Kong's Securities and Futures Commission (Securities and Futures Commission 2020). Financial advisors are employed not just by financial planner (FP) firms that provide personalized wealth management advice, but also by securities firms (SF), that provide full-service brokerages to retail investors. Financial advisors who are employed by banks fall outside the scope of our study since they are obligated to advise only the account holders of the bank, and they recommend only the products available through the investment platform of the bank they work for.

Securities firms (SFs) provide a trading platform for individual investors. Similar to full-service brokerages in the U.S., the advisors here may advise clients if clients so request, but many of their investors are self-directed. The revenues for these firms come from trading commissions

for executing their clients' orders on the stock exchange. Margins are low, and revenue is mainly a function of the volume of trades. Services available across these firms are fairly homogenous, and these firms compete on the fees they charge to customers. Once an investor has opened an account with a securities firm, they are likely to remain with that firm since the switching cost exceeds the marginal benefit from switching.

In contrast, financial planner firms (FPs) provide personalized wealth management advice. Their clients are looking to delegate their investment decisions. Financial planners advise clients not just on exchange-traded products, but also on non-traded financial products such as mutual funds and complex insurance products. When their client wishes to purchase an exchange-traded product, an advisor at a financial planner firm must channel the order to their affiliate brokers, and then split the trade commission with them. When they sell a non-traded product, they may receive commissions from the company whose product it is.

Although they are increasingly important as a market segment, previous research suggests that women in Hong Kong continue to be less financially knowledgeable than men. In a 2018 representative sample of Hong Kong adults, men scored higher than women on a financial literacy test, held more investment products, were more likely to have long-term financial goals, were more likely to participate in their households' financial budgeting and decision-making, and self-reported higher levels of confidence about their financial knowledge (Investor Education Centre, 2018). It seems likely that financial advisors too take into account these differences when advising clients.

This institutional setting – the coexistence of clearly demarcated securities firms and financial planning firms with different business models and advisor incentives – allows us to analyze how different incentives can generate differential advice to clients of different genders. We now describe a theoretical model that formalizes our argument that incentives interact with perceived differences in clients' financial knowledge to generate the empirical patterns we observe.

II. Model

Our model builds on the canonical framework of financial advice developed by Inderst and Ottaviani (2012a, 2012b, 2012c). They model the tension a financial advisor faces between the gain from additional commissions and the disutility or reputation loss from recommending sub-optimal product choices. In our extension, the commissions vary by type of financial advisor. Also, we interpret the potential loss as the cost of driving away discerning clients who recognize that the advice is sub-optimal. Further, as we shall see below, we allow men and women to vary in their ability to evaluate the quality of advice.

Let a denote an advisor belonging either to a securities firm (SF) or a financial planner (FP) firm. He/she advises a retail investor i who is defined by four independently distributed attributes: risk tolerance level (r), confidence (c), geographical outlook (o), and financial knowledge (l). If advisor a gives dominated advice to investor i — advice to buy only a few risky securities or to buy only Hong Kong securities — the pay-off is V_{ai}, which is the present value of the *extra* commissions generated over an infinite time horizon. Here *extra* means that this commission is over and beyond the commission obtained by giving optimal advice; this drives the conflict of interest. This pay-off is made up of the extra commissions generated by the advisor in the initial period, and the discounted value of the future stream of extra commissions if the client maintains the relationship. We make the simplifying assumption that the per-period extra commission π_a is constant over time. The parameter θ_{ai} measures the probability that the client i is satisfied with advisor a, and so returns for advice in the next period.

Therefore, the advisor's pay-off can be written as:

$$V_{ai} = \pi_a \left[1 + \sum_{t=1}^{\infty} \lambda^t \, \theta_{ai}(r_i, c_i, o_i, l_i)\right] \tag{1}$$

The term λ denotes the rate at which future extra commissions are discounted, and is assumed to be common to all advisor types. The probability $\theta_{ai}(\cdot)$ that the client returns to the advisor in future periods depends on the client's risk tolerance, confidence, geographic outlook, and financial knowledge. Below we provide further detail.

As we discussed in the previous section, securities firms are brokers and so directly earn trade commissions from executing their clients' orders on the stock exchange. In contrast, financial

planning firms must channel these orders to *their* affiliated brokers, and may or may not receive a share of these trade commissions. Given that dominated advice is defined as advice to buy only a few risky securities or to buy only Hong Kong securities, and trading commissions arise from recommending these securities that trade in the local stock exchange, it follows that:

$$0 < \pi_{\text{FP}} < \pi_{\text{SF}} \tag{2}$$

The client's financial knowledge l is an important element in our model. More knowledgeable clients are more likely to detect the quality of the advice they receive. Therefore, they are less likely to maintain a relationship with an advisor who gives them advice that is dominated. We write this as:

$$\left\{ \frac{\partial \theta_{ai}}{\partial l} \mid dominated\ advice \right\} < 0 \tag{3}$$

Clients also like to be catered. Those who have a high degree of risk tolerance are more interested in purchasing individual risky securities, and so are more satisfied if the advisor recommends such products. Similarly, clients who are very confident likely believe they can "beat the market," and so are more likely to be satisfied if the advisor recommends individual risky securities. Clients with a domestic outlook prefer to invest in firms that they are familiar with, and so are more satisfied if the advisor recommends the securities of local firms. We write this formally as:

$$\frac{\partial \theta_{ai}}{\partial r} > 0; \ \frac{\partial \theta_{ai}}{\partial c} > 0; \frac{\partial \theta_{ai}}{\partial o} > 0 \tag{4}$$

Further, since securities firms provide a homogeneous service in a fiercely competitive industry, *once* a client opens an account with a particular securities firm, he/she has little incentive to switch to a different securities firm. In contrast, since financial planner firms tailor advice to the client's circumstances, clients are more likely to "shop around" among financial planner firms.

We, therefore, assume that a securities firm always expects to retain a client once they receive their business, whereas a financial planner only retains the client with a probability less than 1.[11]

$$\left.\begin{array}{l} \theta_{SF}(r_i, c_i, o_i, l_i) = 1 \\ 0 < \theta_{FP}(r_i, c_i, o_i, l_i) < 1 \end{array}\right\} \quad (5)$$

Finally, in line with the empirical facts, we assume that advisors perceive that the average female prospective client has less financial knowledge than the average male prospective client.

$$E[l_i(i = \text{man})] > E[l_i(i = \text{woman})] \quad (6)$$

This model delivers the following implications. First, by plugging in assumptions (2) and (5) into expression (1), we get:

$$V_{SF} = \pi_{SF} \left[1 + \sum_{t=1}^{\infty} \lambda^t\right] > V_{FP} = \pi_{FP} \left[1 + \sum_{t=1}^{\infty} \lambda^t \, \theta_{FP}(r, c, o, l)\right] \quad (7)$$

Not only does the securities firm earn larger trade commissions than the financial planner, but it also has less to lose from giving poor advice because securities firms tend to compete on price rather than the quality of advice. The financial planner is more hesitant to give poor advice for fear of driving away the client. This gives us:

Implication 1: Advice from securities firms is more likely to be undiversified and home-biased than advice from financial planners.

As we saw above, financial planners face greater competition on quality of advice, and so their incentive to retain a client by providing quality advice is greater than the incentive that securities firms have. This further creates variation in whether they would give sub-optimal advice. From assumption (6), where men are assumed to have more financial knowledge than women, the long-term payoff of giving sub-optimal advice to men is considerably lower than giving such advice to women. This generates:

---

[11] Note, we do not consider the possibility that a client of a securities firm might switch to a financial planner. This is because financial planners offer a larger range of services, and so an investor could continue to maintain the relationship with their securities firm even if they engage a financial planner.

Implication 2: Financial planners are more likely to give sub-optimal advice to female clients than to male clients. Securities firms are less likely to differentiate advice according to the clients' gender.

Assumption (4) implies that clients are more likely to be satisfied with the advice and return to the advisor if the advisor recommends a product in line with their own preferences. This creates an incentive for advisors to "cater" their advice to the client's characteristics: for example, to give risk-tolerant clients more undiversified advice than they give to risk-intolerant clients. However, the strength of this incentive varies by firm type. Financial planning firms face a strong incentive to cater to the client's characteristics. However, in securities firms, this incentive is weaker, because securities firms compete on service fees rather than on the content of their advice. In our model, this is denoted by assumption (5) where $\theta_{SF} = 1$, or, in other words, the client continues the relationship with the securities firm even if they receive dominated advice.

At financial planning firms, the incentive to give dominated advice is tempered by the concern that clients who detect that they have received poor quality advice may not return. Recall that it is believed that male clients are more likely to detect that the advice is suboptimal. This constrains the financial planner from catering to the male client's characteristics, but has less of a constraining effect when the client is female. This gives us:

Implication 3: Among the highly risk-tolerant or highly confident or domestic outlook clients, financial planners are more likely to give dominated advice to female than to male clients.

In what follows, we will examine if these implications hold in our data.

III.   Study Design

We start by identifying our sampling frame: all firms in Hong Kong that advise retail investors. Below we briefly describe the process we followed. We provide more detail in the Data Appendix. We obtained from the Hong Kong Securities and Finance Commission (SFC) website the list of all individuals who held an active Type 4 license that allows them to practice as a financial advisor, as of February 2017. For each such individual, the website also reports the name of the firm where he/she is employed, thereby allowing us to compile a list of all firms where advising services

were potentially available.[12] We removed multinational firms since they are likely to determine their operating procedure at a global level, and so their advisors in Hong Kong may be relatively constrained in how they conduct themselves. All firms that belonged to the same parent company were treated as a single firm, and all firms that did not publicly provide contact information were removed from our list.[13]

In Summer 2018, we created the final sample. In order to arrive at this sample, our bilingual research assistant contacted each firm individually, via telephone or email. Using a free-flowing Cantonese script, she pretended to be a potential retail customer. This helped us identify firms that were not suitable.[14] After removing them, our list consisted of 90 individual firms, which together corresponded to 191 branch offices where audits could be conducted. We included all 191 branch offices in our study.[15]

Our experiment was designed so that each auditor embodied an *avatar* comprising of three attributes: risk tolerance, confidence, and geographic outlook. We allowed each attribute to take two values: the person could have high or low risk-tolerance, high or low confidence, and a domestic or an international outlook. This created 8 possible combinations – 8 avatars – of these three attributes. We then hired a market research firm to employ 32 auditors (16 men and 16 women) and assigned each avatar to 4 auditors (2 men and 2 women). We then conducted a stratified random assignment of the branch offices to these 32 auditors, allocating between 18 and

---

[12] Employers apply for Type 4 licenses on behalf of the employee; thus each Type 4 license corresponds to an employer-employee pair. If the employee leaves this firm's employment, the license becomes inactive. This ensured that we correctly identified the universe of all firms that provided financial advising services.

[13] If a firm does not post its contact information publicly, a prospective client is unlikely to be able to schedule an appointment with an advisor in that firm. So such a firm does not qualify for our study.

[14] Through these conversations, the research assistant screened out banks that only advised depositors and firms that only advised corporate clients, only accepted referred clients, only advised clients after they had made an initial deposit, provided a trading platform but did not advise clients, and those that only sold specific products, such as gold, insurance, or futures.

[15] We initially assigned 111 of the191 branch offices to auditors, and held 80 branch offices in reserve to be used for replacements if a visit failed. We created 594 branch × auditor random assignments, linking 32 auditors to 111 firm-branches from 73 firms. Our power calculations from the statistics obtained from an initial pilot study had estimated this sample size to be large enough. Details are provided in Section B of the Data Appendix.

20 audit visits to each auditor.[16] Below we discuss the important considerations that went into our assignment.

First, every branch office received multiple visits. To maximize the precision of our estimates, we balanced the gender × avatar assignment across these multiple visits as well. Second, it was critical that the auditors maintain the appearance that they were potential clients. Since the advisor could have asked to see the auditor's Hong Kong identification card, we asked each auditor to truthfully provide his/her name at each appointment and visit. Thus the role-play was only meant to signal the avatar. Visits were only attempted after appointments were confirmed. Firms may have had central appointment scheduling databases across their multiple branch offices, and so we were careful to send an individual auditor to visit a firm only once.

Third, since our goal is to describe the quality of advice that the average retail client in Hong Kong receives, it was important that we oversample firms that had more branch offices.[17] This requirement had to be balanced against the concern that each additional audit visit to the same branch increased the likelihood that the advisors would suspect that an audit study was underway. Therefore, we assigned a larger number of visits to firms with more branches, while limiting the total number of visits per branch office to 6 (each by a different auditor).

Fourth, and finally, whenever a visit failed, we replaced it with a visit to another branch office, while adhering to all of the constraints listed above. The distribution of the originally assigned visits and the actual visits are in Table D.1 in the Data Appendix. Section E in the Data Appendix gives details about these failed visits. It is important to mention here that these reasons for failed visits seem unlikely to be related to our outcome of interest – i.e. advisors who are likely to treat women worse are not overrepresented in our analysis sample.

---

[16] These men and women scheduled and attended their appointments independent of each other. Auditors were strictly advised to never reveal that they were part of an audit study, and they also could not reveal any connection with other auditors who may have visited that same branch.

[17] Admittedly, we do not know the actual number of clients that each firm has, but it is reasonable to assume that firms with a larger number of branch offices cater to a larger number of clients.

During September 2018-March 2019, our auditors conducted 463 visits to 102 branch offices across 65 individual firms. As we discussed above, each of the 32 auditors was assigned to a unique combination of risk tolerance, confidence, and geographic outlook attributes, or an avatar. We provided the auditors with scripts that they could incorporate into their conversation in order to signal their avatar. They were required to embody that avatar at all visits they conducted. In this way, they were less likely to "blow their cover" by forgetting their lines or to mistakenly signal a different avatar from the one assigned to them. The scripts were worded so as to be as simple and natural as possible.

To signal that they were highly risk-tolerant, the auditor was asked to say, *"I don't mind if I lose money sometimes in bad times, but I want to make good money when the times are good. So, I can afford to lose some money."* In contrast, an auditor signaling that he/she had a low tolerance for risk would say, *"I want to buy something that is safe. I worry that if I make a mistake I will lose my money. I can tolerate a little loss, but not much."* An auditor who was pretending to be very confident was asked to say, *"I usually make financial decisions myself. I don't usually take the help of advisors. I am only here because my good friend insisted that I meet you before I make any decisions."* Someone signaling low confidence was asked to say *"I have never made important financial decisions on my own before. In my household, my parents/spouse have always done this. That is why I need your advice."*[18] Finally, an auditor with an international outlook would say, *"My cousin lives in Canada and I am thinking of moving to Canada. I am not sure that I want to retire here,"* while someone with a domestic outlook would say, *"I was born here and I intend to retire here."* Auditors assigned to avatars with a domestic outlook were also told not to mention any relatives that lived abroad.

---

[18] Our theoretical model assumes that confidence and financial knowledge are orthogonal. This assumption is carried over to our empirical design: we assume that when the auditors signal their confidence using this script, this does not reveal their financial knowledge. However, in reality, it is possible that advisors interpreted the high confidence script as signaling self-belief about high financial literacy instead. If self-belief about financial literacy is positively correlated with actual financial literacy (Allgood and Walstad 2015), then this might cause advisors to advise high confidence-signaling auditors as they would advise their highly financially literate clients. Note, by this argument, both men and women who signal high confidence should receive non-dominated advice. Instead we find that confident women (but not men) are more likely to received *dominated* advice.

In addition to teaching them how to signal their attributes, the market research firm trained auditors to pose as a client. They were instructed to act as if they were "retail investors going for the first time to the financial advisor, to check them out as potential future personal financial advisors." Investment objective, investment amount, and other details, were kept the same across the visits. They were expected to insert the avatar signals from the script naturally in a free-flowing conversation.[19]

It is common for financial advisors to administer a risk profile questionnaire to first-time clients. In order to ensure that auditors created a realistic risk profile that would match their avatar, we created sample answers for questions that are typically included in these questionnaires. The market research firm trained auditors to provide these answers on the risk-profile questionnaires. We also provided the market research firm with training instructions (in both English and Cantonese), so that they could carefully train the auditors to ensure that their role-playing was credible. The training sessions were conducted in Cantonese. Our bilingual research assistant attended these sessions to ensure consistent last-mile delivery of the instructions.

We collaborated with the market research firm to choose the criteria for hiring auditors. Our goal was to employ a relatively homogenous group of individuals so that the experimentally varied attributes generated the bulk of the variation in the way that they were perceived by the advisors. It was also important that the hiring criteria be realistic since we needed to identify a demographic group that would be available for part-time work as auditors (or "mystery shoppers"). Accordingly, all our auditors were Hong Kong residents in the age group 30-45 years, with Cantonese as their native language. See Section C in Data Appendix provides more details.

Advisors might believe that highly educated prospective clients are savvier about financial matters, and so our auditors' avatars may have been less credible if they were well-educated. Therefore, we instructed the market research firm to only recruit persons with either no post-secondary schooling or a post-school sub-degree or vocational degree. In particular, we requested

---

[19] In 6 individual visits, auditors reported that advisors appeared to remember having met an auditor previously. To avoid any biases caused by contamination, we did not include these 6 visits in our estimation sample. In addition, we dropped the visit immediately prior.

them not to hire candidates with bachelor's degrees.[20] Similarly, we required that individuals had either no or limited experience trading on the stock exchange. We set a moderate range for their income level: their (self-reported) current monthly household income per adult earning member needed to lie between HK\$20,000 and HK\$60,000 (USD 2575 to USD 7725).[21] After the auditors had been hired, they reported their characteristics to us through an online questionnaire that we had designed. Five individuals quit during the study and were replaced.[22] Table I presents descriptive statistics for all 37 individuals who were auditors. Note, however, that at any point, only 32 auditors were involved, with two men and two women playing each of the 8 avatars.

---

[20] Despite this instruction, one auditor did have a Bachelor's degree in Journalism. However, he fulfilled all other criteria: age, monthly income and net worth, and limited investment experience.

[21] The average monthly salary in Hong Kong in 2018 was HK\$16,791 in 2018 (Hong Kong SAR, 2018). Note, some criteria were such that the market research firm could not have verified the candidates' self-reported information, and candidates may have lied in order to qualify for the job. To avoid this, we requested the market research firm *not* to advertise these non-verifiable hiring criteria, but to use them to screen out candidates after they had applied for the job.

[22] We have information about the reasons why four of the five auditors discontinued before the fieldwork ended. One female auditor quit because of an accident, and one male auditor left Hong Kong on a month-long business trip. The market research company fired one male and one female auditor about one-third of the way into the study on grounds of unsatisfactory performance, specifically because it appeared they did not probe sufficiently to ascertain the advisors' product recommendations.

Table I: Characteristics of the Auditors

This table shows the summary statistics for the characteristics of the auditors. The study started with 32 auditors, but during the study 5 new auditors were hired to replace the 5 auditors who left. The summary statistics are reported for all 37 individual auditors.

	All	Male N=19	Female N=18
	(1)	(2)	(3)
Age (Mean)	40.42	39.00	41.93
Married (Fraction)	0.84	0.68	1.00
Number of children (Mean)	0.97	0.74	1.22
Currently Employed (Fraction)	0.84	0.95	0.73
Lives in own house (Fraction)	0.54	0.63	0.44
Has a mandatory provident fund plan (Fraction)	0.81	0.95	0.67
Never traded stocks before (Fraction)	0.43	0.32	0.56
Number of times traded stocks in last year (Fraction)			
Zero	0.49	0.42	0.56
1 to 2 times	0.30	0.37	0.22
3 to 4 times	0.22	0.21	0.22
Education (Fraction)			
Less than senior secondary school	0.05	0.00	0.11
Senior secondary school	0.59	0.53	0.67
2 year degree / Sub-degree	0.32	0.42	0.22
Bachelor's degree	0.03	0.05	0.00
Net worth (Fraction)			
Less than $100,000	0.16	0.11	0.22
$100,000-$499,999	0.38	0.32	0.44
$500,000-$999,999	0.24	0.37	0.11
$1,000,000-$4,999,999	0.22	0.21	0.22

Unsurprisingly, male and female auditors differed in a number of characteristics. The women were on average three years older than the men. All the women, but only about two-third of the men, were married. Accordingly, the average women auditor had more children. This likely reflects gender differences in labor force participation: married women with children are more likely to work part-time, whereas for men marital status and parenthood are less likely to be correlated with part-time work. This is borne out further by the fact that only three-quarter of the women auditors were employed at the time that they were recruited into our study, whereas nearly all the men were. This fact is also reflected in their lower probability of holding a mandatory

provident fund.[23] Men were more educated than women: 47% (22%) of men (women) had studied beyond senior secondary school. Men also reported owning greater wealth than women did: 58% (33%) of men (women) reported a net worth above HK$500,000.

We had specifically instructed the market research firm to only hire individuals who had traded stocks less than 6 times in the previous year. We see in Table I that they complied with these instructions. In fact, 56% of the women auditors and 42% of the male auditors reported that they had not traded stocks at all in the previous year.

After they completed each visit, auditors were given 24 hours to fill in an online questionnaire where they reported on various details of the visit.[24] The market research firm followed its internal quality control procedures to verify these details. These data form the basis for our empirical analysis. The purpose of our study was not revealed to the market research firm or to the auditors. Section D of the Data Appendix provides details on protocol.

IV. Randomization Balance and Summary Statistics

We had planned our audits so that each avatar was role-played by an equal number of men and women. As we can see from the green (lighter) bars in Figure 1 Panel A, our original schedule included 149 visits by men and 149 visits by women playing a low risk-tolerance avatar and 148 visits by men and 148 visits by women playing a high risk-tolerance avatar. As we described above, some visits were unsuccessful and so we replaced them with visits to the branch offices we had held in reserve. The brown (darker) bars show that this did not create an imbalance in our actual visits: as we see, we had 115 visits by men and 119 visits by women auditors playing low risk tolerance avatars, and 113 visits by men and 116 visits by women playing high risk tolerance avatars. The visits were also gender-balanced in terms of the confidence (Panel B of Figure 1) and the geographic outlook (Panel C of Figure 1) attributes.
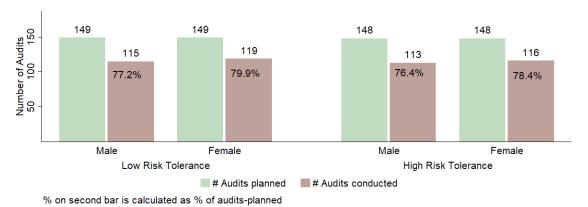
---

[23] In Hong Kong, employers are required to contribute to the mandatory provident fund for all employees who have a contract longer than 60 days, whether full-time or part-time.

[24] We also asked the auditor to report the advisor's gender.

Figure 1: Gender Balance by Risk Tolerance (Panel A), by Confidence (Panel B), and by Outlook (Panel C)
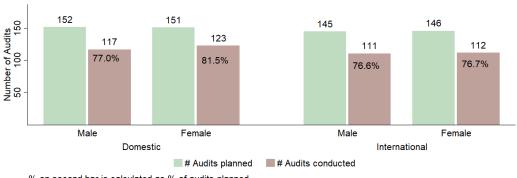

Panel A. Gender Balance - by Risk Tolerance

Panel B. Gender Balance - by Confidence

Panel C. Gender Balance - by Outlook

It is also useful to know the gender of the advisor that our auditors met. Our study randomly assigned auditors to particular branches, but we could not select which advisor was assigned to meet our auditor. We are not aware of any norms about how advisors are assigned to meet with prospective clients. If firms simply assign to each prospective client the first available advisor, then it is reasonable to think that the advisor match was random. However, firms could also selectively match advisors to clients based on the client's characteristics, specifically their gender, since that was observable at the time when the auditor made the appointment or walked in. Table II gives us statistics on matching of auditors to advisors.

Table II: Number of Visits by Gender of Financial Advisor and Auditor, and by Advisor Type

	Male Advisor (1)	Female Advisor (2)	Total Number (3)
All Firms			
Male Auditor	0.73 (0.48)	0.27 (0.52)	228
Female Auditor	0.76 (0.52)	0.24 (0.48)	235
Total	344 (0.74)	119 (0.26)	463
Financial Planning Firms			
Male Auditor	0.82 (0.49)	0.18 (0.50)	37
Female Auditor	0.82 (0.51)	0.18 (0.50)	38
Total	61 (0.81)	14 (0.19)	75
Securities Firms			
Male Auditor	0.71 (0.48)	0.29 (0.52)	191
Female Auditor	0.75 (0.52)	0.25 (0.48)	197
Total	283 (0.73)	105 (0.27)	388

Note first that our auditors were substantially more likely to meet male advisors than female advisors. Across both types of firms, auditors met female advisors in only 25.7% of the visits. Most likely, this is explained by the fact that many more advisors are male. Importantly, there is no evidence of a specific effort to either match prospective clients to advisors of their own gender,

or of the opposite gender: when women conducted the audit they were about as likely (24.3%) to meet a female advisor as when men conducted the visit (27.2%). This pattern is also similar across the two types of firms.

V. Empirical Results

We now proceed to analyze the quality of advice received by the auditors. Within 24 hours of the visit, auditors filled in an online questionnaire about the audit, where, among other things, they reported to us the name of each product that the advisor suggested to them. Table III shows us the types of products that were recommended.

Table III: Distribution of Recommendations across Product Classes

This table shows the number of visits in which a given class of products was recommended by the Financial Planners and Securities Firms. Column 1 (4) shows the fraction of visits where Financial Planners (Securities Firms) recommended at least one product in that class. Column 2 (5) shows the mean and Column 3 (6) shows the median number of products recommended within that class. The fractions in columns 1 or 4 sum to more than one because advisors may recommend products belonging to different classes in the same visit.

	Visits to Financial Planners			Visits to Securities Firms		
	(1)	(2)	(3)	(4)	(5)	(6)
	Fraction	Number of products recommended		Fraction	Number products recommended	
Product Description		Mean	Median		Mean	Median
Stocks	0.51	2.1	2	0.60	2.3	2
ETF	0.13	1.0	1	0.21	1.2	1
REIT	0.09	1.0	1	0.07	1.0	1
Traded on exchange	0.56	1.0	1	0.67	1.0	1
Government bonds	0.03	1.7	1	0.02	1.0	1
Insurance	0.02	1.5	2	0.02	1.0	1
Not traded on exchange	0.05	1.0	1	0.04	1.0	1
Mutual fund	0.37	2.0	2	0.06	1.1	1
Others	0.04	-	-	0.02	5.0	5
No recommendation	0.25	-	-	0.31	-	-

As we discussed above, securities firms specialize in products that trade on the stock exchange, and so it is not surprising that they often recommend such products. This includes

stocks (which were recommended in 60 percent of the visits), exchange-traded funds (or ETFs, recommended in 21 percent of visits) as well as real estate investment trusts (or REITs, recommended in 7 percent of visits). Other products that do not trade on the stock exchange were considerably less likely to be recommended. Table III shows financial planners recommended a larger variety of products. However, even FPs recommended products that trade on the stock exchange in 56% of the visits.

Interestingly, in 30 percent of the visits, advisors did not recommend any specific product. Table IV helps to understand what was discussed in these 139 visits. The refusal to provide specific advice is mainly concentrated at securities firms (120 of 139). Further, in 56 percent of these 120 visits, the advisor in the securities firm claimed that their firm only provided a trading platform but did not give customized advice. In 25 percent they administered the risk profile questionnaire or discussed risk diversification strategies, and in 39 percent they encouraged the auditor to open an account before they would give advice. In some visits, they described the different asset classes and the current market trend. Financial planners who did not advise the auditor were understandably less likely to claim that they did not advise clients or to encourage the auditors to open accounts.

Table IV: Content of Conversations where Advisor Did Not Recommend a Specific Product

	Financial Planners	Securities Firms
	N=19	N=120
	(1)	(2)
Claimed that firm provided a trading platform but did not advise	0.37	0.56
Administered risk questionnaire or discussed diversification strategies	0.26	0.25
Encouraged auditor to open an account or discussed transactions fees	0.16	0.39
Described different asset classes and securities	0.11	0.13
Explained the market trend	0.00	0.07

Importantly, in what follows, all visits where the auditor did not receive a specific advice will be coded as having received undominated advice. This means that our results are not being driven by an endogenous selection of visits where advisors choose to give advice. Instead, our estimates of the incidence of dominated advice are lower than they would be if we had chosen to remove these visits from our estimation sample. As a robustness check, we run multinomial regressions

in which the diversification-related dependent variable has three possible categories: No Advice, Undiversified Advice (UA) and Not Undiversified Advice. The last category is the reference category. Similarly, we also run multinomial regressions in which the home-bias related dependent variable has three possible categories: No Advice, Home-Biased Advice (HB) and Not Home-Biased Advice. The last category is the reference category. These results are shown in the Internet Appendix, and the interpretation of these results are given in Section VI (E).

As we argued before, the purchase of any single risky security is dominated by the purchase of a basket of securities or a government bond. This is because any investor who only purchases individual risky securities is exposed to an idiosyncratic risk that could be diversified away. Therefore, we code the advice given in an audit visit as "undiversified" if the advisor only recommended individual risky securities to the auditor.

This classification allows us to circumvent the usual problems that arise with evaluating the quality of financial advice. *Ex-post* measures of advice quality such as the raw (or risk-adjusted) rate of return on the portfolio are not appropriate in our context, because in an initial visit, the advisor is unlikely to discuss exact portfolio shares of each product they recommend. *Ex-ante* measures, such as the distance from an efficient portfolio, are also inherently problematic because they require that we observe the client's true risk appetite and the feasible opportunity set. Our definition provides a simple and conservative measure of the extent to which advisors give prospective clients dominated advice. Importantly, advisors at both securities firms (SF) and financial planning (FP) firms are able to recommend diversified products, if they choose to. For example, SFs could recommend baskets, such as exchange-traded funds (ETFs), rather than individual risky securities, whereas FPs could recommend baskets, such as mutual funds rather than individual risky securities. Our research focuses on this choice to recommend non-diversified over diversified products.

We also classify the advice as "home-biased" if the advisor only mentioned products domiciled in Hong Kong: either stocks of firms headquartered in Hong Kong or mutual funds or ETFs that are invested in the stocks of firms headquartered in Hong Kong.

Table V presents the summary statistics of the variables described above. Panel A provides univariate statistics testing Implication 1 of our model, whereas Panel B provides univariate statistics testing Implication 2 of our model.

Table V: Advice Quality by Firm Type and Auditor's Gender

This table shows the difference in advice quality by financial-advisory firm type and by auditor's gender. Panel A shows the difference by type of firm, while Panel B shows the difference by auditor's gender within each type of firm.

<div align="center">

Panel A: Advice Quality by Firm Type

	Undiversified Advice (UA) (1)	Home-Biased Advice (HB) (2)
All firms	0.384	0.389
Securities Firms (SF)	0.410	0.397
Financial Planners (FP)	0.253	0.347
Diff (SF – FP)	0.157**	0.050
p-value	*0.011*	*0.414*

Panel B: Advice Quality by Firm Type and Auditor's Gender

	Securities Firms		Financial Planners	
	UA (1)	HB (2)	UA (3)	HB (4)
Male	0.393	0.361	0.135	0.243
Female	0.426	0.431	0.368	0.447
Diff (M-F)	-0.034	-0.070	-0.233**	-0.204*
p-value	*0.50*	*0.16*	*0.02*	*0.06*

</div>

In Panel A Column (1), we see that across both types of firms, in 38.4% of the visits, the advisor only recommended single risky securities, or in other words, gave undiversified advice. Note, however, this propensity is significantly more pronounced among advisors employed by securities firms (41%) than those employed by financial planning firms (25%). The difference is statistically significant (*p-value = 0.011*). Column 2 of Panel A shows that in 38.9% of the visits, the advisor recommended only local securities. Again, to the extent that products domiciled in only one region of the world expose the client to avoidable idiosyncratic risk, this advice is dominated. Note, however, that this propensity to give home-biased advice is equally prevalent

among advisors at securities firms and at financial planners. These univariate statistics suggest that it is common for financial advisors to give dominated advice, but securities firms give worse advice than financial planners for undiversified advice (but not home-biased advice). This is partial evidence in favor of Implication 1 of our model.

In columns (1) and (2) of Panel B, we notice that both men and women who visit securities firms are about equally likely to receive dominated advice. A male auditor visiting a securities firm was offered undiversified (home-biased) advice 39.3% (36.1%) of the time, whereas a female auditor was offered undiversified (home-biased) advice a very similar 42.6% (43.1%) of the time. In contrast, in columns (3) and (4), we see that financial planners treat men and women differently: they are significantly more likely to give undiversified (home-biased) advice to female than to male auditors. A male auditor visiting a financial planner was offered undiversified (home-biased) advice 13.5% (24.3%) of the time, whereas a female auditor was offered undiversified (home-biased) advice 36.8% (44.7%) of the time. The differences are 23.3%, *p<0.05* (20.4%, *p<0.10*). These univariate statistics suggest that financial planners are more likely to give sub-optimal advice to female clients than to male clients, whereas securities firms are less likely to differentiate advice according to the clients' gender. This is evidence in favor of Implication 2 of our model.

We now proceed to examine Implications 1 and 2 more rigorously using multivariate tests. To more formally test Implication 1 of our model, we run the following regression (8) on our sample of 463 audit visits. In all regressions, standard errors are clustered at the level of the auditor. In the Internet Appendix, we show results where standard errors are clustered at the level of the branch.

$$y_{ai} = \alpha + \beta \text{ Financial Planner}_a + \gamma \text{ High Risk Tolerance}_i + \delta \text{ High Confidence}_i$$
$$+ \mu \text{ International Outlook}_i + X_i + \epsilon_{ai} \tag{8}$$

Here, the dummy variable y_{ai} refers to the quality of advice that the auditor *i* received when they

visited an advisor a.[25] Recall that we classify the advice as "undiversified" ("home-biased") if the advisor *only* recommended individual risky securities (securities domiciled in Hong Kong). The dummy variable Financial Planner$_a$ takes value 1 if the firm is a financial planner, and 0 if it is a securities firm.[26] We also created three dummy variables to indicate the risk tolerance, confidence level, and geographic outlook of the avatar of the randomly assigned auditor who conducted the visit. Finally, the vector X_i includes controls for the age, education level, and net worth of the auditor.

The results are shown in Table VI. In Columns (1)–(3) of Table VI, the dependent variable takes value 1 if the advisor recommended only single risky securities, and 0 otherwise. Column (1) essentially replicates the result from Column (1) of Panel A, Table V. We had noticed there that advisors at securities firms gave undiversified advice in 41 percent of audit visits, whereas financial planners did so in a significantly smaller 25 percent of visits. In Column (2) of Table VI, we control for the three dummy variables that indicate the randomly assigned avatar of the auditor. In column (3) of Table VI, we additionally control for the auditor's personal characteristics. Our main result survives these controls.

In Columns (4)–(6) we run the same specifications, but with the dependent variable taking value 1 if the advisor recommended only local securities. We do not find a statistically significant coefficient on the Financial Planner variable. Again, this result holds when we control for both the randomly assigned as well as naturally varying auditor characteristics in columns (5) and (6). These results are consistent with the results in Column 2 of Panel A, Table V.

To summarize, we find partial evidence in favor of Implication 1 from our model: Advice from securities firms is more likely to be undiversified than advice from financial planners. Advisors from both firms, however, are equally likely to give home-biased advice.

---

[25] Note that each observation is our dataset is a visit by a particular auditor to a particular branch office of an advisory firm. In our empirical specifications, a branch office is considered synonymous with an advisor. In reality, of course, branch offices may employ multiple advisors.

[26] We classify firms into securities firms versus financial planners on the basis of the information they provided to our research assistant during the initial phone calls she made, as described in Section III.

Table VI: Advice Quality and Type of Firm

This table shows the estimation result of regressing *Undiversified advice* and *Home-biased advice* on the advisor type. Financial Planner is a dummy variable taking the value of 1 (0) when the advisor is from a Financial Planner firm (Securities firm). *High Risk Tolerance, High Confidence,* and *International Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and international (domestic) outlook in the audit visit, respectively. *Educated beyond sr. the secondary school* takes the value of 1 if the auditor education is higher than senior secondary school. *Net Worth above HK$500,000* takes the value of 1 if the net worth of the auditor is more than HK$500,000. *Age* is the age of the auditor in years. Standard errors are clustered at the auditor-level and reported in parentheses below coefficients. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level.

	Undiversified Advice			Home-biased Advice		
	(1)	(2)	(3)	(4)	(5)	(6)
Financial Planner	-0.156***	-0.151***	-0.150***	-0.050	-0.072	-0.073
	(0.053)	(0.052)	(0.052)	(0.058)	(0.057)	(0.059)
High Risk Tolerance		-0.007	-0.021		-0.202***	-0.232***
		(0.045)	(0.046)		(0.052)	(0.050)
High Confidence		0.110**	0.104**		0.091*	0.092**
		(0.046)	(0.044)		(0.052)	(0.044)
Domestic Outlook		-0.050	-0.064		0.029	0.013
		(0.044)	(0.038)		(0.053)	(0.051)
Educated beyond sr. secondary school			-0.002			-0.049
			(0.063)			(0.057)
Net Worth above HK$500,000			-0.065			-0.099*
			(0.056)			(0.055)
Age			0.005			-0.000
			(0.005)			(0.005)
Constant	0.410***	0.383***	0.214	0.397***	0.440***	0.525**
	(0.027)	(0.046)	(0.197)	(0.034)	(0.074)	(0.197)
Observations	463	463	463	463	463	463
R-squared	0.014	0.030	0.035	0.001	0.053	0.067

To test Implication 2 of our model more formally, we run the following regression separately for financial planners (FP) and securities firms (SF):

$$y_{ai} = \alpha + \beta \text{ Female Auditor}_i + \gamma \text{ High Risk Tolerance}_i +$$

$$\delta \text{ High Confidence}_i + \mu \text{ International Outlook}_i + \boldsymbol{X_i} + \epsilon_{ai} \qquad (9)$$

where Female Auditor is an indicator for whether a female auditor conducted the visit. The other variables are defined the same way as in (8).

Columns (1)–(6) of Table VII measures advice quality using the dependent variable Undiversified Advice. As column 1 shows, when they visited financial planning firms, women auditors were 23 percentage points more likely to receive advice only to buy single risky securities than men auditors. The estimate remains stable and highly significant when we control for the randomly varying avatar attributes in column 2 and even increases in magnitude when we further control for auditor characteristics in column 3.

In contrast, when we run the same specification using the sample of visits to securities firms in columns (4)–(6), we find no evidence that advisors varied their recommendation quality by auditor gender. As discussed earlier, this is consistent with the idea that securities firms compete on service fees rather than advice content, and so advisors at SFs are less likely to be concerned that clients who detect poor advice quality would terminate the relationship.

In Table VII, columns (7)–(12), we run the same specifications as in columns (1)–(6), but measuring advice quality using the indicator variable Home-biased Advice. Again, we find that financial planners are more likely to recommend only local securities to female clients than they are to male clients. Once again, securities firms do not appear to vary advice quality by the client's gender.

To summarize, we find strong evidence in favor of Implication 2 from our model: Financial planners are more likely to give sub-optimal advice to female clients than to male clients. Securities firms are less likely to differentiate advice according to the client's gender.

Table VII: Gender Difference in Advice Quality and Type of Firm

This table shows the estimation result of regressing *Undiversified advice* and *Home-biased advice* on the auditor's gender. Columns (1)–(6) show the results of regressing *Undiversified advice*, while Columns (7)–(12) show the results of regressing *Home-based advice* on auditor's gender, estimated separately for the audit visits to Financial Planner and Securities Firms. *Female Auditor* is an indicator taking the value of 1 (0) for female (male) auditors. *High Risk Tolerance, High Confidence,* and *International Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and international (domestic) outlook in the audit visit, respectively. *Educated beyond sr. secondary school* and *Net Worth above HK$500,000* are indicator variables. *Age* is the age of the auditor in years. Standard errors are clustered at the auditor-level and are reported in parentheses below coefficients. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level.

	Undiversified Advice						Home-biased Advice					
	Financial Planner Firms			Securities Firms			Financial Planner Firms			Securities Firms		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Female Auditor	0.233**	0.243**	0.308***	0.034	0.037	0.011	0.204*	0.202	0.256**	0.070	0.072	0.051
	(0.098)	(0.095)	(0.092)	(0.053)	(0.050)	(0.065)	(0.120)	(0.120)	(0.109)	(0.067)	(0.052)	(0.049)
High Risk Tolerance		0.119	0.132		-0.028	-0.040		-0.160	-0.159		-0.209***	-0.236***
		(0.095)	(0.102)		(0.049)	(0.051)		(0.130)	(0.123)		(0.053)	(0.054)
High Confidence		0.137	0.218**		0.106**	0.099*		0.164	0.263**		0.079	0.082*
		(0.099)	(0.091)		(0.050)	(0.051)		(0.123)	(0.107)		(0.053)	(0.048)
Domestic Outlook		-0.047	0.007		-0.051	-0.064		0.026	0.083		0.031	0.023
		(0.093)	(0.093)		(0.049)	(0.042)		(0.127)	(0.119)		(0.053)	(0.055)
Educated beyond sr. secondary school			0.151			-0.007			0.217			-0.066
			(0.107)			(0.069)			(0.129)			(0.053)
Net Worth above HK$500,000			-0.131			-0.052			-0.238**			-0.072
			(0.111)			(0.062)			(0.102)			(0.059)
Age			-0.009			0.005			-0.003			-0.004
			(0.009)			(0.006)			(0.014)			(0.005)
Constant	0.135**	0.048	0.324	0.393***	0.378***	0.250	0.243**	0.220	0.254	0.361***	0.413***	0.674***
	(0.059)	(0.128)	(0.326)	(0.039)	(0.053)	(0.235)	(0.096)	(0.158)	(0.568)	(0.052)	(0.085)	(0.184)
Observations	75	75	75	388	388	388	75	75	75	388	388	388
R-squared	0.072	0.120	0.151	0.001	0.016	0.019	0.046	0.095	0.152	0.005	0.058	0.070

The experimental variation we induced in the auditor's avatar attributes allows us to examine more deeply the causes for the gender difference in advice. The third implication from our model states that financial planners are more likely to cater their advice to client attributes when the client is female than when the client is male. Tables VIII, IX, and X examine this prediction.

In Table VIII we focus on risk tolerance and use the following empirical specification:

$$y_{ai} = \alpha + \beta \text{ Female Auditor}_i + \gamma \text{ High Risk Tolerance}_i +$$

$$\omega \text{ (Female Auditor}_i \times \text{High Risk Tolerance}_i) + \boldsymbol{X_i} + \epsilon_{ai} \text{ (10)}$$

We use this specification to estimate the predicted probability that the auditor receives dominated advice, and then compute the difference in predicted probability owing to auditor's gender within a risk tolerance level. For brevity, we only report the predicted probabilities for the four gender × risk tolerance subgroups in the top panel of Table VIII, and in the bottom panel we report the difference in predicted probabilities by gender (keeping risk tolerance constant) and then by risk tolerance (keeping gender constant).

In column 2 at the bottom of Table VIII, we notice that among auditors with high risk tolerance, females are more likely to be given undiversified advice than males are (40 pp, significant at 5%), but within auditors with low risk tolerance, both genders are equally likely to receive undiversified advice (difference = 17 pp, not significant).

We depict these results in Figure 2, Panel A. The results suggest that, holding all else constant, financial planners gender differentiate amongst auditors who signal high risk tolerance, but do not do so if the auditors signal low risk tolerance.

In Table IX we focus on confidence and use the following empirical specification:

$$y_{ai} = \alpha + \beta \text{ Female Auditor}_i + \delta \text{ High Confidence}_i +$$

$$\omega \text{ (Female Auditor}_i \times \text{High Confidence}_i) + \boldsymbol{X_i} + \epsilon_{ai} \qquad \text{(11)}$$

In column 2 at the bottom of Table IX, we see that among auditors with high confidence, females are more likely to be given undiversified advice than males are (34 pp, significant at 5%). Within auditors with low confidence, females are also more likely to be given undiversified advice than males are (24 pp, significant at 10%), but magnitudes are lower than in the high confidence case.

Table VIII: Gender Difference and Auditor's Risk Tolerance in Financial Planner Visits

The top of this table shows the predicted probabilities (Prd. Pr.) to receive *Undiversified Advice* by auditor's gender and risk tolerance for visits to Financial Planners. The probabilities are obtained from regression equation (10). *Demographic Controls* include dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000)* and auditor's age (in years). At the bottom of the table, we report the difference in the probability (and t-test) to receive *Undiversified advice* by gender (keeping risk tolerance constant) and then by risk tolerance (keeping gender constant). Standard errors are clustered at the auditor-level and are reported in parentheses below coefficients. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% level.

	Undiversified Advice	
	(1)	(2)
Prd. Pr. [Male, Low Risk Tolerance]	0.136	0.121
	(0.085)	(0.080)
Prd. Pr. [Male, High Risk Tolerance]	0.133	0.141
	(0.085)	(0.088)
Prd. Pr. [Female, Low Risk Tolerance]	0.280***	0.286***
	(0.082)	(0.093)
Prd. Pr. [Female, High Risk Tolerance]	0.538***	0.543***
	(0.120)	(0.132)
Among High Risk Tolerance: [Female – Male]	0.405***	0.402**
	(0.147)	(0.153)
Among Low Risk Tolerance: [Female – Male]	0.144	0.165
	(0.118)	(0.126)
Among Females: [High – Low] Risk Tolerance	0.258*	0.257
	(0.145)	(0.156)
Among Males: [High – Low] Risk Tolerance	-0.003	0.019
	(0.122)	(0.130)
Demographic Controls	No	Yes
Observations	75	75
R-squared	0.112	0.118

Table IX: Gender Difference and Auditor's Confidence in Financial Planner Visits
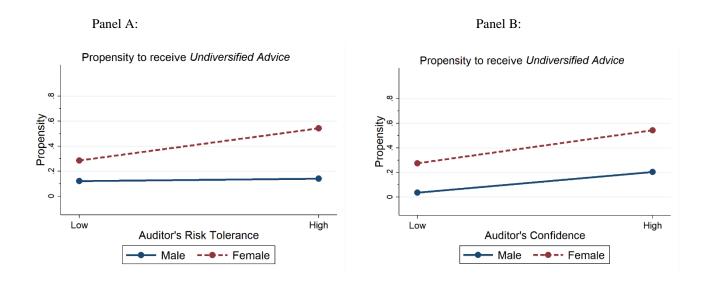
The top of this table shows the predicted probabilities (Prd. Pr.) to receive *Undiversified Advice* by auditor's gender and confidence for visits to Financial Planners. The probabilities are obtained from regression equation (11). *Demographic Controls* include dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000)* and auditor's age (in years). At the bottom of the table, we report the difference in the probability (and t-test) to receive *Undiversified advice* by gender (keeping confidence constant) and then by confidence (keeping gender constant). Standard errors are clustered at the auditor-level and are reported in parentheses below coefficients. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% level.

	Undiversified Advice	
	(1)	(2)
Prd. Pr. [Male, Low Confidence]	0.100	0.038
	(0.090)	(0.062)
Prd. Pr. [Male, High Confidence]	0.176**	0.205***
	(0.074)	(0.072)
Prd. Pr. [Female, Low Confidence]	0.273***	0.276***
	(0.088)	(0.097)
Prd. Pr. [Female, High Confidence]	0.500***	0.544***
	(0.121)	(0.122)
Among High Confidence: [Female – Male]	0.324**	0.339**
	(0.142)	(0.130)
Among Low Confidence: [Female–- Male]	0.173	0.238*
	(0.126)	(0.123)
Among Females: [High – Low] Confidence	0.227	0.268*
	(0.150)	(0.152)
Among Males: [High – Low] Confidence	0.076	0.167*
	(0.117)	(0.097)
Demographic Controls	No	Yes
Observations	75	75
R-squared	0.109	0.135

We depict these results in Figure 2, Panel B. The results suggest that, holding all else constant, financial planners gender differentiate amongst auditors who signal high risk tolerance, but do so at a lower magnitude if the auditors signal low risk tolerance.

Figure 2. Avatar Attributes, Gender, and Undiversified Advice in Financial Planner Visits

Amongst financial planners, Panel A shows the gender differences in giving undiversified advice to males and females with different risk tolerance levels. Amongst financial planners, Panel B shows the gender differences giving undiversified advice to males and females with different confidence levels.

Panel A:

Panel B:

Finally, we examine the determinants of gender difference in home-biased advice, using the specification:

$$y_{ai} = \alpha + \beta \text{ Female Auditor}_i + \delta \text{ Domestic Outlook}_i +$$

$$\omega \left(\text{Female Auditor}_{ai} \times \text{Domestic Outlook}_{ai}\right) + \boldsymbol{X_i} + \epsilon_{ai} \text{ (12)}$$

where the dependent variable indicates whether the advisor only recommended local securities. Table X shows the results.

In column 2 at the bottom of Table X, we see that among auditors with domestic outlook, females are more likely to be recommended home-biased advice than males are (34 pp, significant at 10%), but within auditors with an international outlook, both genders are equally likely to receive home-biased advice (difference = 11pp, not significant).

Table X: Gender Difference and Auditor's Geographic Outlook in Financial Planner Visits
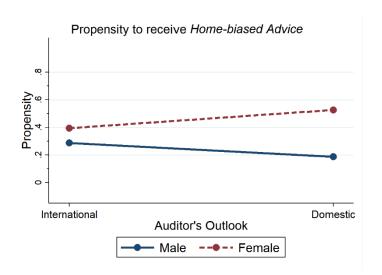
The top of the table shows the predicted probabilities (Prd. Pr.) to receive *Home-biased advice* by auditor's gender and geographic outlook for visits to Financial Planners. The probabilities are obtained from regression equation (12). *Demographic Controls* include dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000)* and auditor's age (in years). At the bottom of the table, we report the difference in the probability (and t-test) to receive *Home-biased advice* by gender (keeping geographic outlook constant) and then by geographic outlook (keeping gender constant). Standard errors are clustered at the auditor-level and are reported in parentheses below coefficients. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% level.

	Home-biased Advice	
	(1)	(2)
Prd. Pr. [Male, International Outlook]	0.278**	0.288**
	(0.133)	(0.115)
Prd. Pr. [Male, Domestic Outlook]	0.211	0.187
	(0.139)	(0.141)
Prd. Pr. [Female, International Outlook]	0.429***	0.395***
	(0.114)	(0.116)
Prd. Pr. [Female, Domestic Outlook]	0.471***	0.527***
	(0.078)	(0.087)
Among Domestic Outlook: [Female - Male]	0.260	0.340*
	(0.159)	(0.174)
Among International Outlook: [Female - Male]	0.151	0.106
	(0.175)	(0.159)
Among Females: [Domestic - International] Outlook	0.042	0.132
	(0.138)	(0.151)
Among Males: [Domestic - International] Outlook	-0.067	-0.101
	(0.193)	(0.181)
Demographic Controls	No	Yes
Observations	75	75
R-squared	0.049	0.088

We depict these results in Figure 3. The results suggest that, holding all else constant, financial planners gender differentiate amongst auditors who signal domestic outlook, but do not do so if the auditors signal international outlook.

Figure 3. Avatar Attributes, Gender, and Home-biased Advice in Financial Planner Visits

Amongst financial planners, the figure shows the gender differences giving home-biased advice to males and females with different geographic outlook.

Taken together, our results are consistent with the idea that advisors at financial planning firms attempt to "cater" to clients' risk preferences, confidence, and geographic outlook, and this tendency is much stronger when they face female clients than when they face male clients. Thus, women who exhibit that they are highly confident or highly risk-tolerant or have a domestic outlook are more likely to receive dominated advice than men who display the same attributes. This is evidence in favor of Implication 3 of our model.

VI.   Supplementary Findings

A. *Which firm type should a female investor seek advice from?*

In Table VI we saw that financial planners provide better advice than securities firms do, but in Table VII we saw that financial planners provide worse advice to women than to men, whereas securities firms do not differentiate between clients' gender. This raises an interesting question for a female investor: which type of firm should she seek advice from?

To answer this question, in Table XI, we show results from specification (8) run separately for male and female auditors. Columns (1)–(3) and (7)–(9) make it clear that a male client is about

25-26 percentage points (significant at 1%) less likely to receive undiversified advice, and 12-15 percentage points (insignificant) less likely to receive home-biased advice, if he visits a financial planner rather than a securities firm. In contrast, as we see in columns (4)–(6) and (10)–(12), both financial planners and securities firms are equally likely to give dominated advice to female clients. These results imply that it does not matter which firm type a female investor seeks advice from; both types of firms are equally likely to give her dominated advice.

Table XI: Which firm type should a female investor seek advice from?

This table shows the estimation result of regressing *Undiversified advice* and *Home-biased advice* on the type of financial advisory firm. *Financial Planner* takes the value of 1 (0) when the financial advisory firm is a Financial Planner (Securities firm). *High Risk Tolerance, High Confidence,* and *International Outlook* take the value 1 (0) when an auditor plays the avatar of high (low) risk tolerance, high (low) confidence, and international (domestic) outlook in the audit visit, respectively. *Educated above senior secondary school* and *Net worth above HK$500,00* are indicator variables. *Age* is the age of the auditor in years. Standard errors are clustered at the auditor-level and are reported in parentheses below coefficients. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level.

	Undiversified Advice						Home-Biased Advice					
	Male Auditors			Female Auditors			Male Auditors			Female Auditors		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Financial Planner	-0.258***	-0.254***	-0.257***	-0.058	-0.047	-0.051	-0.118	-0.137	-0.147	0.016	-0.004	-0.003
	(0.063)	(0.056)	(0.057)	(0.082)	(0.084)	(0.084)	(0.086)	(0.080)	(0.085)	(0.082)	(0.086)	(0.083)
High Risk Tolerance		0.005	0.036		-0.016	-0.020		-0.238***	-0.251***		-0.163**	-0.170**
		(0.069)	(0.061)		(0.053)	(0.058)		(0.079)	(0.087)		(0.064)	(0.077)
High Confidence		0.041	0.042		0.180***	0.163**		0.120	0.124		0.065	0.047
		(0.073)	(0.057)		(0.050)	(0.060)		(0.082)	(0.074)		(0.064)	(0.058)
Domestic Outlook		-0.088	-0.158***		-0.014	-0.048		0.012	-0.071		0.048	0.030
		(0.070)	(0.055)		(0.049)	(0.056)		(0.083)	(0.107)		(0.064)	(0.069)
Educated above sr. secondary school			0.103			-0.155*			-0.031			-0.103
			(0.061)			(0.086)			(0.075)			(0.090)
Net worth above HK$500,000			-0.169**			0.054			-0.182*			0.007
			(0.062)			(0.086)			(0.100)			(0.080)
Age			0.008			-0.002			0.001			0.002
			(0.006)			(0.011)			(0.008)			(0.010)
Constant	0.393***	0.413***	0.163	0.426***	0.351***	0.477	0.361***	0.416***	0.527*	0.431***	0.458***	0.392
	(0.040)	(0.074)	(0.207)	(0.036)	(0.053)	(0.451)	(0.052)	(0.132)	(0.255)	(0.043)	(0.086)	(0.435)
Observations	228	228	228	235	235	235	228	228	228	235	235	235
R-squared	0.040	0.050	0.080	0.002	0.035	0.045	0.008	0.086	0.117	0.000	0.033	0.038

B. Is it male or female financial planners who advise differentially by gender of the advisee?

Given that we see a gender difference in the quality of advice offered by only financial planners, it is interesting to examine whether it is both men and women advisors who give women worse advice, or if this result is mainly driven by advisors of a particular gender.[27]

Note that our experimental design did not allow us to randomize the gender of the advisor; instead, firms endogenously selected the advisor that met with our auditors. If we believe that the availability of advisors of both genders is exogenous to our auditors' visits, and firms simply assign the next available advisor to meet with a new client, then the gender of the advisor could be near-random. However, note that we cannot ascertain this, and so our results below should be interpreted with caution. Note also that the advisor was female in only 25.7% of the audits conducted; most likely this is because the advising profession tends to be dominated by men. This also lowers our ability to precisely estimate the effect of advisor gender.

We run the specification:

$$y_{ai} = \alpha + \beta \text{ Female Auditor}_i + \sigma \text{ Female Advisor}_a +$$
$$\omega \text{ (Female Auditor}_i \times \text{Female Advisor}_a) + \boldsymbol{X_i} + \epsilon_{ai} \qquad (13)$$

The results are given in Table XII.

---

[27] Using data from a survey conducted on Swedish financial advisors and their clients, Soderberg (2012) finds that advisors of different genders have systematically different assessments of their customers' risk tolerance and financial literacy, as well as different expectations about their clients' satisfaction with and trust in them.

Table XII: Is it Male or Female Financial Planners who advise differentially by Gender of the Advisee?

The top of the table shows the predicted probabilities (Prd. Pr.) to receive *Undiversified advice* (*Home biased advice*) by auditor's and advisor's gender for the audit visits to Financial Planners. The probabilities are obtained from regression equation (13). *Demographic Controls* include dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000)* and auditor's age (in years). At the bottom of the table, we report the difference in the probability (and t-test) to receive *Undiversified advice (Home-biased advice)* by gender of auditor (keeping gender of financial advisor constant) and then by gender of financial advisor (keeping gender of auditor constant). Standard errors are clustered at the auditor-level and are reported in parentheses below coefficients. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% level.

	Undiversified Advice		Home-biased Advice	
	(1)	(2)	(3)	(4)
Prd. Pr. [Male Auditor, Male FA]	0.167**	0.166**	0.267**	0.264**
	(0.077)	(0.075)	(0.126)	(0.133)
Prd. Pr. [Male Auditor, Female FA]	-0.000	-0.016	0.143	0.102
	(0.000)	(0.034)	(0.140)	(0.148)
Prd. Pr. [Female Auditor, Male FA]	0.419***	0.421***	0.516***	0.522***
	(0.086)	(0.094)	(0.069)	(0.081)
Prd. Pr. [Female Auditor, Female FA]	0.143	0.157	0.143	0.170
	(0.144)	(0.146)	(0.144)	(0.152)
Among Female FA: [Female Auditor - Male Auditor]	0.143	0.173	0.000	0.068
	(0.144)	(0.152)	(0.201)	(0.219)
Among Male FA: [Female Auditor - Male Auditor]	0.253**	0.255**	0.249*	0.258
	(0.115)	(0.123)	(0.144)	(0.168)
Among Female Auditors: [Female FA - Male FA]	-0.276*	-0.263*	-0.373**	-0.352**
	(0.151)	(0.147)	(0.142)	(0.139)
Among Male Auditors: [Female FA - Male FA]	-0.167**	-0.181*	-0.124	-0.162
	(0.077)	(0.092)	(0.211)	(0.245)
Demographic Controls	No	Yes	No	Yes
Observations	75	75	75	75
R-squared	0.072	0.114	0.122	0.046

Notice that in column 2 at the bottom of Table XII, we see that female auditors were just as likely to receive undiversified advice as were male auditors from female advisors (difference = 17 pp, not significant). However, female auditors were 26% more likely (statistically significant at 5%) to receive undiversified advice than male auditors were from male advisors. Notice that in column 4 of Table XII, we see that female auditors were just as likely to receive home-biased advice as were male auditors from female advisors (difference = 7 pp, not significant). However, female auditors were 26% more likely (not significant) to receive home-biased than male auditors were from male advisors.

With the caveat that only 25.7% of advisors at financial planning firms in our sample are female, it appears that male financial planners distinguish by investor gender, but female financial planners do not when it comes to financial advice.

C. Other Audit Visit Outcomes

So far the two outcome variables we focus on, undiversified advice and home-biased advice, measure the quality of the advisors' recommendations. However, each audit involved a face-to-face conversation between the advisor and the auditor. Through our questionnaires, we collected a wealth of information about these conversations. Table XIII documents some of these other outcomes of the audit visits, as reported by our auditors.

Table XIII. Gender Differences in other Audit Characteristics: Securities Firms vs Financial Planners

This table reports the difference in various audit characteristics by gender of the auditor estimated separately for Securities Firms and Financial Planners. *Willing to give advice* is a binary variable taking the value of 1 if an auditor assigns a top-two rating to the advisor on a five-point scale, 0 otherwise. *Duration* of the meeting is measured in minutes. *Number of demographic questions* is the number of demographic related questions (e.g. age, marital status, etc.) advisor asked the auditor in a visit. *Number of financial condition questions* is the number of questions related to the financial condition of the auditor (monthly income, employment situation, etc.) the advisor asked in a visit. *Asked about financial knowledge* is a binary indicator taking the value of 1 if financial advisor asked any question related to financial knowledge or investment experience of the auditor in a visit, 0 otherwise. *Did not inquire about any item* is a binary indicator taking the value of 1 if a financial advisor did not ask the auditor about any of the 19 items we had listed, about their demographics, financial condition, or financial knowledge.

	Securities Firms			Financial Planners			Difference				
	All	F	M	All	F	M	(1-4)	(2-5)	(3-6)	(2-3)	(5-6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Willing to give advice	0.54	0.60	0.48	0.65	0.68	0.62	-0.11*	-0.08	-0.15	0.13**	0.06
							0.07	*0.35*	*0.11*	*0.01*	*0.58*
Duration (min)	21.8	21.5	22.1	30.3	27.6	33.1	-8.6***	-6.2	-11.0***	-0.6	-5.6
							0.00	*0.01*	*0.00*	*0.62*	*0.25*
Number of demographic questions	0.5	0.4	0.6	1.71	1.16	2.27	-1.21***	-0.76***	-1.67***	-0.2	-1.11**
							0.00	*0.00*	*0.00*	*0.12*	*0.04*
Number of financial condition questions	0.75	0.62	0.88	2.03	1.82	2.24	-1.28***	-1.2***	-1.36***	-0.26**	-0.43
							0.00	*0.00*	*0.00*	*0.05*	*0.29*
Asked about financial knowledge	0.31	0.33	0.29	0.61	0.61	0.62	-0.30***	-0.28***	-0.33***	0.04	-0.02
							0.00	*0.00*	*0.00*	*0.44*	*0.89*
Did not inquire about any item	0.45	0.42	0.48	0.13	0.13	0.14	0.32***	0.29***	0.35***	-0.06	0.00
							0.00	*0.00*	*0.00*	*0.23*	*0.96*

One possible concern with our results may be that securities firms tend not to provide clients with investment advice, whereas financial planning firms do. If so, then our finding that financial planners differentiate by client gender more than securities firms could be a simple artifact of this difference in business practice. Indeed, as the first row of Table XIII shows, advisors at securities firms were on average less willing to make a recommendation than advisors at financial planning firms (see column 7). However, this lower average masks heterogeneity: women auditors who visited securities firms were significantly more likely to report that the advisor was willing to make a recommendation than men reported (see column 10). Further, column 8 shows that females consider security firms and financial planners as equally willing to give advice; column 8 also shows that both types of firms spend an equal amount of time with female clients. This helps to rule out the idea that advisors at securities firms tend not to provide clients with investment advice.

Next, we look at the amount of time that advisors spent with the auditors. In line with our argument that financial planners offer more personalized advice, we see in column (7) that advisors at financial planning firms spent 8.6 minutes longer at the interviews than advisors at securities firms. The difference is statistically significant ($p<0.01$).

Finally, in line with the idea that securities firms are less likely to tailor their advice to the characteristics of their clients, we find that advisors at such firms ask the auditor many fewer questions than financial planners do (see column 7). Forty-five percent of advisors at securities firms did not ask any question about demographic characteristics, income or education, financial position, or financial knowledge levels. This tendency at securities firms to not ask questions was similar whether they were meeting male or female auditors. In contrast, planners asked questions in 87 percent of the visits, and again this tendency to ask questions was similar across auditor gender. In line with this, we see that on average, advisors at securities firms asked only 0.5 questions about the auditor's demographic characteristics, whereas financial planners asked 1.71 questions – the difference is statistically significant ($p<0.01$) – and advisors at securities firms asked on average 0.75 about their financial condition, whereas the financial planner asked 2.03 – the difference is statistically significant ($p<0.01$).

D. Ex-Post Performance of the Advised Portfolio

Throughout this paper, we have defined advice as dominated either if the advisor *only* recommended single risky securities (undiversified advice), or if they *only* recommended local securities (home-biased advice). However, it is possible that advisors singled out the particular securities that went on to beat the market; thus their advice was not low quality by that metric. To check for this possibility, we attempt to use an alternative classification rule based on the *ex-post* market performance of the products recommended.

In the context of our study, this approach has limitations for the following reasons. Given the nature of our field study, the advisor sometimes suggested multiple products but did not specify portfolio weights, or they mentioned a particular fund family, but did not specify exactly which mutual fund to purchase. This naturally hampers our ability to evaluate the advice *ex-post*. Nevertheless, we compute for each visit the Hang Seng Index market-adjusted return over three months from the date of the audit visit, assuming the recommended portfolio is equally weighted across all products recommended. We could compute this return only for 221 of 463 visits: this includes 27 visits to financial planners and 194 visits to securities firms.[28] The univariate results are in Table XIV.

---

[28] For the remaining visits, the advice is generic and so we cannot identify a specific product.

Table XIV. Ex-Post Market-Adjusted Return by Type of Firm and Auditor's Gender

Panel A of this table shows the difference in market adjusted return *(Ret)* across firm types, and Panel B shows the difference across gender of the auditor at each firm type. *Market Adjusted Return* is calculated as the buy and hold Hang Seng Index market-adjusted return for the equally weighted portfolio of the products recommended by the advisor over 3 months period starting from the date of visit. p-values are obtained from t-tests. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level.

Panel A: Ex-Post Market-Adjusted Return by Firm Type

	Ret
	(1)
All Firms	0.25%
p-value	*0.5*
N	221
Securities Firms (SF)	0.08%
p-value	*0.83*
N	194
Financial Planners (FP)	1.44%
p-value	*0.26*
N	27
Diff (SF – FP)	-1.36%
p-value	0.23

Panel B: Ex-Post Market-Adjusted Return by Firm Type and Auditor's Gender

	Ret (SF)	Ret (FP)
	(1)	(2)
Male	0.28%	2.97%
Female	-0.07%	0.04%
Diff (M-F)	0.35%	2.93%
p-value	*0.66*	*0.25*

In Panel A of Table XIV, we note first, that across all firms, the estimated 3-month market-adjusted return was 0.25%, a number that was not statistically different from zero. Similarly, when we disaggregate the firms by firm type, there is no evidence that the advice from either securities firms or financial planners significantly outperformed the market. Finally, though the returns of financial products recommended by financial planners were 1.36% better than the returns of financial products recommended by securities firms, the difference is not significant.

In Panel B of Table XIV, we note second, that across Securities Firms, though the 3-month market-adjusted return for advice given to male auditors (0.28%) was higher than that given to female auditors (-0.07%), the difference of 0.35% is not statistically significant. Note also in Panel B of Table XIV that across Financial Planners, though the 3-month market-adjusted return for advice given to male auditors (2.97%) was higher than that given to female auditors (0.04%), the difference of 2.93% is again not statistically significant. Interestingly, though not statistically significant, it seems that Financial Planners differentiate more amongst genders than do Security Firms.

Tables A1 and A2 in the Internet Appendix A are the equivalent of Tables VI and VII where the only difference is the dependent variable; now the dependent variable is *ex-post* advice quality. Though not statistically significant, the point estimates in Internet Table A1 suggest that financial planners provide better advice than securities firms. Similarly, though not statistically significant, the point estimates in Internet Table A2, suggest that financial planners provide worse advice to women than to men, whereas securities firms show less gender bias.

E. The Case of No Advice

Recall that in 30 percent of the auditor visits, the advisor had not recommended a specific product. For our analysis until now, we have used binary dependent variables to measure undominated advice, where any visit in which the auditor did not receive specific advice was also coded as undominated advice. This means that our results are conservative, in that if anything, the true incidence of undominated advice is even lower.

However, in reality, an advisor is choosing among three actions: whether to refuse to recommend any product(s), whether to recommend a single/local security, and whether to recommend a basket/global security. It is plausible that some advisors prefer not to advise at all, rather than giving a dominated advice. However, conditional on advising, they may give undominated advice. Further such propensities may (or may not) vary by the type of firm advisors work for, or by the gender of the client. By clubbing together both the "no specific advice" and "undominated advice", we are unable to detect these patterns in the analysis so far.

To examine if these patterns exist, we revisit the earlier regressions using multinomial regressions. In columns 1 and 2 of Table A3 in the Internet Appendix A, we run multinomial regressions in which the diversification-related dependent variable has three possible categories: No Advice, Undiversified Advice (UA) and Not Undiversified Advice. Similarly, in columns 3 and 4, the home-bias-related dependent variable has three categories: No Advice, Home-Biased Advice (HB) and Not Home-Biased Advice. In each regression specification, the last category of the dependent category is the reference category. As column 1 shows, relative to "Not Undiversified Advice", financial planners were less likely than securities firms to give no advice at all. Similarly, they were also less likely to give undiversified advice. Columns 3 and 4 show that relative to "Not home-biased advice" financial planners and securities firms are statistically equally likely to choose not to advise the auditor. However, relative to "Not home-biased advice", financial planners were significantly less likely than securities firms to give home-biased advice. Thus, our main results from the binary dependent variable specifications hold in multinomial regressions as well: financial planners were less likely to give poor quality advice overall, and were less likely to turn away the client without advising.

Our previous results on firm type and gender differences are confirmed in multinomial regressions in Table A4 in the Internet Appendix A. There is no evidence that advisors at either securities firms or financial planners hesitated to advise women more than men. However, compared to giving undominated advice, financial planners were more likely to give dominated advice to women than to men, while this difference does not exist at securities firms.

Our previous results on differences across the three attributes – risk tolerance, confidence and geographic outlook – continue to hold in the multinomial specifications, shown in Tables A5-A7 in the Internet Appendix A, respectively. Specifically, these specifications confirm that among the risk tolerant, confident and domestic outlook-bearing auditors, women were significantly more likely to receive dominated advice over undominated advice.

F. Miscellaneous

In all our regressions, we had clustered the standard errors at auditor-level – there were 37 auditors – to allow for correlations of error terms across multiple visits conducted by the same

auditor. These results were shown in Tables VI through X. For robustness, we redo all our tests by clustering the standard errors at the branch-level. There were 102 branches visited of 65 companies. The corresponding results are shown in Tables A8-A12 in the Internet Appendix A. Our conclusions remain qualitatively unchanged.

Our auditors had visited 65 companies. It is possible that our results are being driven by gender differentiation by just a few firms. To control for this, we redo Tables VII through X by using firm fixed effects with clustered standard errors at auditor level. The corresponding results are shown in Tables A13-A16 in the Internet Appendix A. Our conclusions remain qualitatively unchanged.

VII.   Conclusion

Financial advisors can help individuals make sound financial decisions. In this paper, we examine whether the quality of financial advice varies by client gender utilizing an audit study we conducted in Hong Kong. Trained undercover men and women, posing as potential clients, visited some or all the branch offices of all 65 local financial advisory firms in Hong Kong that cater to retail investors. Each auditor was randomly assigned to an avatar comprising of one of two values for three attributes: risk tolerance, confidence, and geographic outlook. The design of our audit study allows us to ask not just whether, but also why, advice quality varies by gender. We define advice as dominated if it is "undiversified" (advice is to buy only individual risky securities) or "home-biased" (advice is to buy only local securities.)

We find that advisors in securities firms that earn most of their revenues from trade commissions are more likely to recommend individual local stocks that trade frequently. However, since these firms tend to compete with one another more on service charges than through personalized service, these advisors do not differentiate between clients on the basis of clients' attributes. In contrast, although financial planners have a weaker incentive to recommend frequently traded securities, they are more likely to cater to their clients' attributes. This catering tendency is dampened when they face male clients, presumably because men are on average considered to be more financially knowledgeable, and so are more likely to detect poor financial advice. So financial planners cater more to women than to men: women who signal that they are

highly confident, highly risk tolerant, or have a domestic outlook are especially likely to receive dominated advice. Our results, thus, provide support for the idea that advice quality responds to advisors' incentives.

Some studies, including ours, suggest that advisors differentiate between men and women simply because they use the client's gender as a proxy for their risk preferences or other characteristics that matter for determining their optimal financial portfolio. To the extent that these preferences are difficult to measure objectively but are still visible to the advisor, researchers are unable to control for those. To our knowledge, ours is the first paper to use a natural field experiment to randomly vary three such attributes – risk-tolerance, confidence, and geographic outlook. This allows us to not only establish that there is a difference in the quality of financial advice that men and women receive but also shed light on the mechanisms that lead to gender differences in advice.

Specifically, we make the following contributions. One, by randomly assigning auditors of different genders to different advisory firm branches, our audit study can cleanly identify the effect of client gender. Two, even across advisory firms, we detect a gender difference by firm type: this suggests that gender differences in advice quality are not just a response to client characteristics, but also respond to the incentives of the advisor. Finally, and most importantly, by randomly inducing variation in client attributes, we are able to show that gender differences are amplified (not mitigated) when women display high confidence and high risk tolerance.

A caveat is that we are unable to directly identify the effect of clients' financial knowledge. It is understandably difficult to conduct an audit study of this type and expect auditors to credibly signal that they are highly knowledgeable since knowledgeable investors would typically not seek financial advice. Instead, we argue that advisors were most likely aware of the empirically well-established fact that men tend to be financially more knowledgeable than women. Thus, our findings accord with the idea that advisors engage in statistical discrimination against women. We, however, cannot rule out a more nuanced taste-based discrimination, whereby financial advisors give more risky advice to women who defy the stereotype about their gender.

REFERENCES

Alesina, A., F. Lotti, and P. Mistrulli, 2013, "Do women pay more for credit? Evidence from Italy," *Journal of the European Economic Association* 11, 45-66

Allgood, S. and W. Walstad, 2015, "The effects of perceived and actual financial literacy on financial behaviors," *Economic Inquiry* 54, 675-697.

Anagol, S., S. Cole, and S. Sarkar, 2013, "Understanding the Advice of Commissions-Motivated Agents: Evidence from the Indian Life Insurance Market," Working Paper, Harvard University.

Annan, Francis, 2020, "Gender and Financial Misconduct: A Field Experiment on Mobile Money," Working Paper, Georgia State University.

Arrow, Kenneth, 1973, ''The Theory of Discrimination,'' in *Discrimination in Labor Markets*, Orley Ashenfelter and Albert Rees, eds. (Princeton, NJ: Princeton University Press, 1973).

Baeckstrom, Y., I.W. Marsh, and J. Silvester, 2019, " Financial Advice, Wealth and Gender: Risk Tolerance, Knowledge and Confidence," Working Paper, Cass Business School.

Bajtelsmit, V.L. and A. Bernasek, 1996, "Why do women invest differently than men," *Financial Counseling and Planning*, Vol. 7, 1996.

Barber, B. M. and T. Odean, 2001, Boys will be Boys: Gender, Overconfidence, and Common Stock Investment," *The Quarterly Journal of Economics* 116, 261–292.

Becker, G., 1957, *The Economics of Discrimination*, University of Chicago Press, Chicago, IL

Bertrand, M., 2010, "New Perspectives of Gender," Chapter 17, *Handbook of Labor Economics*, volume 4b.

Bertrand, M., 2016, "Field Experiments on Discrimination," NBER Working Paper No. 22014.

Bertrand, M., 2020, "Gender in the Twenty-First Century," *AEA Papers and Proceedings* 110, 1–24.

Borzykowski, B., 2013, "Women with Money," *Canadian Business* 86, 35–36.

Brock, J. M. and R. De Haas, 2019, "Gender discrimination in small business lending: Evidence from a lab-in-the-field experiment in Turkey," EBRD Working Paper No. 232.

Bucher-Koenen, T., A. Lusardi, R. Alessie, and M. van Rooij, 2016, "How financially literate are women? Some new perspectives on the gender gap," *Journal of Consumer Affairs* 51, 255–238.

Bucher-Koenen, T., A. Hackethal, J. Koenen, C. Laudenbach, and A. Weber, 2020, "Gender Differences in Financial Advice," Working Paper.

Chater, N., S. Huck, and R. Inderst, 2010, "Consumer decision-making in retail inverstment services: a behavioral economics perspective," *Final Report for the European Union* 22.

Chen, Z. and T. Gesche, 2017, "Persistent Bias in Advice-Giving," Working Paper.

Choi, J., D. Laibson, and B. Madrian, 2010, "Why Does the Law of One Price Fail? An Experiment on Index Mutual Funds," *Review of Financial Studies* 23, 1405-1432.

Economist, 2018, "The Power of Money", *The Economist,* March 10, 2018.

Egan, M., G. Matvos and A. Seru, 2018, "When Harry Fired Sally: The Double Standard in Punishing Misconduct," Harvard Business School Finance Working Paper No. 19-047.

Elton, E., M. Gruber, and J. Busse, 2004, "Are Investors Rational? Choices Among Index Funds," *Journal of Finance* 59, 261-288.

Federal Reserve Board, 2016, "Survey of Consumer Finances [Data set]".

Floyd, E. and J. List, 2016, "Using Field Experiments in Accounting and Finance," *Journal of Accounting Research* 54, 437-475

Gine, X., C. M. Cuellar, and R. K. Mazer, 2014, "Financial (Dis-) Information: Evidence from an Audit Study in Mexico", World Bank Policy Research Working Paper, No 6902

Hong Kong Exchange and Clearing Limited, 2014. "Retail Industry Survey 2014". Available at: https://www.hkex.com.hk/-/media/HKEX-Market/News/Research-Reports/HKEX-Surveys/Retail-Investor-Survey_2014/RIS2014.pdf.

Hong Kong SAR, 2018, "Quarterly Report of Wage and Payroll Statistics", Census and Statistics Department. Available at:
https://www.statistics.gov.hk/pub/B10500092018QQ03B0100.pdf.

Inderst, R. and M. Ottaviani, 2012a, "Financial Advice," *Journal of Financial Economics* 105, 393–411.

Inderst, R. and M. Ottaviani, 2012b, "Competition through Commissions and Kickbacks," *American Economic Review* 102(2): 780–809.

Inderst, R. and M. Ottaviani, 2012c, "Financial Advice," *Journal of Economic Literature* 50:2, 494–512.

Investor Education Centre, Financial Literacy Monitor, 2018, Hong Kong, SAR. Available at:

https://www.ifec.org.hk/common/pdf/about_iec/iec-financial-literacy-monitor-2018.pdf

IP Global, 2017, "2017 Investor trends across the globe". https://blog.ipglobal-ltd.com/2017-investor-trends-across-the-globe.

Klapper, L. and A. Lusardi, 2020, "Financial literacy and financial resilience: Evidence from around the world," *Financial Management*, forthcoming.

Linnainmaa, J., B. Melzer, and A. Previtero, 2020, "The Misguided Beliefs of Financial Advisors," *Journal of Finance*, forthcoming.

Lusardi, A. and O. Mitchell, 2014, "The Economic Importance of Financial Literacy: Theory and Evidence," *Journal of Economic Literature* 52(1), 5–44.

Lusardi, A., P-C Michaud, P-C and O. Mitchell, 2017, "Optimal Financial Knowledge and Wealth Inequality," *Journal of Political Economy* 125, 431-477.

Mehran, H. and R. Stulz, 2007, "The economics of conflicts of interest in financial institutions," *Journal of Financial Economics* 85, 267-296

Merrill Lynch 2018, "Women and financial wellness: Beyond the bottom line". Available at: https://mlaem.fs.ml.com/content/dam/ML/Registration/Women-Age-Wave-White-Paper.pdf.

Mowl, A.J. and C. Boudot, 2014, "Barriers to Basic Banking: Results from an Audit Study," *NSE Working Paper Series No. WP-2014-1.*

Mullainathan, S., M. Noeth, and A. Schoar, 2012, "The Market for Financial Advice: An Audit Study," NBER Working Paper No. 17929, Cambridge, MA.

Phelps, E., 1972, ''The Statistical Theory of Racism and Sexism,'' *American Economic Review* 62, 659–661.

PIMCO Research, 2018, "Women, Investing and the Pursuit of Wealth-Life Balance", PIMCO Report. September.

S&P Global, 2019, "The (Financial) Future is Female". Available at: https://www.spglobal.com/en/research-insights/featured/the-financial-future-is-female.

Sane, R. and M. Halan, 2016, "Misled and mis-sold: financial misbehavior in retail banks?" *Journal of Comparative Economics* 45, 429–444.

Securities and Futures Commission, 2020. "Licensing", Last accessed on 20th July 2020. Available at:

https://www.sfc.hk/web/EN/regulatory-functions/intermediaries/licensing/do-you-need-a-licence-or-registration.html

Soderberg, I-L, 2012, "Gender stereotyping in financial advisors' assessment of customers," *Journal of Financial Services Marketing* 7, 259–272.

Stoughton, N., Y. Wu and J. Zechner, 2011, "Intermediated Investment Management," *Journal of Finance* 66, 947-980

van Rooij, M., A. Lusardi, and R. Alessie, 2011, "Financial literacy and stock market participation," *Journal of Financial Economics* 101, 449-472

Wang, P., 1994, "Brokers still treat men better than women," *Money* 23(6), 108.

World Bank, 2019, "World Development Indicators: Market Capitalization of Listed Domestic Companies". Available at:

https://databank.worldbank.org/reports.aspx?source=2&series=CM.MKT.LCAP.CD

Data Appendix

A. Identifying Financial Advisory Firms in Hong Kong

Our goal was to conduct an audit study with financial advisory firms that provide advice to retail investors. Given our research question, we were specifically interested in local advisory firms and wanted to avoid multinational firms whose policies and internal rules may be set at an international level. We followed a painstaking approach to identify our sampling frame. As described in the main text of the paper, the Securities and Futures Ordinance of Hong Kong SAR mandates that individuals have to obtain a Type 4 license from the Hong Kong Securities and Finance Commission (SFC) before they can be bonafide financial advisors. We started with the list of all individuals with active Type 4 licenses available on the SFC website as of February 18, 2017. This list also contains the name of the firm that the advisor works for, allowing us to identify all firms where licensed advisors worked. After removing multinational firms, firms for whom no contact information could be obtained, and treating all firms belonging to the same parent company as a single firm, we obtain a list of 847 individual firms.

All the firms in this list of firms may not be available to provide advice to retail clients. To ensure that a firm offers financial advice to retail customers through appointment, we tasked our bilingual research assistant to contact all these 847 firms in the summer of 2018. She contacted each of the 847 firms individually via telephone or email. She used a free-flowing script in Cantonese, pretending to be a potential retail customer. This process narrowed our list of potential firms down to 90 individual firms.[29] Some of these 90 firms had multiple branches. So, we had a sampling frame of 191 firm-branches.

---

[29] Specifically, we removed the firms from our sampling frame for the following reasons: no response received from firms to our phone call / email for two weeks after two follow-ups (118), firm does not accept retail clients (386), firm offers only platform for trading but no advice (64), firm requires customers to deposit initial sum of money before advising (12), firm accepts only new clients by referral (37), firm belongs to the same parent company as another firm in our sampling frame (34), firm sells only very specific products such as gold (33), firm had ceased operation or does not offer appointments (30), and firm is a bank, which would advise only its account holders (43).

B. Selection of Company-Branches to Audit

A pilot study we conducted in 2017 on a sample of 30 firms gave us important insights into the structure of Hong Kong's financial advising industry, the types of questions that advisors ask prospective clients, and allowed us to finetune our visit protocol and empirical design. The statistics from this pilot study informed the power calculations for our final study. These calculations indicated that a sample size of 427 visits would ensure 80% power to detect a gender difference in advice quality of 13 pp.

In anticipation that some of the visits may fail because of unforeseen operational reasons, we chose 111 branches from 73 firms in the initial assignment, while we kept 80 branches from 22 firms in reserve. Note that the sum of the number of firms in the initial assignment and reserve exceeds 90 firms. This is because firms with multiple branches can be in the initial assignment as well as in the reserve.

We created 594 branch×auditor random assignments, linking 32 auditors to 111 firm-branches from 73 firms. We planned to replace any of these 111 branches in the initial assignment with those in the reserve if a visit failed during the audit. The distribution of visits planned and visits that actually took place is given in Table DI.

Table D.I: Sample Description

This table shows the distribution of the visits we initially assigned (columns 2-8) and the distribution of the visits that we successfully conducted (columns 9-12). *FP* and *SF* refer to Financial Planner firms and Securities Firms, respectively. Note that among the planned visits, we do not include the branches and companies that we kept in reserve.

	Initially Assigned Visits							Conducted Visits			
Strata	Num. of companies (a)		Num. of branches per company	Num. of branches per company selected (b)	Visits per branch (c)	Num. of visits in strata (a × b × c)		Number of Companies		Number of Visits	
	FP	SF				FP	SF	FP	SF	FP	SF
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Large	0	2	21	5	4	0	40	0	2	0	38
Medium	2	10	3−8	2	4	24	152	2	9	26	114
Small	12	48	1−2	1	6	78	300	11	41	49	236
Sum	13	60	-	-	-	102	492	13	52	75	388

At the end, we conducted successful visits with 65 individual firms, corresponding to 102 branch offices. These 65 companies are the population of local financial advisory firms that catered to local retail investors in Hong Kong in 2018. Of these 65 firms, the vast majority, 52, are "securities firms", while the remaining 13 are "financial planners." Securities firms are either very big (2 of them have 21 branches each) or very small and boutique (41 of them have only 1 to 2 branches). Financial planners tend to be mid-size (2 of them have 3 to 8 branches each) or very small and boutique (11 of them have only 1 to 2 branches).

C. Hiring Auditors

Our auditors were Hong Kong residents whose native language was Cantonese. We set the following requirements for the auditor hiring advertisement:

- The number of auditors: 16 males and 16 females. This was decided based on our research budget
- Age: 30 – 45 years
- Trading experience: has traded exchange securities between 0 to 6 times in the last year
- Income: monthly household income (per adult earning member) must be between HK$20,000 and HK$60,000 (USD 2575 to USD 7725)
- Education: Below undergraduate degree is desirable (if with an undergraduate degree, then not from the 8 prominent universities); sub-degree and vocational degrees are acceptable. We tried to choose individuals with low literacy because, as explained before, it was a part of our research plan.

We collected detailed information from each of the hired auditors on a variety of dimensions – such as income and education level, trading experience, etc.

D. Visit Protocol

Each auditor was provided with the list of assigned companies for the given month. The sequence in which they would visit the companies in the given month was left to them. The first step in the audit visit was to make an appointment. To standardize the appointment process, our

Research Assistant first called a few financial advisors for an appointment. We recorded these appointment conversations and provided samples to the auditors. Auditors were reminded to read through their profile instructions before the visit. Within 24 hours after the visit, auditors were required to answer a bilingual online questionnaire about the visit. They were also encouraged to collect the visiting card of the person they talked to.

Internet Appendix B gives the Cantonese script as well as an English translation of the visit protocol.

E. Operational Changes in the Assignment during the Audit Study

As described in section B in this Data Appendix, we scheduled 594 visits by 32 auditors to 111 branches over a six-month period and kept 80 branches in reserve in order to replace original assignment for any unforeseen operational changes. We completed 515 audit visits. Seventy-nine appointments could not be scheduled. Among the 515 audits, we found that 52 visits did not qualify to be included in our analysis. The reasons, which are not mutually exclusive, for disqualification, are: auditors were told that the advisory firm did not offer a recommendation service (38), that only referred individuals could become clients (6), advice could only be given after the auditor had opened an account (6), advisors appeared to remember having met an auditor previously (6). Our final analysis is based on 463 visits to 102 unique branches of 65 unique companies.

Internet Appendix A

Table A1. Advice Quality using Ex-post Returns: Financial Planners vs. Securities Firms

This table shows the result of regressing the ex-post performance of financial advice on the type of financial advisory firm. *Market Adjusted Return* is the buy-and-hold Hang Seng Index market-adjusted return for the equally weighted portfolio of the products recommended by the advisor over 3 months period starting from the date of visit. *Financial Planner* takes the value of 1 (0) when the financial advisory firm is a Financial Planner (Securities firm). *High Risk Tolerance, High Confidence,* and *International Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and international (domestic) outlook in the audit visit, respectively. *Educated beyond sr. secondary school* takes the value of 1 if the auditor education is higher than senior secondary school. *Net Worth above HK$500,000* takes the value of 1 if the net worth of the auditor is more than HK$500,000. *Age* is the age of the auditor in years. Standard errors are clustered at the auditor-level and reported in parentheses below coefficients. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level.

	(1) Market Adjusted Return	(2) Market Adjusted Return	(3) Market Adjusted Return
Financial Planner	1.363	1.051	1.088
	(1.130)	(1.140)	(1.153)
High Risk Tolerance		-0.758	-0.740
		(0.747)	(0.782)
High Confidence		0.624	0.601
		(0.737)	(0.746)
Domestic Outlook		-1.399*	-1.429*
		(0.746)	(0.774)
Educated beyond sr. secondary school			-0.362
			(0.888)
Net Worth above HK$500,000			0.873
			(0.826)
Age			0.028
			(0.093)
Constant	0.084	0.786	-0.559
	(0.395)	(0.759)	(3.795)
Observations	221	221	221
R-squared	0.007	0.029	0.035

Table A2: Advice Quality using Ex-post Returns: Firm Type and Gender Differences

This table shows the estimation result of regressing Market Adjusted Return on the auditor's characteristics, estimated separately for the audit visits to Financial Planner and Securities Firms. *Market Adjusted Return* is the buy-and-hold Hang Seng Index market-adjusted return for the equally weighted portfolio of the products recommended by the advisor over 3 months period starting from the date of visit. *Female Auditor* is an indicator taking the value of 1 (0) for female (male) auditors. *High Risk Tolerance, High Confidence,* and *International Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and international (domestic) outlook in the audit visit, respectively. *Educated beyond sr. secondary school* takes the value of 1 if the auditor education is higher than senior secondary school. *Net Worth above HK$500,000* takes the value of 1 if the net worth of the auditor is more than HK$500,000. *Age* is the age of the auditor in years. Standard errors are clustered at the auditor-level and are reported in parentheses below coefficients. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level.

	Market Adjusted Return					
	Financial Planner Firms			Securities Firms		
	(1)	(2)	(3)	(4)	(5)	(6)
Female Auditor	-2.931	-3.452	3.838	-0.345	-0.249	-0.880
	(2.507)	(2.732)	(4.045)	(0.775)	(0.772)	(0.870)
High Risk Tolerance		-2.967	-3.945		-0.591	-0.662
		(3.541)	(3.419)		(0.769)	(0.805)
High Confidence		1.053	7.150		0.801	0.641
		(3.723)	(5.330)		(0.770)	(0.772)
Domestic Outlook		-0.486	6.495		-1.479*	-1.786**
		(3.373)	(5.873)		(0.772)	(0.792)
Educated beyond sr. secondary school			7.925			-0.589
			(6.167)			(0.922)
Net Worth above HK$500,000			-2.560			0.862
			(3.523)			(0.850)
Age			-0.925**			0.200*
			(0.399)			(0.107)
Constant	2.966	3.771	29.733**	0.278	0.789	-6.903*
	(1.805)	(2.856)	(13.037)	(0.581)	(0.881)	(4.130)
Observations	27	27	27	194	194	194
R-squared	0.052	0.086	0.295	0.001	0.027	0.055

Table A3: Advice Quality and Type of Firm - A Multinomial Logit Regression

This table shows the estimation result of regressing *Undiversified advice* and *Home-biased advice* on the advisor type using multinomial logit, where the dependent variable has three possible categories: *No Advice, Undiversified (Home-biased) Advice, Not Undiversified (Not Home-biased) Advice*. The last category is the reference category for each dependent variable. Financial Planner is a dummy variable taking the value of 1 (0) when the advisor is from a Financial Planner firm (Securities firm). *High Risk Tolerance, High Confidence,* and *International Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and international (domestic) outlook in the audit visit, respectively. *Educated beyond sr. secondary school* takes the value of 1 if the auditor education is higher than senior secondary school. *Net Worth above HK$500,000* takes the value of 1 if the net worth of the auditor is more than HK$500,000. *Age* is the age of the auditor in years. Standard errors are clustered at the auditor-level and are reported in parentheses below coefficients. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level.

Dependent Variable	Undiversified Advice (UA)		Home-biased Advice (HB)	
Category	No Advice	UA	No Advice	HB
	(1)	(2)	(3)	(4)
Financial Planner	-0.684*	-0.973***	-0.525	-0.544*
	(0.375)	(0.319)	(0.378)	(0.310)
High Risk Tolerance	0.981***	0.351	0.285	-0.932***
	(0.289)	(0.268)	(0.222)	(0.247)
High Confidence	-0.413	0.257	-0.484*	0.192
	(0.319)	(0.238)	(0.291)	(0.219)
Domestic Outlook	0.870***	0.104	1.152***	0.625***
	(0.323)	(0.224)	(0.283)	(0.235)
Educated beyond sr. secondary school	0.393	0.127	0.292	-0.120
	(0.393)	(0.400)	(0.273)	(0.283)
Net Worth above HK$500,000	0.007	-0.281	-0.123	-0.549**
	(0.377)	(0.330)	(0.308)	(0.266)
Age	-0.041	0.004	-0.062**	-0.034
	(0.033)	(0.028)	(0.027)	(0.024)
Constant	0.815	-0.057	2.004*	2.013*
	(1.265)	(1.143)	(1.102)	(1.048)
Observations	463	463	463	463
Pseudo R^2	0.050	0.050	0.061	0.061

Table A4: Gender Difference in Advice Quality and Type of Firm - A Multinomial Logit Regression

This table shows the estimation result of regressing *Undiversified advice* and *Home-biased advice* on the auditor's gender type using multinomial logit, where the dependent variable has three possible categories: *No Advice, Undiversified (Home-biased) Advice, Not Undiversified (Not Home-biased) Advice*. The last category is the reference category for each dependent variable. Columns (1)–(4) show the results of regressing *Undiversified advice*, while Columns (5)–(8) show the results of regressing *Home-based advice* on auditor's gender, estimated separately for the audit visits to Financial Planner and Securities firms. *Female Auditor* is an indicator taking the value of 1 (0) for female (male) auditors. *High Risk Tolerance, High Confidence,* and *International Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and international (domestic) outlook in the audit visit, respectively. *Educated beyond sr. secondary school* and *Net Worth above HK$500,000* are indicator variables. *Age* is the age of the auditor in years. Standard errors are clustered at the auditor-level and are reported in parentheses below coefficients. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level.

Dependent Variable	Undiversified Advice (UA)				Home-biased Advice (HB)			
	Financial Planner Firms		Securities Firms		Financial Planner Firms		Securities Firms	
Category	No Advice	UA	No Advice	UA	No Advice	UA	No Advice	UA
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female Auditor	0.741	2.414***	-0.686	-0.323	0.460	1.847**	-0.538	-0.042
	(0.787)	(0.759)	(0.424)	(0.340)	(0.763)	(0.722)	(0.407)	(0.268)
High Risk Tolerance	2.198***	1.519**	0.737**	0.169	1.431*	-0.399	0.033	-1.060***
	(0.831)	(0.624)	(0.337)	(0.302)	(0.841)	(0.730)	(0.220)	(0.231)
High Confidence	-1.456	0.982	-0.334	0.238	-1.392	1.218*	-0.440	0.151
	(1.092)	(0.729)	(0.375)	(0.286)	(1.043)	(0.624)	(0.334)	(0.247)
Domestic Outlook	0.487	0.421	0.912**	0.169	0.677	0.855	1.222***	0.749***
	(0.781)	(0.567)	(0.407)	(0.280)	(0.799)	(0.610)	(0.327)	(0.235)
Educated beyond sr. secondary school	1.199	1.649**	0.113	-0.024	1.330	1.846**	-0.030	-0.318
	(0.998)	(0.841)	(0.525)	(0.490)	(1.058)	(0.855)	(0.314)	(0.240)
Net Worth above HK$500,000	-0.556	-1.205	0.025	-0.234	-0.731	-1.695***	-0.071	-0.440
	(0.877)	(0.733)	(0.432)	(0.392)	(0.842)	(0.611)	(0.335)	(0.288)
Age	0.036	-0.070	-0.032	0.006	0.054	-0.044	-0.071**	-0.062**
	(0.110)	(0.065)	(0.048)	(0.040)	(0.107)	(0.076)	(0.035)	(0.025)
Constant	-3.297	-0.509	0.936	0.131	-3.513	-0.161	2.814**	3.218***
	(4.040)	(2.220)	(1.746)	(1.567)	(4.107)	(3.168)	(1.291)	(0.872)
Observations	75	75	388	388	75	75	388	388
Pseudo R^2	0.177	0.177	0.039	0.039	0.152	0.152	0.067	0.067

Table A5: Gender Difference and Auditor's Risk Tolerance in Financial Planner Visits - A Multinomial Logit Regression

The top of the table shows the predicted probabilities (Prd. Pr.) to receive *Undiversified Advice* by auditor's gender and risk tolerance for visits to Financial Planners. The probabilities are obtained from regression equation (10) using multinomial logit, where the dependent variable has three possible categories: *No Advice, Undiversified Advice (UA), Not Undiversified Advice*. The last category is the reference category. *Demographic Controls* include dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000)* and auditor's age (in years). At the bottom of the table, we report the difference in the probability (and t-test) to receive *Undiversified advice* by gender (keeping risk tolerance constant) and then by risk tolerance (keeping gender constant). Standard errors are clustered at the auditor-level and are reported in parentheses below coefficients. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% level.

Dependent Variable	Undiversified Advice (UA)	
	No Advice	UA
	(1)	(2)
Prd. Pr. [Male, Low Risk Tolerance]	0.153**	0.121*
	(0.069)	(0.066)
Prd. Pr. [Male, High Risk Tolerance]	0.419***	0.137
	(0.125)	(0.088)
Prd. Pr. [Female, Low Risk Tolerance]	0.171**	0.289***
	(0.086)	(0.096)
Prd. Pr. [Female, High Risk Tolerance]	0.386***	0.538***
	(0.144)	(0.131)
Among High Risk Tolerance: [Female – Male]	1.759	3.202***
	(1.137)	(1.100)
Among Low Risk Tolerance: [Female – Male]	0.442	1.199
	(0.835)	(0.863)
Among Females: [High – Low] Risk Tolerance	2.882**	2.670***
	(1.323)	(1.027)
Among Males: [High – Low] Risk Tolerance	1.565**	0.667
	(0.737)	(0.999)
Demographic Controls	Yes	Yes
Observations	75	75
Pseudo R2	0.131	0.131

Table A6: Gender Difference and Auditor's Confidence in Financial Planner Visits - A Multinomial Logit Regression

The top of the table shows the predicted probabilities (Prd. Pr.) to receive *Undiversified Advice* by auditor's gender and confidence for visits to Financial Planners. The probabilities are obtained from regression equation (11) using multinomial logit, where the dependent variable has three possible categories: *No Advice, Undiversified Advice (UA), Not Undiversified Advice*. The last category is the reference category. *Demographic Controls* include dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000)* and auditor's age (in years). At the bottom of the table, we report the difference in the probability (and t-test) to receive *Undiversified advice* by gender (keeping confidence constant) and then by confidence (keeping gender constant). Standard errors are clustered at the auditor-level and are reported in parentheses below coefficients. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% level.

Dependent Variable	Undiversified Advice (UA)	
	No Advice	UA
	(1)	(2)
Prd. Pr. [Male, Low Confidence]	0.511***	0.057
	(0.094)	(0.044)
Prd. Pr. [Male, High Confidence]	0.057	0.221***
	(0.058)	(0.074)
Prd. Pr. [Female, Low Confidence]	0.266***	0.286***
	(0.103)	(0.095)
Prd. Pr. [Female, High Confidence]	0.138	0.596***
	(0.097)	(0.114)
Among High Confidence: [Female – Male]	1.883	2.157***
	(1.611)	(0.829)
Among Low Confidence: [Female–- Male]	-0.740	1.719
	(0.733)	(1.111)
Among Females: [High – Low] Confidence	-0.161	1.398
	(1.332)	(0.939)
Among Males: [High – Low] Confidence	-2.783**	0.959
	(1.102)	(1.018)
Demographic Controls	Yes	Yes
Observations	75	75
Pseudo R2	0.129	0.129

Table A7: Gender Difference and Auditor's Geographic Outlook in Financial Planner Visits - A Multinomial Logit Regression

The top of the table shows the predicted probabilities (Prd. Pr.) to receive *Home-biased advice* by auditor's gender and geographic outlook for visits to Financial Planners. The probabilities are obtained from regression equation (12) using multinomial logit, where the dependent variable has three possible categories: *No Advice, Home-biased Advice (HB), Not Home-biased Advice*. The last category is the reference category. *Demographic Controls* include dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000)* and auditor's age (in years). At the bottom of the table, we report the difference in the probability (and t-test) to receive *Home-biased advice* by gender (keeping geographic outlook constant) and then by geographic outlook (keeping gender constant). Standard errors are clustered at the auditor-level and are reported in parentheses below coefficients. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% level.

Dependent Variable	Home-biased Advice (HB)	
	No Advice	HB
	(1)	(2)
Prd. Pr. [Male, International Outlook]	0.250**	0.285**
	(0.116)	(0.116)
Prd. Pr. [Male, Domestic Outlook]	0.291***	0.191
	(0.108)	(0.121)
Prd. Pr. [Female, International Outlook]	0.169***	0.384***
	(0.062)	(0.100)
Prd. Pr. [Female, Domestic Outlook]	0.298**	0.531***
	(0.146)	(0.099)
Among Domestic Outlook: [Female - Male]	1.351	2.375**
	(1.191)	(1.107)
Among International Outlook: [Female - Male]	-0.341	0.354
	(0.837)	(0.823)
Among Females: [Domestic - International] Outlook	1.702	1.478*
	(1.069)	(0.771)
Among Males: [Domestic - International] Outlook	0.010	-0.543
	(0.939)	(1.098)
Demographic Controls	Yes	Yes
Observations	75	75
Pseudo R2	0.083	0.083

Table A8: Advice Quality and Type of Firm (Standard Errors Clustered at Branch-level)

This table shows the estimation result of regressing *Undiversified advice* and *Home-biased advice* on the advisor type. Financial Planner is a dummy variable taking the value of 1 (0) when the advisor is from a Financial Planner firm (Securities Firm). *High Risk Tolerance, High Confidence,* and *International Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and international (domestic) outlook in the audit visit, respectively. *Educated beyond sr. secondary school* takes the value of 1 if the auditor education is higher than senior secondary school. *Net Worth above HK$500,000* takes the value of 1 if the net worth of the auditor is more than HK $500,000. *Age* is the age of the auditor in years. Standard errors are clustered at the branch-level and are reported in parentheses below coefficients. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level.

	Undiversified Advice			Home-biased Advice		
	(1)	(2)	(3)	(4)	(5)	(6)
Financial Planner	-0.156***	-0.151***	-0.150***	-0.050	-0.072	-0.073
	(0.057)	(0.054)	(0.055)	(0.058)	(0.053)	(0.053)
High Risk Tolerance		-0.007	-0.021		-0.202***	-0.232***
		(0.043)	(0.047)		(0.036)	(0.040)
High Confidence		0.110**	0.104**		0.091*	0.092*
		(0.046)	(0.047)		(0.047)	(0.050)
Domestic Outlook		-0.050	-0.064		0.029	0.013
		(0.045)	(0.046)		(0.045)	(0.047)
Educated beyond sr. secondary school			-0.002			-0.049
			(0.052)			(0.052)
Net Worth above HK$500,000			-0.065			-0.099*
			(0.043)			(0.052)
Age			0.005			-0.000
			(0.006)			(0.006)
Constant	0.410***	0.383***	0.214	0.397***	0.440***	0.525**
	(0.028)	(0.050)	(0.229)	(0.029)	(0.048)	(0.254)
Observations	463	463	463	463	463	463
R-squared	0.014	0.030	0.035	0.001	0.053	0.067

Table A9: Gender Difference in Advice Quality and Type of Firm (Standard Errors Clustered at Branch-level)

This table shows the estimation result of regressing *Undiversified advice* and *Home-biased advice* on the auditor's gender. Columns (1)–(6) show the results of regressing *Undiversified advice*, while Columns (7)–(12) show the results of regressing *Home-based advice* on auditor's gender, estimated separately for the audit visits to Financial Planner and Securities Firms. *Female Auditor* is an indicator taking the value of 1 (0) for female (male) auditors. *High Risk Tolerance, High Confidence,* and *International Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and international (domestic) outlook in the audit visit, respectively. *Educated beyond sr. secondary school* and *Net Worth above HK$500,000* are indicator variables. *Age* is the age of the auditor in years. Standard errors are clustered at the branch-level and are reported in parentheses below coefficients. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level.

| | Undiversified Advice | | | | | | Home-biased Advice | | | | | |
| | Financial Planner Firms | | | Securities Firms | | | Financial Planner Firms | | | Securities Firms | | |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Female Auditor	0.233**	0.243**	0.308**	0.034	0.037	0.011	0.204**	0.202**	0.256**	0.070	0.072	0.051
	(0.096)	(0.100)	(0.115)	(0.052)	(0.051)	(0.058)	(0.092)	(0.094)	(0.099)	(0.050)	(0.050)	(0.059)
High Risk Tolerance		0.119	0.132		-0.028	-0.040		-0.160	-0.159		-0.209***	-0.236***
		(0.091)	(0.092)		(0.048)	(0.054)		(0.109)	(0.108)		(0.038)	(0.044)
High Confidence		0.137	0.218		0.106**	0.099*		0.164	0.263**		0.079	0.082
		(0.117)	(0.132)		(0.050)	(0.050)		(0.105)	(0.103)		(0.053)	(0.056)
Domestic Outlook		-0.047	0.007		-0.051	-0.064		0.026	0.083		0.031	0.023
		(0.098)	(0.104)		(0.051)	(0.051)		(0.120)	(0.136)		(0.049)	(0.052)
Educated beyond sr. secondary school			0.151			-0.007			0.217*			-0.066
			(0.094)			(0.060)			(0.109)			(0.059)
Net Worth above HK$500,000			-0.131			-0.052			-0.238**			-0.072
			(0.083)			(0.052)			(0.108)			(0.060)
Age			-0.009			0.005			-0.003			-0.004
			(0.015)			(0.007)			(0.016)			(0.008)
Constant	0.135**	0.048	0.324	0.393***	0.378***	0.250	0.243***	0.220*	0.254	0.361***	0.413***	0.674**
	(0.051)	(0.085)	(0.519)	(0.033)	(0.055)	(0.263)	(0.060)	(0.114)	(0.639)	(0.036)	(0.055)	(0.290)
Observations	75	75	75	388	388	388	75	75	75	388	388	388
R-squared	0.072	0.120	0.151	0.001	0.016	0.019	0.046	0.095	0.152	0.005	0.058	0.070

(Standard Errors Clustered at Branch-level)

The top of this table shows the predicted probabilities (Prd. Pr.) to receive *Undiversified Advice* by auditor's gender and risk tolerance for visits to Financial Planners. The probabilities are obtained from regression equation (10). *Demographic Controls* include dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000)* and auditor's age (in years). At the bottom of the table, we report the difference in the probability (and t-test) to receive *Undiversified advice* by gender (keeping risk tolerance constant) and then by risk tolerance (keeping gender constant). Standard errors are clustered at the branch-level and are reported in parentheses below coefficients. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% level.

	Undiversified Advice	
	(1)	(2)
Prd. Pr. [Male, Low Risk Tolerance]	0.136**	0.121
	(0.065)	(0.082)
Prd. Pr. [Male, High Risk Tolerance]	0.133	0.141
	(0.089)	(0.089)
Prd. Pr. [Female, Low Risk Tolerance]	0.280***	0.286***
	(0.091)	(0.103)
Prd. Pr. [Female, High Risk Tolerance]	0.538***	0.543***
	(0.132)	(0.133)
Among High Risk Tolerance: [Female – Male]	0.405***	0.402***
	(0.133)	(0.125)
Among Low Risk Tolerance: [Female – Male]	0.144	0.165
	(0.122)	(0.152)
Among Females: [High – Low] Risk Tolerance	0.258*	0.257*
	(0.143)	(0.142)
Among Males: [High – Low] Risk Tolerance	-0.003	0.019
	(0.112)	(0.133)
Demographic Controls	No	Yes
Observations	75	75
R-squared	0.112	0.118

Table A11: Gender Difference and Auditor's Confidence in Financial Planner Visits

(Standard Errors Clustered at Branch-level)

The top of the table shows the predicted probabilities (Prd. Pr.) to receive *Undiversified Advice* by auditor's gender and confidence for visits to Financial Planners. The probabilities are obtained from regression equation (11). *Demographic Controls* include dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000)* and auditor's age (in years). At the bottom of the table, we report the difference in the probability (and t-test) to receive *Undiversified advice* by gender (keeping confidence constant) and then by confidence (keeping gender constant). Standard errors are clustered at the branch-level and are reported in parentheses below coefficients. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% level.

	Undiversified Advice	
	(1)	(2)
Prd. Pr. [Male, Low Confidence]	0.100	0.038
	(0.070)	(0.069)
Prd. Pr. [Male, High Confidence]	0.176**	0.205**
	(0.090)	(0.093)
Prd. Pr. [Female, Low Confidence]	0.273***	0.276***
	(0.089)	(0.091)
Prd. Pr. [Female, High Confidence]	0.500***	0.544***
	(0.147)	(0.159)
Among High Confidence: [Female – Male]	0.324**	0.339**
	(0.145)	(0.154)
Among Low Confidence: [Female–- Male]	0.173	0.238**
	(0.112)	(0.099)
Among Females: [High – Low] Confidence	0.227	0.268
	(0.175)	(0.185)
Among Males: [High – Low] Confidence	0.076	0.167
	(0.124)	(0.127)
Demographic Controls	No	Yes
Observations	75	75
R-squared	0.109	0.135

Table A12: Gender Difference and Auditor's Geographic Outlook in Financial Planner Visits

(Standard Errors Clustered at Branch-level)

The top of the table shows the predicted probabilities (Prd. Pr.) to receive *Home-biased advice* by auditor's gender and geographic outlook for visits to Financial Planners. The probabilities are obtained from regression equation (12). *Demographic Controls* include dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000)* and auditor's age (in years). At the bottom of the table, we report the difference in the probability (and t-test) to receive *Home-biased advice* by gender (keeping geographic outlook constant) and then by geographic outlook (keeping gender constant). Standard errors are clustered at the branch-level and are reported in parentheses below coefficients. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% level.

	Home-biased Advice	
	(1)	(2)
Prd. Pr. [Male, International Outlook]	0.278***	0.288***
	(0.084)	(0.091)
Prd. Pr. [Male, Domestic Outlook]	0.211***	0.187**
	(0.073)	(0.077)
Prd. Pr. [Female, International Outlook]	0.429***	0.395***
	(0.121)	(0.136)
Prd. Pr. [Female, Domestic Outlook]	0.471***	0.527***
	(0.153)	(0.176)
Among Domestic Outlook: [Female - Male]	0.260	0.340*
	(0.162)	(0.178)
Among International Outlook: [Female - Male]	0.151	0.106
	(0.140)	(0.160)
Among Females: [Domestic - International] Outlook	0.042	0.132
	(0.219)	(0.250)
Among Males: [Domestic - International] Outlook	-0.067	-0.101
	(0.099)	(0.129)
Demographic Controls	No	Yes
Observations	75	75
R-squared	0.049	0.088

This table shows the estimation result of regressing *Undiversified advice* and *Home-biased advice* on the auditor's gender. These specifications include firm fixed effects. Columns (1)–(6) show the results of regressing *Undiversified advice*, while Columns (7)–(12) show the results of regressing *Home-based advice* on auditor's gender, estimated separately for the audit visits to Financial Planner and Securities Firms. *Female Auditor* is an indicator taking the value of 1 (0) for female (male) auditors. *High Risk Tolerance, High Confidence,* and *International Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and international (domestic) outlook in the audit visit, respectively. *Educated beyond sr. secondary school* and *Net Worth above HK$500,000* are indicator variables. *Age* is the age of the auditor in years. Standard errors are clustered at the auditor-level and are reported in parentheses below coefficients. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level.

	Undiversified Advice						Home-biased Advice					
	Financial Planner Firms			Securities Firms			Financial Planner Firms			Securities Firms		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Female Auditor	0.292**	0.301**	0.375***	0.038	0.039	0.017	0.262**	0.254*	0.322**	0.067	0.068	0.054
	(0.112)	(0.114)	(0.130)	(0.055)	(0.052)	(0.066)	(0.126)	(0.137)	(0.143)	(0.058)	(0.048)	(0.045)
High Risk Tolerance		0.117	0.136		-0.013	-0.021		-0.183	-0.192		-0.177***	-0.194***
		(0.094)	(0.099)		(0.055)	(0.056)		(0.141)	(0.133)		(0.051)	(0.053)
High Confidence		0.081	0.167		0.138**	0.132**		0.080	0.200		0.078	0.088
		(0.122)	(0.109)		(0.057)	(0.058)		(0.166)	(0.125)		(0.062)	(0.059)
Domestic Outlook		-0.062	0.023		-0.075	-0.085		0.071	0.170		0.010	0.009
		(0.150)	(0.148)		(0.060)	(0.055)		(0.143)	(0.112)		(0.052)	(0.054)
Educated beyond sr. secondary school			0.214*			0.011			0.279**			-0.047
			(0.106)			(0.071)			(0.125)			(0.048)
Net Worth above HK$500,000			-0.139			-0.049			-0.284**			-0.061
			(0.128)			(0.072)			(0.107)			(0.056)
Age			-0.005			0.005			-0.000			-0.005
			(0.013)			(0.006)			(0.019)			(0.006)
Constant	0.111	0.056	0.126	0.391***	0.365***	0.198	0.220**	0.222	0.139	0.363***	0.409***	0.652***
	(0.069)	(0.148)	(0.432)	(0.041)	(0.058)	(0.255)	(0.100)	(0.191)	(0.744)	(0.045)	(0.077)	(0.218)
Observations	74	74	74	388	388	388	74	74	74	388	388	388
R-squared	0.240	0.263	0.302	0.148	0.167	0.170	0.216	0.249	0.328	0.189	0.221	0.229

Table A14: Gender Difference and Auditor's Risk Tolerance in Financial Planner Visits

(Firm FE with Standard Errors Clustered at Auditor-level)

The top of the table shows predicted probabilities (Prd. Pr.) to receive *Undiversified Advice* by auditor's gender and risk tolerance for visits to Financial Planners. The probabilities are obtained from regression equation (10). These specifications include firm fixed effects. *Demographic Controls* include dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000)* and auditor's age (in years). At the bottom of the table, we report the difference in the probability (and t-test) to receive *Undiversified advice* by gender (keeping risk tolerance constant) and then by risk tolerance (keeping gender constant). Standard errors are clustered at the auditor-level and are reported in parentheses below coefficients. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% level.

	Undiversified Advice	
	(1)	(2)
Prd. Pr. [Male, Low Risk Tolerance]	0.112	0.084
	(0.088)	(0.073)
Prd. Pr. [Male, High Risk Tolerance]	0.109	0.120
	(0.102)	(0.104)
Prd. Pr. [Female, Low Risk Tolerance]	0.323***	0.336***
	(0.090)	(0.111)
Prd. Pr. [Female, High Risk Tolerance]	0.568***	0.579***
	(0.119)	(0.136)
Among High Risk Tolerance: [Female – Male]	0.459***	0.459**
	(0.163)	(0.175)
Among Low Risk Tolerance: [Female – Male]	0.211	0.252*
	(0.128)	(0.149)
Among Females: [High – Low] Risk Tolerance	0.245	0.243
	(0.147)	(0.158)
Among Males: [High – Low] Risk Tolerance	-0.003	0.037
	(0.132)	(0.130)
Demographic Controls	No	Yes
Observations	74	74
R-squared	0.271	0.294

Table A15: Gender Difference and Auditor's Confidence in Financial Planner Visits

(Firm FE with Standard Errors Clustered at Auditor-level)

The top of the table shows the predicted probabilities (Prd. Pr.) to receive *Undiversified Advice* by auditor's gender and confidence for visits to Financial Planners. The probabilities are obtained from regression equation (11). These specifications include firm fixed effects. *Demographic Controls* include dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000)* and auditor's age (in years). At the bottom of the table, we report the difference in the probability (and t-test) to receive *Undiversified advice* by gender (keeping confidence constant) and then by confidence (keeping gender constant). Standard errors are clustered at the auditor-level and are reported in parentheses below coefficients. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% level.

	Undiversified Advice	
	(1)	(2)
Prd. Pr. [Male, Low Confidence]	0.095	0.029
	(0.113)	(0.089)
Prd. Pr. [Male, High Confidence]	0.131	0.157
	(0.097)	(0.101)
Prd. Pr. [Female, Low Confidence]	0.340***	0.343***
	(0.092)	(0.108)
Prd. Pr. [Female, High Confidence]	0.484***	0.535***
	(0.144)	(0.161)
Among High Confidence: [Female – Male]	0.354**	0.378**
	(0.159)	(0.168)
Among Low Confidence: [Female-- Male]	0.245	0.313*
	(0.155)	(0.168)
Among Females: [High – Low] Confidence	0.145	0.192
	(0.168)	(0.173)
Among Males: [High – Low] Confidence	0.036	0.127
	(0.156)	(0.143)
Demographic Controls	No	Yes
Observations	74	74
R-squared	0.251	0.286

Table A16: Gender Difference and Auditor's Geographic Outlook in Financial Planner Visits

(Firm FE with Standard Errors Clustered at Auditor-level)

The top of this table shows the predicted probabilities (Prd. Pr.) to receive *Home-biased advice* by auditor's gender and geographic outlook for visits to Financial Planners. The probabilities are obtained from regression equation (12). These specifications include firm fixed effects. *Demographic Controls* include dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000)* and auditor's age (in years). At the bottom of the table, we report the difference in the probability (and t-test) to receive *Home-biased advice* by gender (keeping geographic outlook constant) and then by geographic outlook (keeping gender constant). Standard errors are clustered at the auditor-level and are reported in parentheses below coefficients. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% level.

	Home-biased Advice	
	(1)	(2)
Prd. Pr. [Male, International Outlook]	0.228	0.210**
	(0.153)	(0.105)
Prd. Pr. [Male, Domestic Outlook]	0.213	0.190
	(0.145)	(0.132)
Prd. Pr. [Female, International Outlook]	0.440***	0.389***
	(0.113)	(0.114)
Prd. Pr. [Female, Domestic Outlook]	0.538***	0.653***
	(0.088)	(0.103)
Among Domestic Outlook: [Female - Male]	0.324*	0.463**
	(0.168)	(0.181)
Among International Outlook: [Female - Male]	0.213	0.180
	(0.185)	(0.164)
Among Females: [Domestic - International] Outlook	0.097	0.263*
	(0.143)	(0.151)
Among Males: [Domestic - International] Outlook	-0.014	-0.020
	(0.218)	(0.159)
Demographic Controls	No	Yes
Observations	74	74
R-squared	0.220	0.295

神秘訪客訪問規程

訪問前

- 請了解：您將會訪問證券公司還是理財公司？您可以在Spot-On分配的任務中找到此信息。

- 請牢記：您即將訪問公司的類型（證券公司/理財公司）的提問清單（見下文）。

- 請仔細閱讀及牢記您分配到的角色信息，并根據具體情境做出符合角色特征的合理變化，請確保您對您所扮演的角色足夠熟悉。

- 請確保：您的錄音設備正常工作且電池電量充足。

訪問期間

- 這是一次非結構化的訪談。

- 您（MS）和理財顧問（FA）之間的對話應該自然——就好像您真的需要理財建議一樣。

- 請確保清單中的所有問題都得到FA的解答。但是，請不要咄咄逼人，且不要暴露神秘訪客的身份。

- 由於訪談是非結構化的，因此不會為您提供結構化的對話劇本。相反，我們會提供一份提問清單。記住這份清單里的內容，以確保在訪談期間，你將會和理財顧問談論到清單中的所有要點。對於要點被討論的順序，我們對此沒有特別的要求。

- 在訪問期間，FA可能會要求您填寫"風險承擔能力問卷"，請根據提供給您的樣本填寫。

- 以下是FA可能會詢問您的一些示例問題，以及我們對這些問題所設定的答案：
  - 問：您想投資多少錢?
  - 答："現在約為十萬港元，之後每月約為$ x"（您可以根據您認為合理的情況選擇x）。
  - 問：（如果您有孩子）"您的孩子/孩子們的教育目標是什麼？"

- 答：“他/她想在香港學習，他/她將自籌資金”。
- 問：你的投資期限/目標是什麼?
- 答：“我計劃長期 - 退休”。

- 對於所有其他可能會被提問到的問題，包括您的教育程度，職業，收入及財富水平，個人/家庭情況，當前投資（如強積金和保險），交易經驗等，請根據您自己的真實情況自然而誠實地回答問題。當然，請記住不要透露您是Spot-On Insights的神秘顧客！

提問清單

由於訪談是非結構化的，且我們希望訪談如同真正的客戶與理財顧問交談一樣自然，您**需要允許FA自由地提供建議**。但是，請記住嘗試引導對話，以便涵蓋以下清單項目。

A）你必須向FA透露你的角色形象：

- 風險承擔能力 - 您要麼是低風險承擔能力（非常保守），要麼是高風險承擔能力（非常大膽/積極）。
  - 填寫風險承擔能力問卷時，請根據提供給您的樣本填寫。
  - 低風險承承擔能力，請通過這樣說來暗示：“我想買翻D比較安全既產品。我驚如果我買錯咗會蝕錢。我都可以接受一DD損失，但係太多就唔得。”
  - 高風險承擔能力，請通過這樣說來暗示：“我唔介意個市唔好果陣會蝕錢，不過我就希望個市好果陣賺多D，所以有時蝕錢都可以接受既。”
- 信心水平 - 您要麼信心不足，要麼高度自信。
  - 信心不足，請通過這樣說來暗示：“我之前從未自己做過重要既財務決策，我地屋企都係我父母/先生/太太話事。所以今次過來都係我需要你建議既原因。”
  - 高度自信，請通過這樣說來暗示：“我通常都係自己做財務決策，通常就唔會接受顧問既幫助。今次只不過系有個friend話咁重要既事一定要先問你地D專業人士意見再做決定。”

- 本地/國際展望觀點 - 您要麼是本地展望觀點，要麼是國際展望觀點。
  - 國際觀點，請通過這樣說來暗示："我堂兄住係加拿大，我都林住以後可能會搬過去加拿大。我都暫時未確定退休之後留唔留系香港。"
  - 本地觀點，請通過這樣說來暗示："我系香港出世，以後都打算退休之後留系香港。"**即使您有目前在國外的親戚，都請不要提及任何國外的親戚。**

B）你必須問這些問題：

Q1）根據我的情況，您會推薦哪種金融產品？

對於每種產品，請提出問題/插入評論，例如：
Q2）"我不知道這個產品，你能解釋它是什麼嗎？"或"你能告訴我多一些關於這個產品的信息嗎？"

FA 告訴您有關該產品的更多信息後，請進行詢問：
Q3）"這個產品適合我是因為......？"

追問

1. 如果你在訪問一位理財顧問(FA)：
如果 Q1 中 FA 推薦的產品是基金（你會從 Q2 的答案中得知），接下來請向 FA 提問：

- 如果你有本地展望，請問：

  *Q4a）"蘋果/微軟/谷歌/臉書（Apple/Microsoft/Google/Facebook）股票怎麼樣？我所有的朋友都在談論它。"（請隨機選擇上述任何**一支**股票。）*

- 如果你有國際展望，請問：

  *Q4a）"蘋果/微軟/谷歌/臉書（Apple/Microsoft/Google/Facebook）股票怎麼樣？我所有的朋友都在談論它。"（請隨機選擇上述任何**一支**股票。）*

如果 Q1 推薦的產品是股票（你會從 Q2 的答案中得知），請詢問：

- 如果你有本地展望，請問：

    Q4b）"領航全球股票基金/貝萊德全球股票基金怎麼樣？我所有的朋友都在談論它。"（請隨機選擇上述任何一支基金。）

- 如果你有國際展望，請問：

    Q4b）"領航全球股票基金/貝萊德全球股票基金怎麼樣？我所有的朋友都在談論它。"（請隨機選擇上述任何一支基金。）

2. 如果你在訪問一間證券公司：

   如果 Q1 中 FA 推薦的產品是基金（你會從 Q2 的答案中得知），接下來請向 FA 提問：

   - 如果你有本地展望，請問：

       Q4a）"騰訊/港鐵/中電/中華煤氣股票怎麼樣？我所有的朋友都在談論它。"（請隨機選擇上述任何一支股票。）

   - 如果你有國際展望，請問：

       Q4a）"蘋果/微軟/谷歌/臉書（Apple/Microsoft/Google/Facebook）股票怎麼樣？我所有的朋友都在談論它。"（請隨機選擇上述任何一支股票。）

   如果 Q1 推薦的產品是股票（你會從 Q2 的答案中得知），請詢問：

   - 如果你有本地展望，請問：

       Q4b）"盈富基金/恆生指數 ETF 怎麼樣？我所有的朋友都在談論它。"（請隨機選擇上述任何一支基金。）

   - 如果你有國際展望，請問：
   - *Q4b）"標準普爾500指數基金怎麼樣？我所有的朋友都在談論它。"*

訪問結束後

- 請在訪問後24小時內填寫神秘顧客訪談結束問卷。

如果您忘記和 FA 討論清單中的某個項目，您應該在填寫問卷時將與該項目相關的問題欄
留空。

<div align="center">

Visit Protocol – English Version

</div>

Before the Visit

- Find out: Are you visiting a securities firm or a financial planner? You can find this information in your task assignment.
- Memorize the checklist (see below) for the appropriate firm type.
- Refresh your memory about your avatar and the synthetic elements that you must embody.
- Make sure that your recording device is working and has working batteries.

During the Visit

- This is an unstructured interview.
- The conversation between you (MS) and financial advisor (FA) should flow naturally – as if you really want financial advice.
- Make sure that all your questions are answered. However, do not be aggressive and try not to blow your cover.
- Because the interview is unstructured, you are not provided a structured script. Instead, we provide a checklist. Memorize this checklist. Ensure that during the interview all the points in the checklist are revealed to the FA. The order in which they are revealed is not so important.
- During the visit, the FA may ask you to fill in a Risk Profile Questionnaire. Please answer the questions according to the sample provided to you.
- Here are some sample questions you may receive from the FA, and our recommended answers to these questions.
  - Q: How much do you want to invest?
  - A: "A*bout HK$100,000 now, and about $x per month later on"* (you can choose x according to what seems reasonable to you).
  - Q: (If you have children) "What is your goal for your child's/children's education?"
  - A: "H*e/she wants to study in Hong Kong, and he/she will self-finance".*
  - Q: What is your investment horizon?
  - A: *"I am planning for the long term -- my retirement".*
- For all other elements, including your education, occupation, income and wealth level, personal/family situation, current investments (such as MPF and insurance), trading experience, etc. please answer the questions naturally and honestly, based on your own true situation. Of course, remember to not reveal that you are a mystery shopper.

Checklist for Mystery Shopper (Auditor)

Since the interview is unstructured and meant to be as natural as if a true client were talking to a financial advisor, you must allow the FA to give advice freely. However, do remember to try and steer the conversation such that the following checklist items are covered.

A) You have to reveal your avatar:
- Risk tolerance – You are either low risk tolerance (very conservative) or high risk tolerance (very bold/aggressive).
    - When filling in the Risk Profile Questionnaire, answer the questions according to the sample provided to you.
    - Low risk tolerance– signal this by saying: *"I want to buy something that is safe. I worry that if I make a mistake then I will lose my money. I can tolerate a little loss but not much."*
    - High risk tolerance– signal this by saying: *"I don't mind if I lose money sometimes in bad times, but I want to make good money when the times are good. So I can afford to lose some money."*
    - Confidence level – You have either low confidence or high confidence.
        - Low confidence – signal this by saying *"I have never made important financial decisions on my own before. In my household, my parents/spouse have always done this. That is why I need your advice."*
        - High confidence – signal this by saying *"I usually make financial decisions myself. I don't usually take the help of advisors. I am only here because my good friend insisted that I meet you before I make any decisions."*
    - Domestic/International outlook – You have either domestic outlook or international outlook
        - International outlook – signal this by saying *"My cousin lives in Canada and I am thinking maybe I will move to Canada. I am not sure that I want to retire here."*
        - Local outlook – signal this by saying "*I was born here and I intend to retire here."* Do not mention any relatives that live abroad **even if they do**.

B) You have to ask these questions:
    Q1) Given my situation, which financial product(s) would you recommend for me?

     For each product, ask questions/insert comments such as –

    Q2) "I am not aware of this product, can you explain what it is?" or "Can you tell me a bit more about this product?"

    After the FA tells you more about the product, then probe –

    Q3) "And this product is good for me because…?"

Probe

1. If you are visiting a Financial Planner:
   If the product recommended in Q1 is a fund (you will know this from the answer to Q2):

   - If you have Domestic Outlook, ask:
     Q4a) "What about something like Tencent/MTR/CLP Electric/TownGas? All my friends are talking about it." (Choose any **one** of the above stocks randomly.)

   - If you have International Outlook, ask:
     Q4a) "What about something like Apple/Microsoft/Google/Facebook? All my friends are talking about it." (Choose any **one** of the above stocks randomly.)

   If the product recommended in Q1) is a stock (you will know this from the answer to Q2):

   - If you have Domestic Outlook, ask:
     Q4b) "What about something like Value Partners Fund/BOCHK Hong Kong Fund? All my friends are talking about it." (Choose any **one** of the above funds randomly.)

   - If you have International Outlook, ask:
     Q4b) "What about something like Vanguard Global Equity fund/ Blackrock Global Equity Fund? All my friends are talking about it." (Choose any one of the above funds randomly.)

2. If you are visiting a Securities firm:
   If the product recommended in Q1 is an ETF, (you will know this from the answer to Q2):

   - If you have Domestic Outlook, ask:
     Q4a) "What about something like Tencent/MTR/CLP Electric/TownGas? All my friends are buying it." (Choose any one of the above stocks randomly.)

   - If you have International Outlook, ask:
     Q4a) "What about something like Apple/Microsoft/Google/Facebook? All my friends are buying it." (Choose any one of the above stocks randomly.)

   If the product recommended in 1) is a stock (you will know this from the answer to Q2):

   - If you have Domestic Outlook, ask:

Q4b) "What about something like Tracker Fund of Hong Kong ETF / Hang Seng HSI ETF? All my friends are buying it."

- If you have International Outlook, ask:
  Q4b) "What about something like the S&P 500 ETF? All my friends are buying it."

After the Visit

- Please fill in the Exit Questionnaire within 24 hours after the visit.
  If you forgot to communicate a particular checklist item, then you should leave that box blank.