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Do women receive worse financial advice?

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ABSTRACT

We arranged for trained undercover men and women to pose as potential clients and visit all 65 local financial advisory firms in Hong Kong. At financial planning firms, but not at securities firms, women were more likely than men to receive advice to buy only individual or only local securities. Women clients who signaled that they were highly confident, highly risk tolerant or had a domestic outlook, were especially likely to receive this suboptimal advice. Our theoretical model explains these patterns as the result of statistical discrimination interacting with advisors' incentives. Taste-based discrimination is unlikely to explain the results.

JEL Classification: D14, D91, G11, G24, G41

Keywords: audit study, gender, financial advice, securities firm, financial planner, risk tolerance, confidence, geographic outlook.

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

A question to a female finance professor from a financial advisor

In many parts of the world, as women become wealthier, they are participating more in financial markets. Their investment choices can have important consequences for their financial outcomes and economic empowerment. To the extent that individuals, especially women, seek advice from finance professionals before making investment decisions (Federal Reserve Board 2016, Chater, Huck & Inderst 2010), it is important both to evaluate the quality of this advice and to understand the factors influencing it.[1]

We conducted an audit study to examine whether financial advice varies by client gender. During 2018-19, we arranged for undercover "auditors" to visit the offices of all local Hong Kong financial advisory firms that cater to retail investors. At each visit, they followed a free-flowing prepared script and engaged financial advisors in conversation, explaining that they wanted to invest toward their retirement and requesting recommendations for specific financial products. Each 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.[2] After the visit, they answered an online exit survey questionnaire to

[1] About 46% of all investors at the Hong Kong Stock Exchange in 2014 were women (Hong Kong Exchange and Clearing Limited 2014). It is possible that Hong Kong women participate in financial markets more than women elsewhere. In a 2017 online survey, 62% of women respondents in Hong Kong, but only 5% of women respondents in the UK said they planned to invest in stocks (IP Global 2017). The experience of Hong Kong women may predict future patterns as women in other regions become more active investors.

[2] A large literature has found that women are more risk-averse and less confident in their ability to save and invest than men, that they make more conservative financial choices, and trade less frequently (Bajtelsmit and Bernasek 1996; Barber and Odean 2001; Bertrand 2010; Merrill Lynch 2018).

report a range of information about the interview, including the names of all the products the advisor had recommended. Since we induced experimental variation in the assignment of auditor gender and avatars to financial advisors and randomly matched auditors to financial advisory firms, the advice that we observe is not confounded by endogenous matching or by underlying differences in these auditor characteristics.[3] This allows us to cleanly separate how advisors responded to the auditor's gender and their signaled attributes, and whether the same attribute elicited different responses depending on client gender.

A key challenge in a study such as ours is how to objectively evaluate the quality of financial advice. The optimal portfolio for any investor is a function of many attributes, both observed and unobserved by the researcher. In addition, any self-reported measure of advice quality is likely to involve subjective judgement.[4] Financial shocks can also prevent ex-ante optimal advice from generating high returns ex-post. Our approach is to classify financial advice as suboptimal if it exposes the client to uncompensated risk. Specifically, we identify as "undiversified" advice that *only* consists of recommendations to purchase individual risky securities, and as "home-biased" advice that *only* includes recommendations to purchase local

[3] Gender discrimination in financial markets has been studied by Annan (2020), Alesina, Lotti and Mistrulli (2013), Brock and De Haas (2019), and Egan, Matvos and Seru (2018). Although Mullainathan, Noeth, and Schoar (2012) did not design their audit study explicitly to identify gender differences, they found that women investors were discouraged from buying actively managed or international funds, and were encouraged to hold more liquid assets than men.

[4] Wang (1994) and Borzykowski (2013) note 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 than men do.

securities.[5] This is because, in both situations, the recommended financial products expose the client to idiosyncratic risk, for which there is no corresponding compensation.[6]

Our data suggest that, on average, retail clients in Hong Kong receive advice of poor quality. In 38% of the audit visits, the advisors recommended *only* individual risky securities. Similarly, in 39% of the visits, the advisors recommended *only* local securities.

The unique empirical context of Hong Kong allows us to investigate deeper. Within the same market, we observe two different business models for financial advisory firms. We find that advisors recommended the purchase of only risky individual securities in 41% of the audit visits to securities firms, where revenue is mainly earned through trading commissions. In contrast, at financial planning firms, where commissions come from a larger variety of products, advisors suggested only risky individual securities in a significantly lower 25% of visits.

Remarkably, although securities firms were more likely to give suboptimal advice overall, they *did not* differentiate between male and female clients. In contrast, financial planners, who on average gave better advice, were significantly more likely to give suboptimal (single

[5] As we show in Section VII.D, our results remain qualitatively similar when we instead use market-adjusted returns for the recommended securities as an ex-post measure of advice quality. Advice quality can also be measured 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). We cannot use this metric, because only three funds in Hong Kong are linked to the broad index. The literature also has examined the aggressive sale of products by agents who receive high commissions from originating financial firms (Robles-Garcia 2020). We do not have detailed data on the commissions that the advisors get for selling these other financial products.

[6] It is important to note that investing in only individual securities or only local securities cannot be optimal even for clients who would like to take on high degrees of risk. For such clients, individual risky securities are dominated by a high-beta risky portfolio because the latter involves systematic (not idiosyncratic) risk and also compensates for it. If the investor does not have enough leverage, they can construct such a portfolio by buying only high beta securities. This could explain why there is abnormally high demand for high-beta securities (Frazzini and Pedersen 2014).

securities or home-biased) advice to female than to male auditors. They were especially likely to give this suboptimal advice to female auditors who signaled that they were risk tolerant, confident, or had a domestic outlook.

Our stylized theoretical model rationalizes this pattern as the combined result of advisors' incentives and their stereotypical beliefs about advisees' financial knowledge.[7] In the same spirit as a well-established literature, financial advisors in our model face a conflict between increasing the commissions generated within a client-advisor relationship, and increasing the chance that the client maintains the relationship (Mehran and Stulz 2007; Stoughton, Wu and Zechner 2011; Inderst and Ottaviani 2012a, 2012b, 2012c; Chen and Gesche 2017). Specifically, advisors' commissions increase in the number of trades the clients carry out. This creates an incentive to recommend several individual products rather than a single diversified product, such as an exchange-traded fund consisting of a portfolio of securities. However, clients who dislike their advice will not return. Thus, advisors have an incentive to "cater" the advice to the clients' signaled preferences. For example, they may give high-risk advice to risk-tolerant and confident clients, and home-biased advice to clients with a domestic outlook. At the same time, however, financially knowledgeable clients will detect suboptimal advice and discontinue the relationship. If advisors perceive that female clients are less discerning (Lusardi and Mitchell, 2008; Bucher-Koenen et al. 2016; Bertrand, 2020; Klapper and Lusardi, 2020), they will be especially likely to recommend individual, risky (or local) securities to women clients who signal that they are risk tolerant, confident or have a domestic outlook.

[7] Alternatively, advisors themselves may lack financial knowledge (Linnainmaa, Melzer and Previtero 2020). However, this is unlikely to explain our results, since all advisors in our study had passed a licensing exam set by the Securities and Finance Commission of Hong Kong.

The institutional context in Hong Kong provides the appropriate setting to test the importance of advisors' incentives. Securities firms in Hong Kong are able to carry out trades on the stock exchange and therefore keep the entire trading commission on the clients' trades of securities. They operate a low-fee low-service business model, attracting clients with moderate levels of financial knowledge who seek general financial advice, but are mainly looking to place trading orders. They have a strong incentive to recommend individual risky securities where they pocket the entire commission. Financial planners are not licensed to trade on the exchange and must delegate clients' trading orders to other brokers. Accordingly, they keep only a fraction of the clients' trading commissions. Indeed, their revenue source is more diversified, since they earn commissions from selling a larger variety of financial products, many of which are bought and then held for considerable durations. Therefore, they operate a high-fee high-service business model and attract clients with low levels of financial knowledge who require detailed advice. It follows that securities firms are more likely than financial planners to give undiversified advice.

We assume there are underlying differences in the distribution of financial knowledge among men and women, such that a relatively small proportion of women are highly financially knowledgeable and a relatively large proportion have low financial knowledge. Combined with the general pattern that financial planners attract investors with lower financial knowledge, this implies that among the clients who visit financial planners, women have on average lower financial knowledge than men do, whereas among the clients of securities firms, the gender difference in financial knowledge is less pronounced. As a result, financial planners are more

likely to give suboptimal advice to women than to men, whereas securities firms are relatively unlikely to distinguish their advice by client gender.

Our model thus highlights that while advisor's conflicts of interest contribute to low-quality advice, these alone do not generate gender differences in advice. Securities firms, which have the strongest conflicts of interest, *do not* differentiate by client gender. Instead, it is the *interaction* of advisor incentives and their beliefs about clients' financial knowledge that drives the gender differences.

Our work contributes to the broad literature that tries to establish the underlying cause for differential treatment by client gender (Feins & Bratt, 1983; Ayres & Siegelman, 1995). For instance, an alternative explanation for gender differences in advice quality is that advisors have a distaste for advising confident, risk-tolerant women investors who defy their gender stereotypes.[8] However, this taste-based explanation predicts similar gender differences in advice at both securities and financial planning firms. Our finding that gender differences only arise among financial planners suggests that advisor incentives interact with stereotypes about women's lower financial knowledge to generate the patterns we see.

This paper also joins a recent strand of the literature that finds that women investors receive worse financial advice than men. Baeckstrom, Marsh & Silvester' (2021) study high-wealth investors in the UK and find that female advisors' women clients hold significantly less cash (i.e., carry more risk) in their portfolios than their men clients. Bucher-Koenen et al.'s (2020)

[8] 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; Yinger 1986).

analysis of about 27,000 real advisor-client meetings at a German bank finds that advisors are more likely to advise women to purchase bank-owned high-cost funds. A key distinction is that our audit study approach allowed us to randomize client characteristics, thereby enabling us to rule out the possibility that advisors' recommendation of individual risky securities was an optimal response to women clients' preferences that we do not observe. In the absence of such variation, Bucher-Koenen et al. (2020) argue circumstantially that the advice to purchase high-cost funds could not have been a response to greater unobserved female demand for such products, since financially knowledgeable women are more likely to reject this advice.

Further, since our institutional context includes two different types of advisory firms, we are able to examine how advisor incentives affect the quality of their advice. We also model the role of investors' financial knowledge in their decision to seek financial advice and from whom to seek financial advice. This endogenous matching of clients to advisory firms plays a key role in our paper. As we will argue below, it interacts with the different incentives of the two firm types to produce different patterns of gender differences in advice quality.[9]

Since we generated the data through an audit study, we can only observe how financial professionals advise walk-in prospective clients at the initial point of contact. As a result, we cannot see the trades that clients (would) ultimately end up making (if they had been real clients). Also, in principle, it is possible that advisors change course and improve their advice to female clients in subsequent meetings. However, that would imply that advisors change

[9] Bucher-Koenen et al. (2020) study advisors who are all employees of the same bank and are implicitly assumed to face the same incentive structure. While it is possible that the clients in their data may have matched to advisors endogenously, this matching does not play an important role in their analysis.

course more with their women than men clients, and even then, the central question remains: why do financial advisors treat women clients differently? Our paper provides novel answers to this question.

The paper is organized as follows. Section I describes the institutional context for our study. 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. It also describes our auditors' characteristics. Section V presents our main results. In Section VI, we present supplementary results. Section VII concludes.

I. Institutional Context

In 2019, the market capitalization of listed domestic companies in the Hong Kong Exchange was USD 4.9 trillion, making Hong Kong one of the world's top financial centers (World Bank, 2019). 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 directly owned stocks and/or derivatives listed on the HKEX, and nearly one-half of these retail equity investors were women. As women's education, labor force participation, and wealth increase worldwide, and they become important clients of the retail advising industry, insights from Hong Kong's advising industry can provide lessons for what to expect.

Although they are increasingly important as a market segment, 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 and self-reported

higher levels of confidence in their financial knowledge (Investor Education Centre, 2018). It is likely that financial advisors take these differences into account when advising their clients.

In Hong Kong, only individuals who hold a Type 4 license issued by Hong Kong's Securities and Futures Commission are allowed to practice as financial advisors (Securities and Futures Commission, 2020).[10] They are employed not just by financial planner (FP) firms but also by securities firms (SF). Advisors employed by banks fall outside the scope of our study since only the bank's clients can approach them for advice, and their recommendations are limited to products that the bank sells.

Securities firms (SFs) provide a trading platform for individual investors. Financial advisors at such firms are titled "account executives." SFs are full-service brokers, who advise clients upon request, but many of their investors are self-directed. In contrast, financial planner firms (FPs) provide personalized wealth management advice. The financial advisors who work at FPs are called "relationship managers". They mainly work with clients looking to delegate their investment decisions.

Advisors' incentives to recommend particular products likely depend on the revenues they earn from their advice. Our focus in this paper is on commissions they earn from trading securities for their clients. This is because we can make clear comparisons of advice quality when it comes to recommendations about traded securities. Since they are licensed to directly trade on the local stock market, SFs retain the entire commission they receive from clients. FPs are not authorized to trade directly and, therefore, must pass the client's order onto a broker

[10] A Type 4 license is only granted to individuals who pass several exams testing for local regulatory information and financial knowledge (Hong Kong Securities and Investment Institute 2022).

and share the trading commission with them. Thus, within the class of individual risky local securities, SFs stand to earn a larger trading commission than FPs do. Therefore SFs have a larger incentive to recommend risky local securities than FPs. However, Hong Kong-based financial advisory firms cannot directly execute trades on international stock exchanges. If a client wishes to purchase an international security, both SFs and FPs must delegate the order to an international broker and share a very similar fraction of the commission with this broker. Therefore, the larger commissions from local securities incentivize advisors to recommend more local securities than international securities. However, both SFs and FPs face the same reward for selling international securities, because these securities generate the same small commissions for both advisory firm types.

In addition to trading commissions, advisory firms also receive commissions from fund houses or insurance companies for selling their (non-traded) products. They may also receive a fraction of the management fee that the client pays the mutual fund house each year. Importantly for our purposes, these commissions, and therefore the incentive to sell these products are similar for SFs and FPs. Clients also pay the advisory firm a fee equal to a percentage of the client's assets under the firm's management (AUM). These fees tend to be significantly smaller at SFs than at FPs (and in some cases, SFs may not charge fees at all).[11]

II. Model

[11] We do not have data on the commission rates from different fund houses or insurance companies. Also, since this is an audit study, the auditors do not have any existing portfolios with these firms. Therefore, we cannot compute advice quality metrics based on such data.

Our theoretical model provides the framework to analyze and interpret our empirical findings. Below we first describe how men and women differ in financial knowledge, and how this influences their choice of financial advisory firm to visit. We then explain how the different incentives that financial advisors face at these different firms affect their product recommendations, and how these differ by client characteristics such as risk tolerance, confidence, geographic outlook, and importantly, gender.

III.A. Demand: Matching of Investors to Financial Advisors

Individual investors vary in their ability to evaluate the menu of financial products. Specifically, assume the financial knowledge of investor i belonging to gender g is described by the random variable x_{ig}. Further, assume that female investors' financial knowledge follows the distribution $G_F(\cdot)$, while men's financial knowledge follows the distribution $G_M(\cdot)$.

Financial advisors can assist investors in making their product selections. Investors incur costs when they engage an advisor: a fee and a variable commission per trade. Also, advisors' incentives may not be aligned with those of the investor, in which case they may give sub-optimal advice.

We assume that each investor compares the benefit and cost of seeking advice and decides whether to approach an advisor. Since investors with low financial knowledge find it costly to collect and process financial information, they benefit from seeking financial advice instead (Willis, 2011). Highly knowledgeable investors face lower costs, and accordingly make their

investment decisions without assistance. Specifically, assume that if financial knowledge x_{ig} lies above the cut-off β, then the investor does not seek any advice.[12]

Investors who seek advice include (i) those with moderate financial knowledge who expect to receive a small (but positive) net benefit from advice; and (ii) those with low knowledge who expect a large net benefit. Advisory firms charge a fee (fixed or percentage of assets under management) and trading commissions. As we noted before, the industry offers two different levels of service: in the low-service model, the firm charges a low fee; in the high-service model, it charges a high fee. Both firms charge identical per trade commissions. In our data, we map the low-service firms to securities firms (SFs), and the high-service firms to financial planners (FPs). We conjecture that those with moderate knowledge, i.e., with $\alpha \leq x_{ig} \leq \beta$ find that their net benefit is larger if they visit SFs, while those with low knowledge, i.e., $x_{ig} < \alpha$ find that the net benefit is larger if they visit FPs. SFs and FPs, therefore, serve two distinct market segments. In Section III.B we will show that this conjecture will be upheld in equilibrium in our model.[13]

[12] As Stolper & Walter (2017) discuss, several scholars have found that financial knowledge and financial advice are "substitutes", or that less knowledgeable individuals are more likely to seek advice (Yoong & Hung 2009; Chalmers & Reuters 2012; Disney et al. 2015). This also rationalizes the regulatory oversight of financial advisors, aimed at preventing them from misleading susceptible investors. Note however that financial knowledge also tends to be correlated with wealth, income, education and age – which also predict the likelihood that the individual has discrtetionary income to invest – and this could explain why some studies find that those who seek advice are more knowledgeable than those who do not (Collins 2012, Finke 2012).

[13] The intuition is as follows. In this equilibrium, there should be no incentive for investors to deviate. Even if investors with moderate knowledge who visit securities firms knew that they had received low quality advice, they would not deviate to financial planners, because their marginal benefit from financial planners' better advice is too small to cover the larger fee. Similarly, low-knowledge investors who know that they receive high quality advice from financial planners have no incentive to deviate to securities firms, because their loss from the resulting worse advice outweighs the gain from paying a smaller fee.

A well-established empirical literature finds that women are less financially knowledgeable than men (see, e.g., Lusardi and Mitchell, 2008; Bucher-Koenen et al., 2016). Therefore, we assume that the distribution of men's financial knowledge, $G_M(\cdot)$, has the same shape as the women's distribution, $G_F(\cdot)$, but lies everywhere to its right, shifted by a constant 2μ. This is a special case of the condition that the men's density function of financial knowledge first-order stochastically dominates that of women. For simplicity, assume that the distribution functions are uniform. In Figure I, both men's and women's distributions have the range 2ρ, but the distribution for men is shifted to the right by 2μ. As discussed above, investors with high financial knowledge do not visit advisors, investors with medium financial knowledge visit SFs, and those with low financial knowledge visit FPs.

[INSERT FIGURE I ABOUT HERE]

III.B. Supply: Financial Advisors' Choice of Advice Quality

By construction, advisors who give optimal advice earn a commission of zero. Building on Inderst and Ottaviani's canonical framework (2012a, 2012b, 2012c), we can formally write advisor a's payoff if they recommend that investor i purchase individual risky securities as

$$\Pi_a = \underbrace{[f_a + m_a(\gamma)]\left[\theta\left(r_i, c_i, o_i, x_{ig}\right)\right]}_{\text{benefit}} - \underbrace{C(\gamma)}_{\text{cost}} \qquad (1)$$

where $\gamma \in [0, \infty)$ indicates the quality of advice. Specifically, optimal advice is indicated by $\gamma = 0$, and as the quality of advice worsens, γ increases. The benefit from suboptimal advice is the expected value of future revenue, which is the fee, f_a, and the commission, m_a, weighted by the probability, θ, that the client maintains the relationship.

III.B.1. Fee (f_a) and Commissions (m_a)

The fee, f_a, does not vary with advice quality, but the commissions $m_a(\cdot)$ increase in γ. Trade commissions increase in each additional risky individual security the advisor recommends. As discussed above, securities firms earn the entire broker's commission, whereas financial planners, unless they are licensed as brokers, must pass the client's order onto a broker, and then retain only a share of the commission. This allows us to write $m_{SF}(\gamma) > m_{FP}(\gamma)$ for individual risky securities. Also, as discussed in Section II, $f_{SF} < f_{FP}$.[14]

III.B.2. Probability of Retention (θ)

Clients are more likely to maintain their relationship with an advisory firm if they view its advice favorably. Partly this depends on whether the advice aligns with, or in other words, the advisor "caters to", the client's exhibited preferences (Mullainathan, Noeth, and Schoar, 2012). For example, highly risk tolerant clients and highly confident clients are more likely than those with low risk tolerance or low confidence to maintain relationships with advisors who recommend risky securities. Similarly, investors with a domestic outlook are more likely than those with an international outlook to maintain relationships with advisors who recommend domestic securities.[15]

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[14] Chalmers & Reuter (2020) find a broadly similar pattern among investment providers in the Oregon University System's Optional Retirement Plan: "HIGH" brokers who provide personalized, face-to-face service charge a higher fee; "LOW" brokers provide less personalized advice and charge lower fees.

[15] Advice that caters to clients' risk tolerance or confidence need not be suboptimal. As discussed in footnote 6, advisors could suggest that highly risk tolerant or confident clients buy high beta portfolios instead of individual risky securities. However, to cater to clients who have a domestic outlook or who prefer famous or interesting securities, the advisor would have to suggest domestic or individual risky securities, which would be suboptimal advice.

Accordingly, we assume that for a given level of γ, the probability θ that the investor maintains the relationship is increasing in the client's risk tolerance level (r) and confidence (c). However, since knowledgeable clients likely recognize that the advice is suboptimal, the positive effect of catering is tempered. In other words, more knowledgeable clients are less responsive to catering. Formally, θ increases with r and c by less if the client is more knowledgeable.

As discussed above, Figure I shows that clients with financial knowledge between α and β – defined as "moderate" knowledge – visit securities firms. Given the truncated distributions of financial knowledge between α and β, when a securities firm observes both a male and a female client, they expect both of them to have the same moderate financial knowledge level.[16] However, financial planners only receive clients whose knowledge is below the level α, and a greater percentage of women fall in this segment than men do. Therefore, as we can see in Figure I, financial planners expect their female clients to be less knowledgeable than their male clients.[17]

In Table I, we show the net effect of these different forces on the probability θ that an advisor who gives suboptimal advice retains the client.

[16] If financial knowledge follows a uniform distribution and α and β lie in the range ($\mu_M - \rho$, $\mu_W + \rho$), men and women who visit securities firms will have the same financial knowledge in expectation. Internet Appendix A shows that if financial knowledge follows a normal distribution, then a different range condition will ensure that the expected gender difference in the financial knowledge will be smaller for SF than for FP clients.

[17] Our audit study does not allow us to test if this assumption holds in practice in our empirical context. However our calculations using data from the nationally representative Health and Retirement Study (wave 2016) in the United States suggest that among respondents who seek paid professional financial advice, women have less financial literacy than men. However among those who obtain such advice for free, there is no appreciable gender difference in financial literacy. Details about our tests and the empirical findings are provided in Internet Appendix Table B.XII.

[INSERT TABLE I ABOUT HERE]

For example, consider an advisor at a securities firm who receives a male client. If the client signals that he is highly risk tolerant or highly confident, then suboptimal advice caters to this preference and increases the likelihood that he returns. On the other hand, since as discussed above, he has moderate financial knowledge, he is moderately likely to detect that the advice is suboptimal, and so be detracted from returning. In Table I, the net effect of these two opposing forces is shown as $\theta = a + d$. If, instead, the client had signaled that he had low risk tolerance or low confidence, then suboptimal advice would not even match his preferences. Accordingly, the likelihood that he returns is lower ($\theta = a$). Since the securities firm expects both male and female clients to have the same moderate level of financial knowledge, the same reasoning applies when the advisor is approached by a female client. Thus in our model, securities firms do not vary advice quality by client gender.

At a financial planning firm, an advisor that receives a male client expects him to have low financial knowledge. If in addition, the client signals that he has low risk tolerance or low confidence, then on the one hand, advice to purchase individual securities does not generate any additional benefit in retention probabilities, but on the other hand it is also relatively unlikely that the client detects that the advice is suboptimal. Therefore, compared to a male client with the same low risk tolerance and confidence who visited the securities firm, financial planners have a greater incentive to advise this client to purchase an undiversified or home-biased product. Accordingly, we denote $\theta = a + b$.[18] If instead the client was female, the

[18] All the parameters – a, b, c, d, e and f – are positive. No other conditions are needed. However, in order not to clutter the figures, we assume in Figures II, III and IV that $d > a + b$.

advisor would expect her to have very low financial knowledge, and accordingly extremely unlikely to detect that the advice was suboptimal, and extremely likely to maintain the relationship. This generates an even larger benefit from giving her suboptimal advice; we denote this by $\theta = a + b + c$.

If, instead, the male client visiting the FP signals that he has high risk tolerance or high confidence, then suboptimal advice caters to his preferences. Further, as before, he is relatively unlikely to detect that the advice is low quality. Accordingly, we write $\theta = a + b + d + e$, which is larger than the probability for low risk tolerance / low confidence male clients by the amount $d + e$. If the female client visiting the FP signals high risk tolerance or high confidence, then her lower financial knowledge means that her retention probability is even larger; $\theta = a + b + c + d + e + f$. Note that when a female client switches from low risk tolerance / confidence to a high level, the likelihood that an advisor retains her after giving sub-optimal advice increases by the amount $d + e + f$, whereas the same switch for a male client only increases the retention probability by a smaller $d + e$. This is in line with our assumption that an advisor benefits more from catering to a client's preferences when the client has less financial knowledge.

Figure II below provides a graphical representation of these assumptions.

[INSERT FIGURE II ABOUT HERE]

III.B.3. Cost ($C(\gamma)$)

We assume that the advisor's cost of giving suboptimal advice $C(\gamma)$ is a convex, increasing function of γ. We can think of this either as the fiduciary penalty or as the psychic cost of violating a code of conduct.[19]

III.C. Equilibrium

Advisors maximize the payoff in expression (1) above by selecting advice quality (γ) such that

$$m'(\gamma)\left[\theta\left(r_i, c_i, x_{ig}\right)\right] = C'(\gamma) \qquad (2)$$

In Panel A of Figure III, we graphically analyze the advisor's choice to recommend risky individual securities. For simplicity, we assume that commission $m(\cdot)$ is linear in advice quality, and as discussed above, for all values of γ, $m_{SF}(\gamma) > m_{FP}(\gamma)$. Specifically, assume that $m_{SF}(\gamma) = K \cdot m_{FP}(\gamma)$, where K is sufficiently large.[20] Since the values of θ in Table I are independent of γ for γ>0, the marginal benefit curves in the LHS of (2) are horizontal lines. Therefore, in Panel A of Figure III, for any given risk tolerance or confidence, the marginal benefit curve for SFs lies everywhere above the marginal benefit curve for FPs.

Given that the cost function $C(\cdot)$ is increasing and convex in advice quality, the marginal cost function $C'(\cdot)$ is upward sloping. For simplicity, we assume that it is a straight line.

[INSERT FIGURE III ABOUT HERE]

[19] Advisors who have a personal bias against women investors may face a smaller psychic cost when they give suboptimal advice to women than to men. In Section III.E., this will allow us to incorporate the possibility of taste-based discrimination against women clients.

[20] Specifically, we require that $K > \frac{a+b+c+d+e+f}{a}$.

Consider first the case of securities firms. Since, as discussed above, the expected financial knowledge of men and women who visit these firms is similar, advisors at these firms have no reason to distinguish between male and female clients. However, they stand to earn large commissions from suboptimal advice, and so they will cater to the client's preferences. It follows that these advisors will give worse advice to highly risk tolerant / highly confident clients than to less risk tolerant / less confident clients. This is true whether the client is male or female.

There are two differences when we consider financial planners. One, their considerably lower commissions from selling individual securities generate a weaker incentive to offer suboptimal advice, as depicted by the smaller vertical intercepts of the marginal benefit curves for FPs in Panel A of Figure III. Two, they expect that female clients are less knowledgeable than male clients, and so gain more from giving suboptimal advice to women than to men (depicted by the higher marginal benefit curves for women, shown in red, than for men, shown in blue) for all preferences. The net result is that in equilibrium, financial planners give higher quality advice than securities firms do, but they distinguish between male and female clients: specifically, they give worse advice to female than to male clients.

The assumption that more knowledgeable investors are less responsive to catering delivers an additional result: as discussed above, the gender difference in marginal benefits of suboptimal advice is larger when the clients are highly risk tolerant or highly confident. In Panel A of Figure III, this can be seen as the larger distance between the vertical intercepts of the male and female clients' marginal benefit curves, when the clients have high risk tolerance or high confidence — $c + f$ — compared to when they have low risk tolerance or low

confidence — c. It follows that financial planners are more likely to distinguish by gender when clients signal high confidence or risk tolerance.

For these results to obtain in equilibrium, investors must have no incentive to deviate from the sorting that we conjectured earlier: those with moderate knowledge visit SFs, while those with low knowledge visit FPs. Consider investors who visit securities firms and receive low quality advice. If they deviated to financial planners, they would receive better advice, but at a higher fee. Since they have moderate knowledge, their marginal benefit from the better advice is too small to cover this cost. Similarly, the low-knowledge investors who visit financial planners have no reason to deviate to securities firms, because their loss from the resulting worse advice outweighs the gain from switching and paying a lower fixed fee. We assume that at an earlier date, these two types of financial advisors set their fees to target different market segments, and these fees are profit-maximizing given the size of these market segments. This ensures that there is no deviation by advisors.[21]

In summary, we obtain the following implications.

Implication 1 (Difference in Propensity to Recommend Individual Risky Securities by Firm Type): Advisors at securities firms are more likely than advisors at financial planning firms to recommend that clients purchase individual risky securities.

Implication 2 (Difference in Propensity to Recommend Individual Risky Securities by Firm Type and Gender): Financial planners are more likely to recommend individual risky securities

[21] This equilibrium sorting can be formally modeled as an early-stage game, although it would not provide relevant novel insights relevant to the empirical tests of this paper.

when advising female clients than male clients. However, advisors at securities firms are equally likely to recommend individual risky securities to both genders.

Implication 3 (Difference in Propensity to Recommend Individual Risky Securities by Client Attributes and Gender – Financial Planners): Financial planners are more likely to distinguish their advice quality by gender when clients signal they are highly confident or highly risk tolerant.

III.D. Extension: Home-biased Advice

We now extend the model to analyze the advisor's choice to recommend local securities. Investors may vary in their geographic outlook. Denote by o the extent to which the investor prefers to own stock in domestic firms. By recommending that domestic outlook investors purchase local securities, the advisor can increase the chance that the client returns. Accordingly, in equation (1), we assume that for a given level of γ, the probability that the investor maintains the relationship (θ), is increasing in the client's domestic outlook (o), and in Table I, all else equal, we see a larger θ when the client has a domestic outlook.

However, local securities expose the investor to idiosyncratic domestic risks that could be diversified away through the purchase of international securities. Therefore, any advice that caters to a domestic outlook client's preference is necessarily suboptimal. Financially knowledgeable clients are likely to detect that they have received suboptimal advice, which lowers the chance that they return. Accordingly, in Table I, advisors who recommend local securities expect female clients to return more often than similar male clients.

Recall the previous assumption that more knowledgeable investors are less responsive to catering. In the case of the client's geographic outlook, this assumption implies that the gender difference in marginal benefits of suboptimal advice is larger when the client has a domestic rather than an international outlook. As before, we see this in Table I, where the gap between the probability of retaining male and female clients is larger $(c + f)$ when the clients have a domestic outlook than when they have an international outlook (c).

An important difference from our previous analysis is that advisors at both securities firms and financial planners earn smaller commissions from selling global securities than local securities. This is because neither firm can directly execute trades on international stock exchanges and so must delegate to an international broker, who takes an identical share of the trading commission from both. Therefore, $m_{SF}(\gamma) = m_{FP}(\gamma)$, and both advisor types have an equal incentive to recommend local rather than global securities.

Accordingly, Panel B of Figure III below can be viewed as a special case of Panel A of Figure III, where $K = 1$. Whereas in Panel A, the marginal benefit curve for securities firms was always higher than the curve for financial planners, in Panel B, this is no longer the case.[22] Therefore we do not obtain a clear rank-ordering of the different firms' propensity to recommend local securities over global securities.

[22] In the previous case, our assumption that $K > \frac{a+b+c+d+e+f}{a} > 1$ delivered the result that the vertical intercept of the lowest marginal benefit curve for securities firms was higher than the intercept of the highest marginal benefit curve for financial planners. Accordingly, irrespective of client characteristics, securities firms always had a stronger incentive to recommend individual risky securities than financial planners did. Now, since we assume that $K = 1$, this ordering no longer obtains.

As before, securities firms expect that their male and female clients have similar financial knowledge and, therefore, they can earn the same marginal benefits from suboptimal advice (local securities) to both genders. Clients respond positively to catering, and therefore the securities firm's marginal benefit curve for domestic outlook clients is higher than for international outlook clients. Therefore, in equilibrium, these advisors will give worse quality advice to domestic outlook clients, both male and female.

Just as before, financial planners expect their female clients to be less knowledgeable than male clients and also more responsive to catering. Therefore, analogous to our previous results, they are more likely to recommend local securities to women than men, especially if clients exhibit a domestic outlook.

In summary, we obtain the following implications.

Implication 4 (Difference in Propensity to Recommend Local Securities by Firm Type): We cannot rank order the propensity of advisors at securities firms or financial planning firms to recommend local securities.[23]

Implication 5 (Difference in Propensity to Recommend Local Securities by Firm Type and Gender): Financial planners are more likely to recommend local securities when advising female clients than male clients. Advisors at securities firms are equally likely to recommend local securities to both genders.

[23] One alternative explanation for our previous results could have been that securities firms employ less competent advisors. If so, these advisors would have recommended both more individual risky securities and more local securities than financial planners. Instead, we find that securities firms recommended more individual risky securities than financial planners, but advisors at the two firms are equally likely to recommend local securities.

Implication 6 (Difference in Propensity to Recommend Local Securities by Client Attributes and Gender – Financial Planners): Financial planners are more likely to distinguish by gender when clients signal that they have a domestic outlook.

III.E. Extension: Taste-Based Discrimination

We can extend this model to allow for the possibility that advisors may have a distaste for delivering good advice to female clients. We do this by allowing the advisor's cost function to also depend on the client's gender $C(\gamma, g)$. Advisors who have a personal prejudice against women clients may face a smaller psychic cost when giving suboptimal advice to women than to men. Accordingly, in Panels A and B of Figure IV, the advisor's marginal cost curve for advising women is flatter than for men. As before, advisors choose the quality that sets marginal benefit equal to marginal cost. Our previous result continues to hold: financial planners give worse advice to women than to men. However, unlike before, we now see that even securities firms distinguish between the genders in the same way. This gives us our final implication.

[INSERT FIGURE IV ABOUT HERE]

Implication 7 (Difference in Propensity to Recommend Individual Securities or Local Securities by Firm Type and Gender – Taste-Based Discrimination): Under taste-based discrimination, both securities firms and financial planners give worse financial advice to women than to men.

III. Study Design

Our sampling frame consists of all local firms in Hong Kong that advise retail investors. In February 2017, we obtained from the Hong Kong Securities and Finance Commission (SFC) website the list of all individuals who held an active Type 4 license allowing them to practise as a financial advisor in Hong Kong. For each such individual, the website also reports the firm where the person is employed, thereby allowing us to compile a list of all firms where advising services were potentially available.[24] We removed multinational firms since their operating procedure is determined globally, potentially constraining their advisors' conduct in Hong Kong. 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.[25]

In Summer 2018, our bilingual research assistant contacted each firm individually, via telephone or email. She pretended to be a potential retail customer, and using a free-flowing script in Cantonese, inquired if the firm would give her personalized financial advice. This allowed us to screen out firms unsuitable for our study, such as banks that only advised their depositors and firms that only advised corporate clients, only accepted referred clients, required an initial deposit before giving advice, only provided a trading platform, or those that only sold gold, insurance, or futures. After eliminating such firms, our sampling frame consisted of 90 individual advisory firms. These include 75 securities firms and 15 financial planning firms. We included all 191 branch offices corresponding to these 90 firms in our study.[26]

[24] 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 reassured us that we were correctly identifying the universe of all firms that provided financial advising services.

[25] If a firm did not post its contact information publicly, a prospective client was unlikely to be able to schedule an appointment without a referral. Such firms did not qualify for our study.

[26] We initially assigned 111 of the 191 branch offices to auditors and held 80 branch offices in reserve as replacements for contingencies. We created 594 branch × auditor random assignments, linking 32 auditors to 111

We designed our experiment so that each auditor embodied an "avatar" comprising three attributes: risk tolerance, confidence, and geographic outlook. We created 8 avatars that included all possible combinations when we allowed each attribute to take one of two values: high or low risk tolerance, high or low confidence, and a domestic or an international outlook. A market research firm hired 32 auditors (16 men and 16 women); and we assigned each avatar to 4 auditors (2 men and 2 women). We then randomly assigned each auditor to conduct 18-20 audit visits.

Every branch office received multiple visits, each from a different auditor. To maximize the precision of our estimates, we balanced the gender × avatar assignment across the different visits at the same branch office. Since the advisor could have asked to see the auditor's Hong Kong identity card, we instructed each auditor to truthfully provide their name when making the appointment. Auditors only visited firms with prior appointments.[27] An individual auditor was assigned to visit only one branch of any given firm; this helped to avoid detection in case firms had centralized appointment scheduling platforms. We assigned more visits to firms with more branches. However, to avoid creating suspicion, no branch received more than 6 visits.

Despite our elaborate groundwork, some of our visits failed – either because the staff at the advisory firm told auditors that the firm did not offer recommendations, or because they insisted on prior referrals or that the auditor open an account.[28] In such cases, we assigned the

firm-branches from 74 firms. Based on an initial pilot study, our power calculations suggested this sample size would be sufficiently powered. Details of the random assignment are in Section C.2 of the Internet Appendix.

[27] The auditors scheduled and attended their appointments independent of each other.

[28] Of our originally planned 594 visits, 187 (or 31.5%) failed for these reasons. We replaced 108 of these with new visits from our reserve list, giving us a total of 515 visits. However, even among these 515 visits, 52 did not result in usable data, as we explain in the Internet Appendix C.5. As a result, our analysis is run on data from 463 visits.

auditor to a visit at another branch office. The distribution of the originally assigned and the actual visits, and information about the failed visits are in Table C.1 and Section C.5 in the Internet Appendix. Importantly, the reasons for visit failures appear to be unrelated to our outcome of interest. Our final sample consists of 463 visits conducted at 102 branch offices across 65 individual firms.

A Hong Kong-based market research firm organized the audit visits.[29] They hired and trained the auditors to pose as potential clients visiting a financial advisor for the first time. All auditors were given the same, specific investment objective, investment amount, and investment horizon, and asked to state these and seek appropriate product recommendations. We provided them with scripts that they could incorporate naturally into their conversation to signal their avatar. Each auditor role-played the same avatar in all their visits. This helped to ensure they could embody their avatars successfully and avoid mistakes.[30]

To signal high risk tolerance, we provided the script (in Cantonese): *"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 low tolerance for risk was instructed to 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*

[29] We did not reveal our research question to either the market research firm or the auditors.

[30] In 6 visits, auditors reported that advisors appeared to remember having met another 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 to this one at this branch.

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."*[31] 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."* Someone with a domestic outlook was asked to say, *"I was born here and intend to retire here,"* and was also instructed to avoid mentioning any relatives that lived abroad.

It is common for financial advisors to administer a risk profile questionnaire to first-time clients. To ensure that auditors' responses to the questionnaire would align with their avatar, we created model answers for three risk profile questionnaires that we had obtained from different financial advisory firms before the visits began, and the market research firm trained the auditors to answer accordingly. Audits and training took place in Cantonese. Our bilingual research assistant attended the training sessions to ensure consistent last-mile delivery of our instructions.

We collaborated with the market research firm to choose the criteria for hiring auditors. Auditors needed to be able to credibly signal that they were Hong Kong retail investors seeking financial advice. At the same time, to ensure that the experimentally-varied attributes and

[31] Our theoretical model assumes that confidence and financial knowledge are orthogonal, and also that advisors interpret these two signals independently of each other. If however, advisors interpreted the high confidence script as signaling self-belief about high financial literacy instead, and if self-belief about financial literacy is positively correlated with actual financial literacy (Allgood and Walstad 2015), then they would have advised financially knowledgeable clients in the same way as clients who signalled high confidence, and both men and women who signaled high confidence would have received high quality advice. Instead, we find that high-confidence women (but not men) were more likely than low-confidence women to receive *suboptimal* advice.

gender of the auditors, but not their other characteristics, generated the bulk of the variation in advisors' perceptions of the auditors, they needed to be relatively homogenous in other aspects. Accordingly, all auditors were Hong Kong residents in the age group 30-45 years and earned incomes similar to the mean salary level in Hong Kong (Quarterly Report of Wage and Payroll Statistics, Hong Kong SAR, 2018). All spoke Cantonese. Section C.3 in Internet Appendix provides more details.

If education is correlated with financial knowledge, highly educated retail investors might be less likely to visit financial advisors. Accordingly, we chose to hire auditors who had not received a university education.[32] Similarly, we required that they had either no or limited experience trading on the stock exchange.[33] The market research firm confirmed that auditors met these criteria before hiring them. We obtained data about these and other characteristics from an online questionnaire they filled in after they were employed. Five individuals quit during the study and were replaced.[34] Table II 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 eight avatars.

[INSERT TABLE II ABOUT HERE]

[32] Despite this, one male auditor did have a Bachelor's degree in journalism. However, he fulfilled all the other criteria about age, monthly income and net worth, and limited investment experience.

[33] Rather than advertising any non-verifiable hiring criteria in the job posting, we asked the market research firm to use these criteria to screen out job applicants.

[34] 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 because of unsatisfactory performance, specifically because they did not probe sufficiently to ascertain the advisors' product recommendations. We do not know the reason why the fifth auditor quit.

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-thirds of the men, were married. Accordingly, the average woman 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, the likelihood of engaging in part-time work is less correlated with marital status and parenthood. This is borne out further by the fact that only three-quarters of the women auditors were employed at the time that they were recruited into our study, whereas nearly all the men were. Accordingly, women were also less likely to have a mandatory provident fund.[35] Men were more educated than women: 47% (22%) of men (women) had studied beyond senior secondary school. Men also reported owning more wealth than women did: 58% (33%) of men (women) reported a net worth above HK$500,000. In line with our intention to use auditors with little to no trading experience, none of the auditors had traded stocks more than 4 times in the previous year. In fact, 56% of the women auditors and 32% of the male auditors reported that they had never traded stocks before.

Within 24 hours of each visit, auditors filled in an online questionnaire where they reported various details of the visit. The market research firm followed its internal quality control procedures to verify these details. The data from the questionnaire form the basis of our empirical analysis. Section C.4 of the Internet Appendix provides details on the visit protocol, and Internet Appendix D provides the Cantonese script as well as an English translation of the visit protocol.

[35] 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.

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 auditors. As we can see from the green (lighter) bars in Panel A of Figure V, 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 described above, unsuccessful visits were replaced with visits to the branch offices on the reserve list. The brown (darker) bars show that this did not create an imbalance in terms of gender and the other three attributes we were randomly varying (Figure V, Panels B & C, respectively).

[INSERT FIGURE V ABOUT HERE]

The quality of advice that our auditors received could also have varied by the gender of the advisor they met. Our study randomly assigned auditors to particular branches, but we could not select the specific advisor whom the auditor met. If firms simply assign the first available advisor to each prospective client, then the advisor match was plausibly exogenous. However, firms could also selectively assign advisors according to clients' characteristics – specifically those that were easily observed when the appointment was made or when the auditor walked in. As we see in Table III, probably because financial advising is a male-dominated profession, auditors met female advisors in only 25.7% of the visits. Importantly, there is no evidence that firms match prospective clients to advisors of their own gender or of the opposite gender: when women conducted the audits, they were about as likely (24.3%) to meet a female advisor as

when men conducted the visits (27.2%). This pattern is similar across both securities firms and financial planners.[36]

[INSERT TABLE III ABOUT HERE]

V. Empirical Results

We now proceed to analyze the quality of advice that auditors received. As we see in Table IV, in line with their commission incentives, securities firms often recommended products that trade on the stock exchange. This includes stocks, which were recommended in 60% of the visits, exchange-traded funds (or ETFs) recommended in 21% of visits, and real estate investment trusts (or REITs) recommended in 7% of visits. Financial planners recommended a larger variety of products overall, although even they recommended traded products in 56% of the visits.

[INSERT TABLE IV ABOUT HERE]

In 30% of the visits, advisors did not recommend any specific product. In Table V, we examine the content discussed in these visits. Note first that no-advice visits predominantly took place at securities firms. In 56 (=53+3)% of the 120 such visits at SFs, the advisor claimed that their firm only facilitated trades but did not give customized advice to retail investors. In 23 (=17+6)%, the advisor only administered a risk profile questionnaire or discussed risk diversification strategies, and in 23%, they asked the auditor to open an account before advice

[36] After this research was concluded, an acquaintance who works at a securities firm told us that at their firm, "walk-in" clients are assigned to the first available advisor.

would be offered. In no-advice visits at financial planners, advisors were less likely to say that they did not advise clients or require them to open an account first.

[INSERT TABLE V ABOUT HERE]

Importantly, in our empirical analysis, all visits where the auditor did not receive specific product recommendations are coded as "undominated advice", i.e., not undiversified or not home-biased advice. This implies that our results are *not* driven by any systematic selection of visits where advisors choose to give advice. Instead, our estimates of the incidence of suboptimal advice are lower than they would have been if we had chosen to remove these visits from our estimation sample.[37]

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 idiosyncratic risk that could be diversified away at no loss of expected return. Therefore, we define the advice given in an audit visit as "undiversified" if the advisor only recommended individual risky securities to the auditor. The complement of this set, labelled "diversified," includes advice that mentioned a basket of securities, as well as visits where no advice was given. This 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 the exact weight of

[37] As we discuss in Section VII.E., our main conclusions are unaffected if we implement a multinomial logit estimation explicitly including the advisors' choice not to give advice.

each product they recommend.[38] *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 suboptimal advice. Importantly, advisors at both securities firms and financial planning firms can recommend diversified products if they choose to. For example, SFs could recommend baskets such as ETFs, and FPs could recommend baskets such as mutual funds.

Similarly, we construct another variable where the advice is classified 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. The complement of this set includes advice to buy securities from other jurisdictions, as well as visits where no advice was given.[39]

Table VI presents the summary statistics of the variables described above. In Column (1) of Panel A, we see that overall, in 38.4% of the visits, advisors only recommended single risky securities. Consistent with Implication 1, 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 ($p=0.01$). Column (2) shows that in 38.9% of the visits, advisors recommended only local securities. However, this propensity to

[38] Our main conclusions are unaffected when we analyze the ex-post returns of recommended products. See Section VII.D.

[39] Note that this definition is independent of whether the advice consisted of single securities or a basket of securities. If the advisor recommends a fund, we classify the advice as home-biased or not, based on the location of the underlying securities, not the headquarters of the fund manager.

give home-biased advice is equally prevalent among advisors at securities firms and financial planners. This is in line with Implication 4 that there is no clear rank ordering of the likelihood that advisors at securities firms or financial planning firms recommend local securities.

[INSERT TABLE VI ABOUT HERE]

In columns (1) and (2) of Panel B, we see that a male auditor and a female auditor visiting a securities firm were offered undiversified (home-biased) advice 39.3% (36.1%), and 42.6% (43.1%) of the time, respectively. In contrast, columns (3) and (4) show that 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 much more often: 36.8% (44.7%) of the time. The differences are 23.3% ($p<0.05$) and 20.4% ($p<0.10$). Thus, financial planners appear to be more likely to give suboptimal advice to female than to male clients, whereas securities firms are less likely to vary their advice quality according to the clients' gender. This is in line with Implication 2 and Implication 5.

Multivariate regressions allow more rigorous tests of these implications of our model. We use the following specification:

$$\mathrm{y}_{ai} = \alpha + \beta\ \text{Financial Planner}_a + \gamma\ \text{High Risk Tolerance}_i + \delta\ \text{High Confidence}_i + \mu\ \text{Domestic Outlook}_i + \boldsymbol{X_i} + \epsilon_{ai} \qquad (3)$$

Here, y_{ai} is a binary variable indicating the quality of the advice that auditor *i* received when they visited advisor *a*. Recall that we classify the advice as "undiversified" ("home-biased") if the advisor *only* recommended individual risky securities (securities domiciled in Hong Kong).

The binary variable $\text{Financial Planner}_{\text{a}}$ takes value 1 if the firm is a financial planner and 0 if it is a securities firm. We also include three binary variables indicating the risk tolerance, confidence level, and geographic outlook of the avatar of the auditor who conducted the visit. Vector $\boldsymbol{X}_i$ includes controls for the age, education level, net worth, and trading experience of the auditor. In all regressions, standard errors are clustered at the level of the auditor.[40]

In Columns (1)–(3) of Table VII, 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 VI. In Column (2), we include as controls the three binary variables that indicate the randomly assigned attributes of the auditor. The coefficient on the financial planner variable is unaffected by these controls. Similarly, when we additionally control for the auditor's personal characteristics in column (3), we continue to find that financial planners were 15.5 percentage points less likely than securities firms to give undiversified advice. This is in line with Implication 1.

[INSERT TABLE VII ABOUT HERE]

In Columns (4)–(6), the dependent variable takes 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 remains unchanged 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 VI, and in line with Implication 4.

[40] As we discuss in Section VII.F., our results are robust to clustering standard errors at the level of the branch of the advisory firm or at the auditor level, and including advisory firm fixed effects.

To summarize, we find that securities firms are more likely to recommend only individual risky securities (undiversified advice) than financial planners, but that both firm types are about equally likely to recommend local securities (home-biased advice).

To formally test Implications 2 and 5, we run the following regression separately for financial planners (FP) and securities firms (SF):

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

$$\delta \text{ High Confidence}_i + \mu \text{ Domestic Outlook}_i + \boldsymbol{X_i} + \epsilon_{ai} \quad (4)$$

where Female Auditor is an indicator for whether a female auditor conducted the visit.

In columns (1)–(6) of Table VIII, advice quality is measured using the dependent variable Undiversified Advice. As Column 1 shows, in their visits to the financial planning firms, women auditors were 23.3 percentage points more likely to receive advice only to buy single risky securities than men auditors were. The estimate remains very similar 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.

[INSERT TABLE VIII ABOUT HERE]

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. The point estimates on the Female Auditor indicator variable range from 0.021 to 0.037, and none are statistically significant. In columns (7)–(12), we run the same specifications as in columns (1)–(6), but the dependent variable is Home-biased Advice. Again, we find that financial planners were more likely to recommend only local securities to female

clients than to male clients. Once again, securities firms do not appear to vary their advice by client gender.

To summarize, we find strong evidence that financial planners were more likely to give suboptimal advice to female clients than to male clients, but no evidence that securities firms vary advice quality by gender. This lends support to Implications 2 and 5. The finding that securities firms do not vary their advice by gender suggests that our findings cannot be explained as the straightforward result of advisors' distaste for advising women investors. This addresses Implication 7.[41]

The experimental variation in the auditor's avatar attributes allows us to examine more deeply the factors behind gender differences in financial advice.

[INSERT TABLE IX ABOUT HERE]

We use the following empirical specification:

$$\mathrm{y}_{ai} = \alpha + \beta\ \text{Female Auditor}_i + \gamma\ \text{Attribute X}_i +$$

$$\omega\ (\text{Female Auditor}_i \times \text{Attribute X}_i) + \boldsymbol{X_i} + \epsilon_{ai} \qquad (5)$$

where y_{ai} is an indicator variable representing Undiversified Advice.

[41] Although our model is built on the assumption that advisors view gender as an indicator of the investor's financial knowledge (although we assume that securities firms and financial planners have different expectations in this regard), advisors could instead (or, in addition) infer clients' financial knowledge from other characteristics such as age, education, wealth or trading experience. As noted above, by design, these characteristics varied little among our auditors, limiting our ability to test if they influence advice quality. Nevertheless, in Table B.XIII in the Internet Appendix we show simple tests of differences in the likelihood of dominated advice between younger and older auditors, those with less and more education, less and more net worth, and less and more trading experience. In line with our main results, financial planners appear to be more responsive to proxies of financial knowledge than securities firms. Although the differences are never significant, financial planners are consistently less likely to give undiversified advice to younger, more educated, higher net worth and more experienced auditors. We thank an anonymous referee for raising this point.

In columns (1) and (2) of Table IX, Attribute $X_i = 1$ if the auditor was playing a high risk tolerance avatar, and 0 otherwise. We use this specification to estimate the predicted probability that the auditor receives suboptimal advice, and then compute the difference in predicted probability due to auditor's gender within a risk-tolerance level. For brevity, in the top half of Table IX, we report the predicted probabilities for the four gender × risk tolerance subgroups, and in the bottom half, we report the difference in predicted probabilities by gender (keeping risk tolerance constant) and by risk tolerance (keeping gender constant).

In column 2, we see that highly risk tolerant female auditors were more likely to receive undiversified advice than highly risk tolerant male auditors (difference = 36 pp, significant at 10%). However, among auditors who signaled low risk tolerance, the likelihood of receiving undiversified advice did not vary by gender (difference = 16.3 pp, not significant). The results are depicted in Panel A of Figure VI.

[INSERT FIGURE VI ABOUT HERE]

In columns (3) and (4) of Table IX, we examine how advice quality varies by the client's confidence level. As we see in column (4), highly confident female auditors were significantly more likely to receive undiversified advice than highly confident male auditors (difference = 35.2 pp, significant at 1%). However, among auditors who signaled low confidence, the likelihood of receiving undiversified advice did not vary by gender (difference = 17.7 pp, not significant). The results are depicted in Panel B of Figure VI.

Finally, we see that domestic-outlook female auditors were significantly more likely to receive home-biased advice than domestic-outlook males were (column 6; difference = 33 pp,

significant at 10%). However, among auditors who signaled an international outlook, the likelihood of receiving home-biased advice did not vary by gender (column 6; difference = 9.9 pp, not significant). The results are depicted in Panel C of Figure VI.

Taken together, our results are consistent with the idea that advisors at financial planning firms attempt to "cater" to clients' characteristics—risk preferences, confidence, and geographic outlook—but they respond to these attributes more sharply when the client is female than when the client is male. Our model interprets this as the result of differential financial knowledge: advisors are more likely to cater to the preferences of women by offering suboptimal advice because they perceive that female clients have less financial knowledge. Thus, women who exhibit that they are risk-tolerant, confident, or have a domestic outlook are more likely to receive suboptimal advice than men who display the same attributes. This lends support to Implications 3 and 6.[42]

VI. Supplementary Findings

Next, we examine our data to answer some additional questions of interest.

VII.A. Which firm type gives female investors better financial advice?

[42] An anonymous referee suggested that since the auditors had limited trading experience, the advisors could have recommended familiar or interesting securities in order to motivate them to invest. However, as we show in Internet Appendix Table B.XIV, auditors who had never traded stocks before, and those who had traded at least once, received undiversified advice in an identical 38% of audit visits. It has also been suggested that auditors who played the high risk tolerance avatar were signalling that they were either risk-loving or positive-skewness-loving, and auditors may have catered to that preference. To address this, in Internet Appendix Table B.XV, we compare the stocks recommended to such auditors with the constituent stocks in the Hang Seng Index. In fact, we find no evidence that recommended stocks had higher variance (as would be predicted if the auditors were risk loving), or higher skewness (as would be predicted if the auditors had gambler-like preferences).

Table VII showed that financial planners provide better financial advice than securities firms do. However, in Table VIII, we saw that financial planners provide worse advice to women than to men, whereas securities firms do not differentiate on the basis of clients' gender. A priori then, it is unclear which type of firm would, on average, provide better financial advice to female clients. To answer this question, in Table X, we show results from equation (3), run separately for male and female auditors. As we see in columns (4)–(6) and (10)–(12), the average female auditor was *equally* likely to receive suboptimal advice from financial planners and securities firms. In contrast, columns (1)–(3) and (7)–(9) make it clear that the average male auditor received better advice from a financial planner than a securities firm. In particular, he was 28 percentage points (significant at 1% in column 3) less likely to receive undiversified advice, and 16 percentage points (significant at 10% in column 9) less likely to receive home-biased advice, if he visited a financial planner rather than a securities firm.

[INSERT TABLE X ABOUT HERE]

VII.B. How does advice quality vary by the gender of the advisor?

Are clients equally likely to receive suboptimal advice from men and women advisors, or is it specifically men (or women) who offer poor advice?[43] To correctly identify the answer to this question, one would need to design an experiment where auditors were randomly matched to advisors of different genders. Note, however, that in Table III, we saw no evidence that firms

[43] 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.

systematically match clients to advisors of the same or opposite gender, and so it is plausible that the specificion below gives accurate estimates:

$$y_{ai} = \alpha + \beta \text{ Female Auditor}_i + \sigma \text{ Female Advisor}_a + \omega \left(\text{Female Auditor}_i \times \text{Female Advisor}_a\right) + \boldsymbol{X_i} + \epsilon_{ai} \qquad (6)$$

In column 2 in the bottom half of Table XI, we see that female and male auditors were equally likely to receive undiversified advice if they met female advisors (difference = 13.3 pp, not significant). However, female auditors were 23.8% more likely than male auditors (statistically significant at 10%) to receive undiversified advice if they met male advisors. Similarly, column 4 shows that women clients were also more likely to receive home-biased advice if they met male advisors (difference = 25.6 pp, although not statistically significant) than if they met female advisors (difference = 6.3 pp, not significant). Thus, we have suggestive evidence that it is mainly male advisors who offer suboptimal advice to female clients.[44]

[INSERT TABLE XI ABOUT HERE]

VII.C. Other Audit Visit Outcomes

In Table XII, we examine differences in other elements of the conversations between auditors and advisors.

[INSERT TABLE XII ABOUT HERE]

[44] This is consistent with Wang's (1994) finding that male financial advisors spend less time and offer a narrower range of financial products when advising female (compared to male) clients.

In column (7), we see that advisors at securities firms were on average less willing to make a recommendation than advisors at financial planning firms (row 1). They also spent less time speaking with the auditors (row 2) and asked fewer questions (row 3, 4, 5). Further, securities firms treated men and women auditors similarly along all but two dimensions (column 10). They asked female auditors fewer questions about their financial situation than they asked male auditors, and remarkably, were more willing to advise female auditors (as auditors reported to us). Also, financial planners asked women auditors fewer questions about their demographic characteristics (row 3, column 11).

VII.D. Ex-post Performance of the Advised Portfolio

Thus far, we have defined advice as suboptimal either if the advisor *only* recommended single risky securities (undiversified advice), or if they *only* recommended local securities (home-biased advice). However, advisors may have selectively recommended particular securities that beat the market *ex-post*. Indeed, some have argued that retail investors request advisors for tips about "hot stocks", and so advice quality should only be evaluated by the metric of whether advised products outperformed the market. Accordingly, we define an alternative measure of advice quality based on the *ex-post* market performance of the recommended products.

Note, however, that in the context of our study, this approach has limitations. In many visits, the advisor suggested multiple products without specifying portfolio weights, or they mentioned a particular mutual fund family but did not specify exactly which mutual fund to purchase. This hampers our ability to compute the actual return the client could have earned. Nevertheless, for each visit, we assume that all recommended products (in so far as we could

identify them) had equal weight and compute the market-adjusted return (return in excess of the Hang Seng Index, the broad stock market index in Hong Kong) of the portfolio over the three-month period starting from the date of the audit visit. We can compute this return only for 221 of 463 visits: this includes 27 visits to financial planners and 194 visits to securities firms.

In Panel A of Table B.I in the Internet Appendix, we note first that across all firms, the estimated 3-month market-adjusted return was 0.25% and not statistically different from zero. When we disaggregate the observations by firm type, there is no evidence that the advice from either securities firms or financial planners significantly outperformed the market. The returns on financial planners' recommendations were 1.36 percentage points higher than securities firms' recommendations; however, the difference is not statistically significant.

In Panel B of Table B.I, we examine how these results vary by gender and firm type. Although the 3-month market-adjusted return of securities firms' advice to male auditors (0.28%) was higher than the return for female auditors (-0.07%), the gender difference is a small 0.35 percentage points and not statistically significant. Among financial planners, the market-adjusted return is 2.97% for male auditors and 0.04% for female auditors. This generates a larger gender difference of 2.93 percentage points, although this is statistically not different from zero either.

In Tables B.II and B.III in the Internet Appendix, we repeat the exercises from Tables VII and VIII, using this measure of *ex-post* advice quality as the dependent variable. Although not statistically significant, the point estimates in Table B.II suggest that financial planners provide better advice than securities firms. Similarly, although not statistically significant, the point

estimates in Table B.III suggest that financial planners provide worse advice to women than to men, whereas the gender differences are smaller for securities firms. Thus, although the tests are under-powered, there is suggestive evidence that financial planners' recommendations to women generate lower market returns.

VII.E. The Case of No Advice

In 30% of the audits, the advisor did not recommend a specific product. Recall that in our main analysis, we constructed our binary dependent variables so that when the audit resulted in no advice, we coded the observation as undominated advice. As a result, our previous analysis provides conservative estimates of the true incidence of dominated advice.

It is possible that given a choice between giving no advice, dominated advice, or undominated advice, some advisors would prefer not to advise at all, but if required to advise the client, might offer dominated advice. These propensities may (or may not) vary by the type of firm advisors work for or by the gender of the client. Our previous analysis does not allow us to detect this. To circumvent this issue, we employ multinomial regressions to re-examine our key findings. In columns 1 and 2 of Table B.IV in the Internet Appendix, we present results from multinomial regressions where the dependent variable is coded to take one of the three values: No Advice, Undiversified Advice (UA), or Not Undiversified Advice (reference category). Similarly, in columns 3 and 4, the dependent variable is either No Advice, Home-Biased Advice (HB), or Not Home-Biased Advice (reference category). As column 1 shows, relative to the reference category, financial planners were more likely than securities firms to advise the auditor and were less likely to give undiversified advice. Columns 3 and 4 show that relative to Not Home-biased Advice, financial planners were just as likely as securities firms

to advise auditors, but significantly less likely 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 avoid advising the auditor.

Our previous results in Table VIII on the firm type and gender differences are also confirmed in multinomial regressions in Table B.V in the Internet Appendix. There is no evidence that advisors at either securities firms or financial planners were more hesitant to advise women than men. However, compared to undominated advice, financial planners were more likely to give dominated advice to women than to men. This difference does not exist in securities firms. Similarly, our previous results in Table IX on differences across the three auditor attributes—risk tolerance, confidence, and geographic outlook—continue to hold in the multinomial specifications, shown in Table B.VI in the Internet Appendix. 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 in their visits to the financial planners.

VII.F. Robustness to Alternative Clustering of Standard Errors and Firm-fixed Effects

Advisors working at the same firm branch might share common characteristics, and so the measurement error in their advice quality variable may be correlated. To account for this, in Tables B.VII–B.IX in the Internet Appendix B, we redo all the tests from Tables VII–IX by clustering the standard errors at the branch level. Our conclusions remain qualitatively unchanged.

Finally, note that our dataset consists of audits at 65 distinct advisory firms. Firm-fixed effects can account for firm-specific inputs that affect advice quality, e.g., advisor training, incentives, or firm culture. In Tables B.X and B.XI in the Internet Appendix, we repeat the analysis from Tables VIII–IX with firm fixed effects and standard errors clustered at the auditor level. Our results remain broadly similar.

VII.G. External Validation of Model

We draw on the raw data from the nationally representative Health and Retirement Study (wave 2016) to test a key assumption of our paper. Using financial literacy questions similar to Lusardi and Mitchell (2014), a questionnaire was designed by Kim, Maurer, and Mitchell (2021) in this study to measure the financial literacy of different demographic segments. Another question tried to gauge the usage of free or paid financial advice. We linked the responses to all these different questions to test whether there is gender difference in financial knowledge between those who seek free financial advice and those who pay for their advice.

Our results are shown in Table B.XII in the Internet Appendix. We find in Column 1 that among the clients who pay for financial advice (roughly equivalent to clients visiting FPs in our model), financial literacy scores of women are lower than that of men, whereas in column 2, there is no difference in literacy scores of the two genders for the clients who obtain free financial advice (roughly equivalent to clients visiting SFs in our model). This corroborates a key assumption of our model. As the financial literacy scores of clients who pay for financial advice and those who do not are statistically indistinguishable (difference = 0.13, not significant), we find no evidence for or against another assumption of our model – less (more) financially knowledgeable clients visit FPs (SFs).

VII. Conclusion

Although some prior works suggest that finance professionals give different advice to men and women, it has been difficult to pin down the reasons why they do so. If advisors use the client's gender as a proxy for their risk preferences or for other characteristics that determine their optimal financial portfolio, then this is a benign explanation for the differences in advice. To the extent that these preferences are difficult to measure objectively, researchers are unable to control for them. 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 these gender differences.

Our study provides evidence that women are more likely to receive low quality financial advice than men at some, but not all types of advisory firms. We explain this as the result of different firm incentives and beliefs of advisors about gender differences in financial knowledge. When their revenues derive from trade commissions, advisors are more likely to recommend individual local stocks that investors trade frequently. At firms that specialize in customized service, advisors are likely to cater advice to their clients' attributes. Critically, however, this tendency is more pronounced when the client is female. We argue this is because of advisors' lay belief that women are less financially knowledgeable and so might not detect that the advice is of low quality.

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 where auditors credibly signal that they

are highly knowledgeable, since knowledgeable clients would typically not seek financial advice. Instead, we argue that advisors were most likely aware of the well-established empirical pattern that men tend to be more financially knowledgeable than women. Thus, our findings accord with the idea that advisors engage in statistical discrimination against women. Further, since we do not find gender differences in the advice that securities firms provide, it seems unlikely that the differences in the quality of advice are driven by taste-based discrimination.

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Table I: Probability of Retaining Clients After Giving Suboptimal Advice

This table shows how the probability that a financial planner (FP) or securities firm (SF) retains a client varies with different combinations of attributes: high or low risk tolerance or confidence, domestic or international outlook, and gender.

Client Attributes		If client visits …	…then advisor infers client's financial knowledge is	…implying	Probability that client is retained: θ	
Risk Tolerance/ Confidence/ Geographic Outlook	Gender				Financial Planners	Securities Firms
(1)	(2)	(3)	(4)	(5)	(6)	(7)
High / High / Domestic	Female	FP	Very low	High catering; Very low detection	$a+b+c+d+e+f$	—
	Male	FP	Low	High catering; Low detection	$a+b+d+e$	—
	Female	SF	Moderate	High catering; Moderate detection	—	$a+d$
	Male	SF	Moderate	High catering; Moderate detection	—	$a+d$
Low / Low / International	Female	FP	Very low	Low catering; Very low detection	$a+b+c$	—
	Male	FP	Low	Low catering; Low detection	$a+b$	—
	Female	SF	Moderate	Low catering; Moderate detection	—	a
	Male	SF	Moderate	Low catering; Moderate detection	—	a

Table II: 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 (1)	Male N=19 (2)	Female N=18 (3)
Age (Mean)	40.43	39.00	41.94
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	0.72
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

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

This table reports the fraction of the total audit visits made by the auditors of a given gender to the advisors of a given gender for the securities firm and financial planners combined and separately. The fractions without (with) parenthesis sum to 100 across columns (rows).

	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	0.81 (0.49)	0.19 (0.5)	37
Female Auditor	0.82 (0.51)	0.18 (0.5)	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

Table IV: Distribution of Recommendations across Product Classes

This table shows the fraction of visits to the Financial Planners and Securities Firms in which a given class of financial product was recommended. 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. As advisors may recommend products belonging to different classes in one visit, the fractions in columns 1 and 4 sum to more than one.

	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	0.04	1.7	1	0.02	1.0	1
Insurance	0.03	1.5	2	0.02	1.0	1
Not traded on exchange	0.07	1.0	1	0.04	1.0	1
Mutual funds	0.37	2.0	2	0.06	1.1	1
Others	0.04	-	-	0.02	-	-
No recommendation	0.25	-	-	0.31	-	-

Table V: Explanations for Visits Where Advisor Did Not Recommend a Specific Product

This table summarizes the content of conversations at visits where the advisor did not recommend a specific product. Multiple categories may apply simultaneously to any given visit.

X: avoid excessive risk; invest in provident fund; diversify geographically; buy blue-chip stocks, insurance, bonds, mature stocks.

Others: reason is unclear.

Content of Conversation or Other Explanations	Financial Planners (N=19) (1)	Securities Firms (N=120) (2)
"We do not provide specific recommendations"	0.21	0.53
"You must open an account first"	0.11	0.23
"You must undergo a risk assessment first"	0.21	0.17
"Our company provides industry research findings"	0.05	0.20
Did not meet a licensed financial advisor	0.11	0.14
Advisor provided information but did not advise	0.11	0.10
"We do not take walk-in clients"	0.16	0.05
"We only work with professional investors"	0.26	0.03
Advisor gave non-specific advice to do X	0.05	0.06
"This is not a good time for financial investments"	0.00	0.03
Others	0.11	0.01

Table VI: 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.

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)	0.156**	0.050
p-value	*0.01*	*0.41*

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

	Securities Firms		Financial Planners	
	UA	HB	UA	HB
	(1)	(2)	(3)	(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*

Table VII: 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 *Domestic Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and domestic (international) outlook in the audit visit, respectively. *Educated beyond sr. the secondary school* , *Net Worth above HK$500,000,* and *Traded Stocks* takes the value of 1 if the auditor education is higher than senior secondary school, if the net worth of the auditor is more than HK$500,000, and if the auditor has traded stocks before, respectively. *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***	-0.155***	-0.050	-0.072	-0.068
	(0.053)	(0.052)	(0.054)	(0.058)	(0.057)	(0.058)
High Risk Tolerance		-0.007	-0.023		-0.202***	-0.230***
		(0.045)	(0.046)		(0.052)	(0.048)
High Confidence		0.110**	0.117***		0.091*	0.079*
		(0.046)	(0.042)		(0.052)	(0.042)
Domestic Outlook		-0.050	-0.065*		0.029	0.014
		(0.044)	(0.038)		(0.053)	(0.049)
Educated beyond sr. secondary school			-0.032			-0.018
			(0.061)			(0.052)
Net Worth above HK$500,000			-0.098			-0.066
			(0.059)			(0.072)
Age			0.003			0.002
			(0.005)			(0.005)
Traded Stocks			0.076			-0.079
			(0.055)			(0.066)
Constant	0.410***	0.383***	0.269	0.397***	0.440***	0.467**
	(0.027)	(0.046)	(0.194)	(0.034)	(0.074)	(0.221)
Observations	463	463	463	463	463	463
R-squared	0.014	0.030	0.038	0.001	0.053	0.071

Table VIII: 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 *Domestic Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and domestic (international) outlook in the audit visit, respectively. *Educated beyond sr. secondary school*, *Net Worth above HK$500,000*, and *Traded Stocks* 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**	0.290***	0.034	0.037	0.021	0.204*	0.202	0.253**	0.070	0.072	0.044
	(0.098)	(0.095)	(0.100)	(0.053)	(0.050)	(0.062)	(0.120)	(0.120)	(0.118)	(0.067)	(0.052)	(0.046)
High Risk Tolerance		0.119	0.125		-0.028	-0.043		-0.160	-0.161		-0.209***	-0.234***
		(0.095)	(0.096)		(0.049)	(0.049)		(0.130)	(0.125)		(0.053)	(0.052)
High Confidence		0.137	0.206**		0.106**	0.120**		0.164	0.261**		0.079	0.069
		(0.099)	(0.097)		(0.050)	(0.047)		(0.123)	(0.108)		(0.053)	(0.047)
Domestic Outlook		-0.047	0.008		-0.051	-0.063		0.026	0.083		0.031	0.023
		(0.093)	(0.092)		(0.049)	(0.040)		(0.127)	(0.119)		(0.053)	(0.053)
Educated beyond sr. secondary school			0.186			-0.052			0.224*			-0.038
			(0.113)			(0.067)			(0.129)			(0.051)
Net Worth above HK$500,000			-0.107			-0.106*			-0.234**			-0.039
			(0.131)			(0.061)			(0.110)			(0.073)
Age			-0.006			0.001			-0.002			-0.002
			(0.009)			(0.006)			(0.016)			(0.006)
Traded Stocks			-0.081			0.125*			-0.015			-0.077
			(0.136)			(0.063)			(0.131)			(0.066)
Constant	0.135**	0.048	0.252	0.393***	0.378***	0.352	0.243**	0.220	0.240	0.361***	0.413***	0.610***
	(0.059)	(0.128)	(0.316)	(0.039)	(0.053)	(0.235)	(0.096)	(0.158)	(0.598)	(0.052)	(0.085)	(0.203)
Observations	75	75	75	388	388	388	75	75	75	388	388	388
R-squared	0.072	0.120	0.155	0.001	0.016	0.027	0.046	0.095	0.152	0.005	0.058	0.074

Table IX: Gender Difference and Auditor's Attributes in Financial Planner Visits

The top half of the table reports the predicted probabilities that auditors of each gender and attribute combination receive *Undiversified Advice* in columns (1) through (4) and Home-biased Advice in columns (5) and (6), when they visit Financial Planners. The probabilities are obtained from regression equation (5). The key independent variable/attribute (X) is an indicator variable taking the value of 1 (0) for *High (Low) Risk Tolerance* in columns (1) and (2), *High (Low) Confidence* in columns (3) and (4), and *Domestic (International) Outlook* in columns (5) and (6). *Demographic Controls* include a dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000),* a dummy for auditor's trading experience (=1 if have traded stocks before), and auditor's age (in years). The bottom half of the table reports the difference in the predicted probability and t-test for the difference in the respective dependent variable across auditors' gender with a particular attribute, and across particular attribute of auditors for a given gender. Standard errors reported in parentheses are clustered at the auditor level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level.

Dependent Variable (Y)	Undiversified Advice		Undiversified Advice		Home-biased Advice	
Independent Variable/Attribute (X)	*X = Risk Tolerance*		*X = Confidence*		*X = Outlook*	
	(1)	(2)	(3)	(4)	(5)	(6)
Prd. Pr. [Male, X=0]	0.136	0.125	0.100	0.080	0.278**	0.291**
	(0.085)	(0.080)	(0.090)	(0.077)	(0.133)	(0.117)
Prd. Pr. [Male, X=1]	0.133	0.156*	0.176**	0.186**	0.211	0.193
	(0.085)	(0.089)	(0.074)	(0.079)	(0.139)	(0.147)
Prd. Pr. [Female, X=0]	0.280***	0.288***	0.273***	0.257***	0.429***	0.390***
	(0.082)	(0.091)	(0.088)	(0.099)	(0.114)	(0.115)
Prd. Pr. [Female, X=1]	0.538***	0.516***	0.500***	0.537***	0.471***	0.524***
	(0.120)	(0.147)	(0.121)	(0.112)	(0.078)	(0.090)
Among X=1: [Female – Male]	0.405***	0.360*	0.324**	0.352***	0.260	0.330*
	(0.147)	(0.178)	(0.142)	(0.115)	(0.159)	(0.187)
Among X=0: [Female – Male]	0.144	0.163	0.173	0.177	0.151	0.099
	(0.118)	(0.126)	(0.126)	(0.136)	(0.175)	(0.161)
Among Females: [(X=1) – (X=0)]	0.258*	0.228	0.227	0.280*	0.042	0.133
	(0.145)	(0.170)	(0.150)	(0.138)	(0.138)	(0.154)
Among Males: [(X=1) – (X=0)]	-0.003	0.031	0.076	0.106	-0.067	-0.098
	(0.122)	(0.131)	(0.117)	(0.121)	(0.193)	(0.185)
Demographic Controls	No	Yes	No	Yes	No	Yes
Observations	75	75	75	75	75	75
R-squared	0.112	0.123	0.109	0.146	0.049	0.089

Table X: Which Firm Type Should a Female Investor Seek Advice From?

This table shows the estimation result from a regression of the *Undiversified advice* and *Home-biased advice* dummy variables 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 *Domestic Outlook* take the value 1 (0) when an auditor plays the avatar of high (low) risk tolerance, high (low) confidence, and domestic (international) outlook in the audit visit, respectively. *Educated beyond sr. secondary school*, *Net Worth above HK$500,000*, and *Traded Stocks* 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***	-0.281***	-0.058	-0.047	-0.050	-0.118	-0.137	-0.156*	0.016	-0.004	-0.001
	(0.063)	(0.056)	(0.060)	(0.082)	(0.084)	(0.084)	(0.086)	(0.080)	(0.084)	(0.082)	(0.086)	(0.083)
High Risk Tolerance		0.005	-0.002		-0.016	-0.021		-0.238***	-0.266***		-0.163**	-0.187**
		(0.069)	(0.058)		(0.053)	(0.057)		(0.079)	(0.092)		(0.064)	(0.071)
High Confidence		0.041	0.140**		0.180***	0.164**		0.120	0.163		0.065	0.064
		(0.073)	(0.060)		(0.050)	(0.062)		(0.082)	(0.101)		(0.064)	(0.054)
Domestic Outlook		-0.088	-0.152***		-0.014	-0.047		0.012	-0.068		0.048	0.042
		(0.070)	(0.044)		(0.049)	(0.057)		(0.083)	(0.101)		(0.064)	(0.067)
Educated above sr. secondary school			0.017			-0.150			-0.064			-0.034
			(0.055)			(0.087)			(0.099)			(0.072)
Net worth above HK$500,000			-0.254***			0.057			-0.215*			0.042
			(0.054)			(0.088)			(0.120)			(0.064)
Age			0.004			-0.002			-0.000			0.007
			(0.006)			(0.011)			(0.009)			(0.012)
Traded Stocks			0.212**			-0.009			0.083			-0.129*
			(0.084)			(0.055)			(0.126)			(0.073)
Constant	0.393***	0.413***	0.245	0.426***	0.351***	0.466	0.361***	0.416***	0.559**	0.431***	0.458***	0.235
	(0.040)	(0.074)	(0.236)	(0.036)	(0.053)	(0.455)	(0.052)	(0.132)	(0.257)	(0.043)	(0.086)	(0.492)
Observations	228	228	228	235	235	235	228	228	228	235	235	235
R-squared	0.040	0.050	0.093	0.002	0.035	0.045	0.008	0.086	0.120	0.000	0.033	0.047

Table XI: 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 (8). *Demographic Controls* include a dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000)*, a dummy for auditor's trading experience (=1 if have traded stocks before), and auditor's age (in years). The bottom panel reports the difference in the predicted probability (and t-test for the difference) that an advisor of a given gender provides *Undiversified advice (Home-biased advice)* to female and male auditors, and that auditors of a given gender receive from female and male advisors. 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.

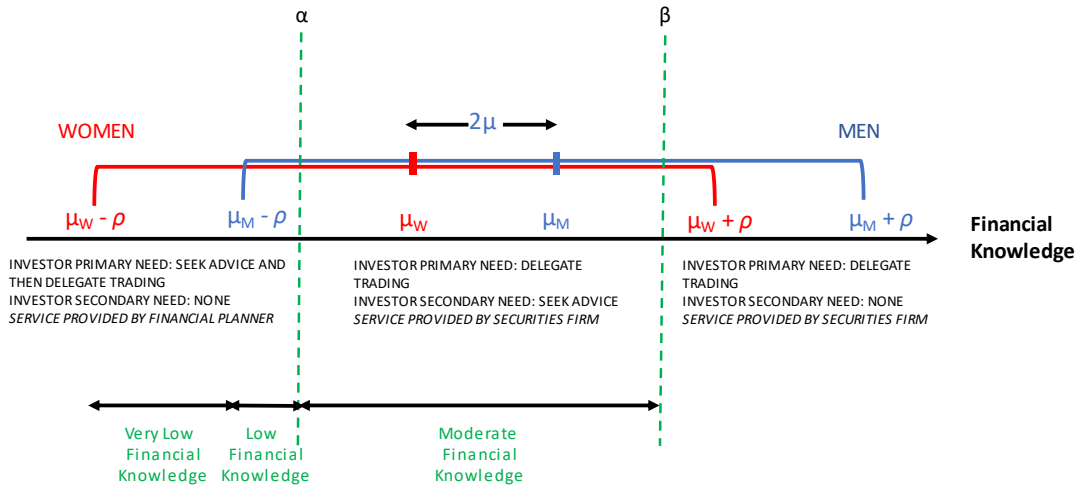
	Undiversified Advice		Home-biased Advice	
	(1)	(2)	(3)	(4)
Prd. Pr. [Male Auditor, Male FA]	0.167**	0.171**	0.267**	0.264**
	(0.077)	(0.076)	(0.126)	(0.134)
Prd. Pr. [Male Auditor, Female FA]	0.000	0.019	0.143	0.106
	(0.000)	(0.065)	(0.140)	(0.161)
Prd. Pr. [Female Auditor, Male FA]	0.419***	0.409***	0.516***	0.521***
	(0.086)	(0.095)	(0.069)	(0.083)
Prd. Pr. [Female Auditor, Female FA]	0.143	0.152	0.143	0.169
	(0.144)	(0.142)	(0.144)	(0.151)
Among Female FA: [Female Auditor - Male Auditor]	0.143	0.133	0.000	0.063
	(0.144)	(0.155)	(0.201)	(0.224)
Among Male FA: [Female Auditor - Male Auditor]	0.253**	0.238*	0.249*	0.256
	(0.115)	(0.126)	(0.144)	(0.172)
Among Female Auditors: [Female FA - Male FA]	-0.276*	-0.257*	-0.373**	-0.351**
	(0.151)	(0.145)	(0.142)	(0.142)
Among Male Auditors: [Female FA - Male FA]	-0.167**	-0.152	-0.124	-0.158
	(0.077)	(0.114)	(0.211)	(0.251)
Demographic Controls	No	Yes	No	Yes
Observations	75	75	75	75
R-squared	0.114	0.131	0.098	0.125

Table XII: 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.

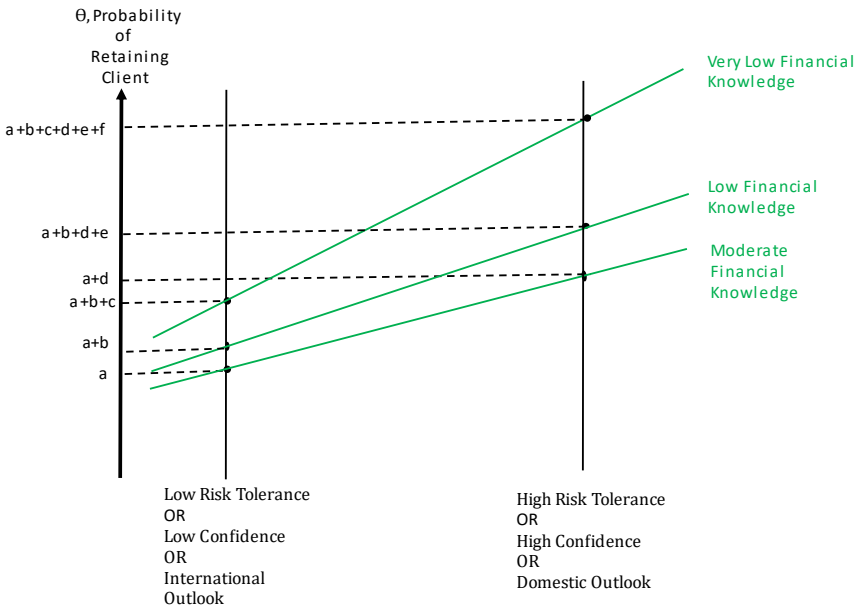
	Securities Firms			Financial Planners			Difference				
	All	F	M	All	F	M	(1-4)	(2-5)	(3-6)	(2-3)	(5-6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Willing to give advice	0.54	0.60	0.48	0.65	0.68	0.62	-0.11*	-0.08	-0.15	0.13**	0.06
							0.07	*0.35*	*0.11*	*0.01*	*0.58*
Duration (min)	21.75	21.45	22.07	30.33	27.63	33.11	-8.58***	-6.18***	-11.04***	-0.62	-5.48
							0.00	*0.01*	*0.00*	*0.62*	*0.25*
Number of demographic questions	0.50	0.40	0.60	1.71	1.16	2.27	-1.21***	-0.76***	-1.67***	-0.20	-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***	-1.20***	-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*

Figure I: Matching of Investors to Financial Advisors



Notes: The figure shows the distribution of financial knowledge for women (in red) and for men (in blue). Everyone above knowledge level β do not visit any advisor, those with knowledge level between α and β visit securities firms, and those with knowledge level below α visit financial planners.

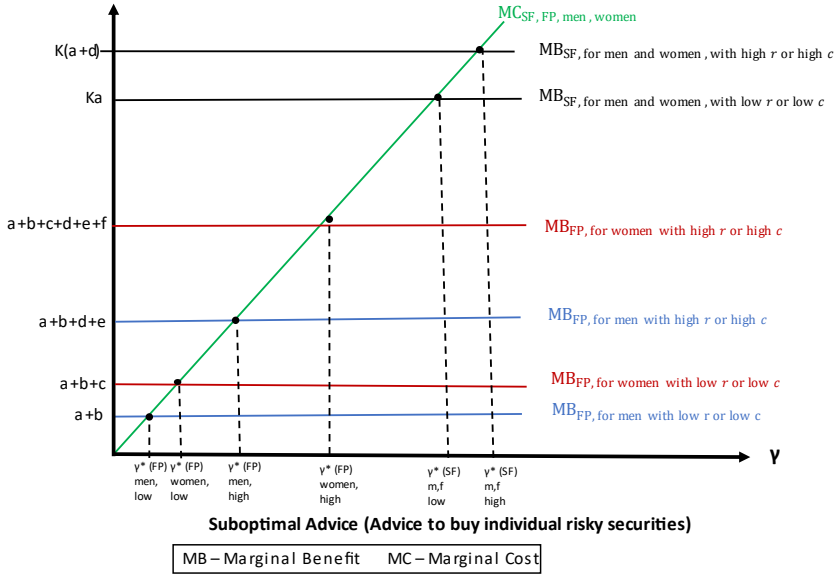
Figure II: Probability of Retaining Client



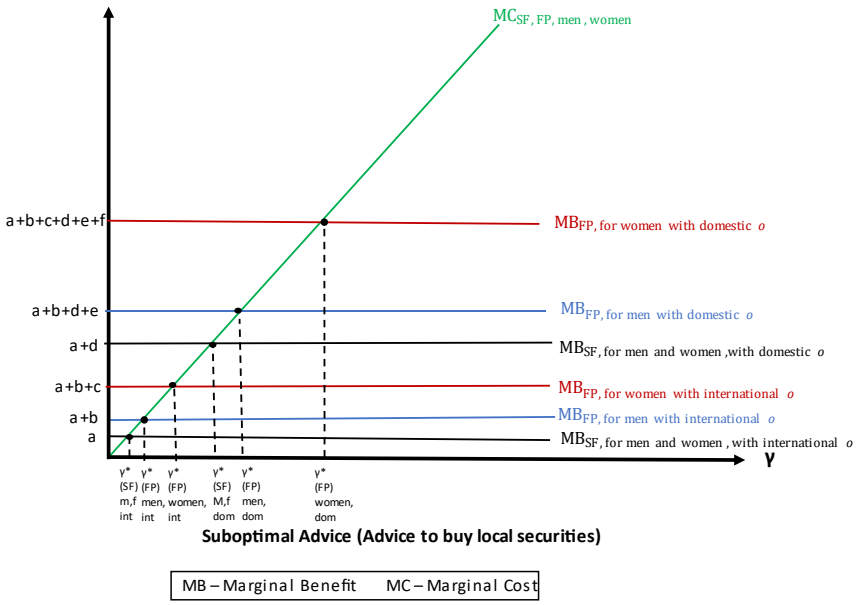
Notes: This figure shows the probability that an advisor, either financial planner (FP) or securities firm (SF), retains a client with different combination of characteristics (high or low risk tolerance; high or low confidence; domestic or international outlook; very low, low or moderate financial knowledge).

Figure III:

Panel A: Advice to buy individual risky securities, in the absence of taste-based discrimination



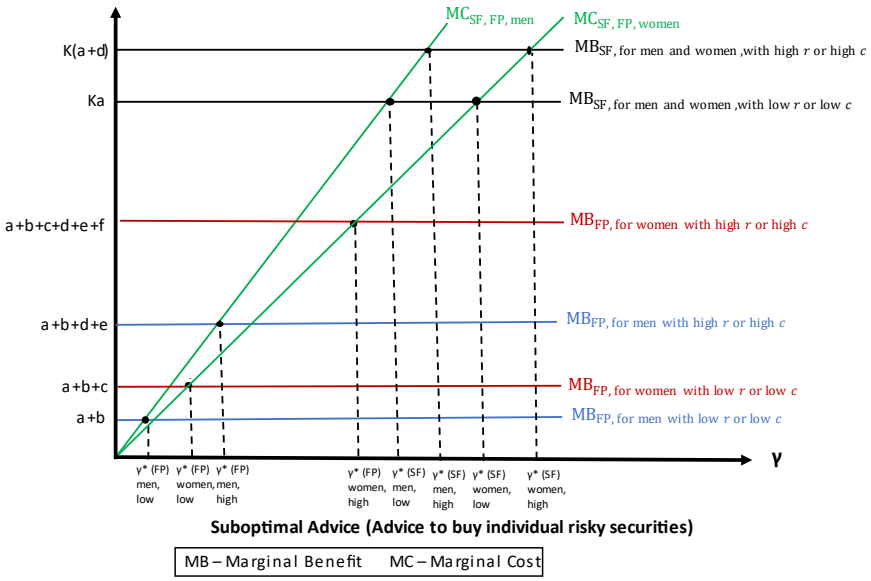
Panel B: Advice to buy local securities, in the absence of taste-based discrimination



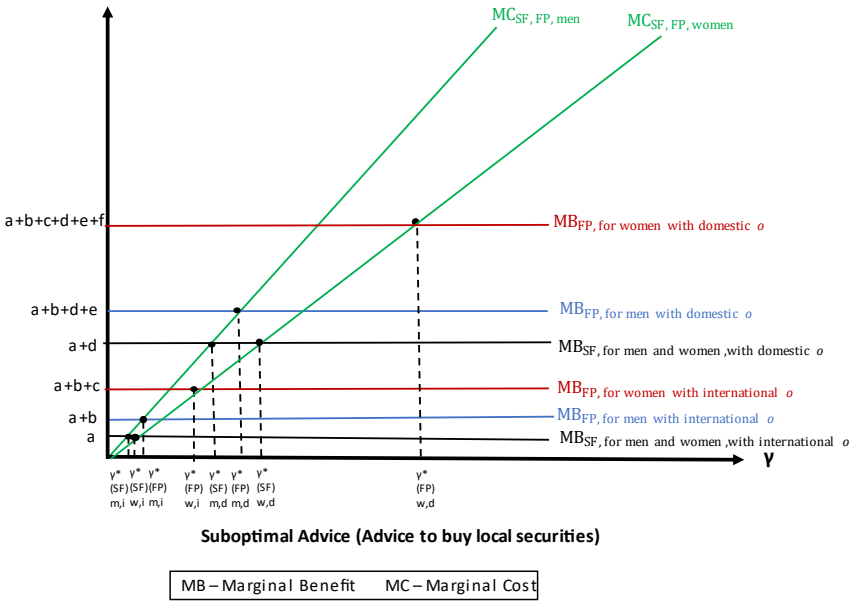
Notes: For the advice to buy individual risky securities (Panel A) or for the advice to buy local securities (Panel B), the figures show the marginal benefit (MB) and the marginal cost (MC) curves for financial planners (FP) and security firms (SF) in the absence of taste-based discrimination. Their points of intersection are the equilibrium points. The marginal benefit curves for security firms (MB_{SF}) are in black; the marginal benefit curves for financial planners (MB_{FP}) are in red for women and in blue for men; the marginal cost curves for both types of firms ($MC_{SF, FP}$) are in green. "r" refers to risk tolerance, and "c" refers to confidence and "o" refers to geographic outlook.

Figure IV:

Panel A: Advice to buy individual risky securities, in the presence of taste-based discrimination



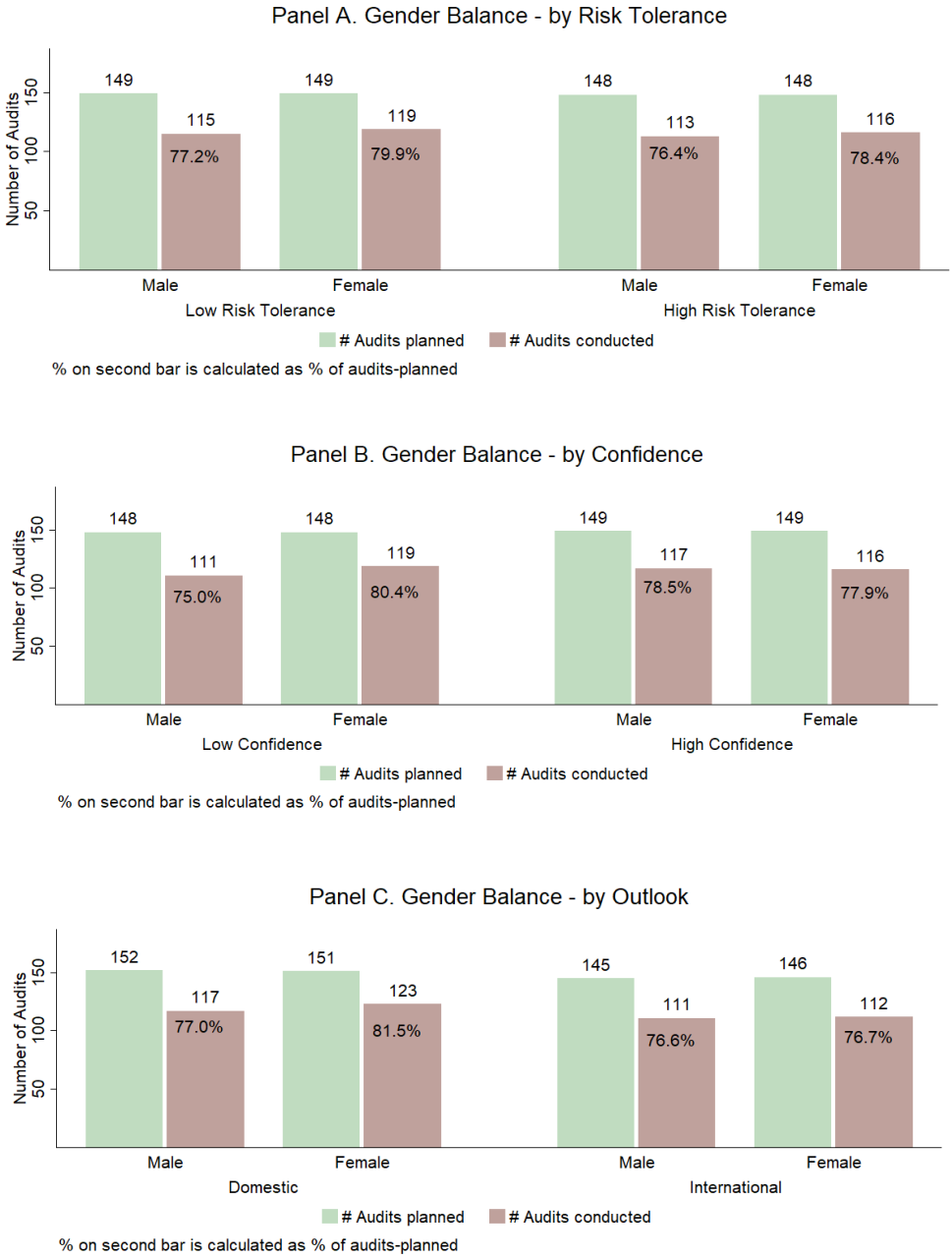
Panel B: Advice to buy local securities, in the presence of taste-based discrimination



Notes: For the advice to buy individual risky securities (Panel A) or for the advice to buy local securities (Panel B), the figures show the marginal benefit (MB) and the marginal cost (MC) curves for financial planners (FP) and security firms (SF) in the presence of taste-based discrimination. Their points of intersection are the equilibrium points. The marginal benefit curves for security firms (MB_{SF}) are in black; the marginal benefit curves for financial planners (MB_{FP}) are in red for women and in blue for men; the marginal cost curves for both types of firms ($MC_{SF,\ FP}$) are in green. "r" refers to risk tolerance, "c" refers to confidence and "o" refers to geographic outlook.

Figure V:

Gender Balance across Auditors' Attributes

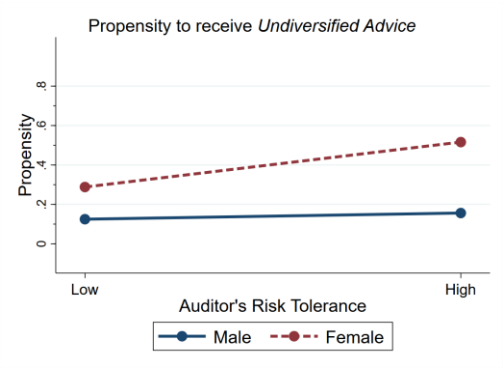


Notes: The figures show gender balance by risk tolerance (Panel A), by confidence (Panel B), and by geographic outlook (Panel C). The green bars depict the number of audits that were planned, whereas the brown bars depict the number of audits that were finally successfully conducted.

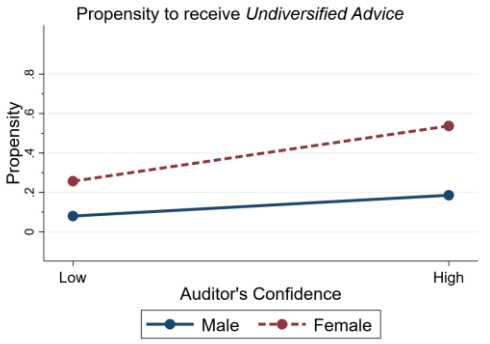
Figure VI:

Propensity to give sub-optimal Advice by Attributes of Auditors

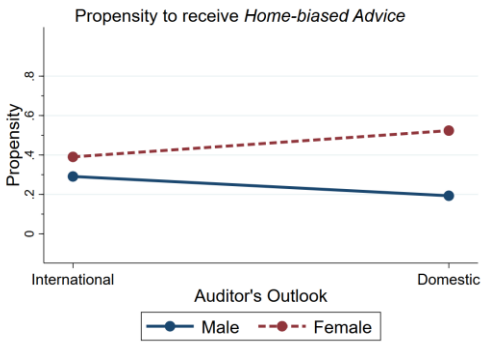
Panel A: Propensity to give Undiversified Advice and Auditor's Risk Tolerance



Panel B: Propensity to give Undiversified Advice and Auditor's Confidence



Panel C: Propensity to give Home-Biased Advice and Auditor's Geographic Outlook



Notes: Panel A plots the propensity of financial planners to give undiversified advice against different levels of risk tolerance of men and women auditors; Panel B plots the same against different levels of confidence of men and women auditors; and Panel C plots the propensity of financial planners to give home-biased advice against different levels of geographic outlook of men and women auditors. The numbers on the y-axis in the three Panels are from Columns 2, 4, and 6 of Table IX, respectively.

Internet Appendix for "Do Women Receive Worse Financial Advice?"*

UTPAL BHATTACHARYA, AMIT KUMAR, SUJATA VISARIA, and JING ZHAO

* Bhattacharya, Utpal, Amit Kumar, Sujata Visaria, and Jing (Victoria) Zhao, Internet Appendix to "Do Women Receive Worse Financial Advice?," *Journal of Finance*. Please note: Wiley is not responsible for the content or functionality of any supporting information supplied by the authors. Any queries (other than missing material) should be directed to the authors of the article.

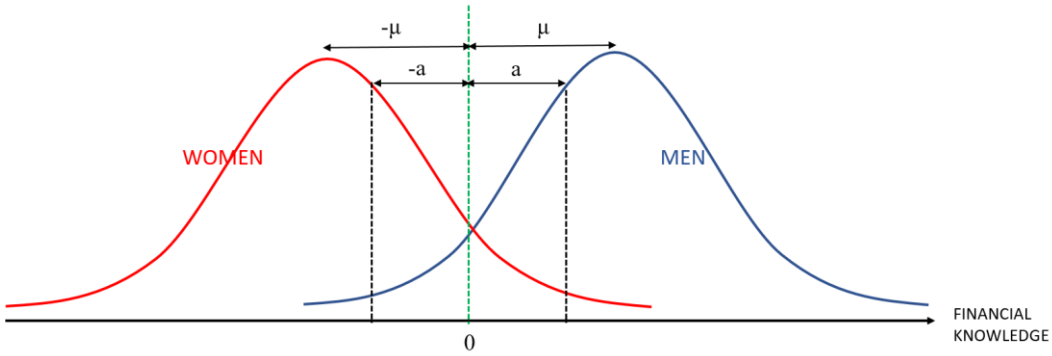
Internet Appendix A: A Generalized Model

A. Gender Difference in Expected Financial Knowledge

We analyze the advisor's perception of the financial knowledge of their male and female clients in a generalized model. In particular, we show that if financial knowledge follows a normal distribution, a different range condition will ensure that the gender difference in expected financial knowledge of SF's clients is smaller than that of FP's clients.

Appendix Figure A. 1 assumes that the financial knowledge of male (blue curve) and female (red curve) clients follow the normal distributions N(μ, σ) and N($-\mu, \sigma$), respectively. A positive μ ensures that males have a higher mean of financial knowledge than females do.

Appendix Figure A. 1.



If financial knowledge x_{ig} lies above the cut-off a, the investor does not seek any advice as highly knowledgeable investors will choose to make their product selection without assistance. We conjecture that those with moderate knowledge, i.e. with $-a \leq x_{ig} \leq a$ find that their net benefit is larger if they visit SFs, while those with low knowledge, i.e. $x_{ig} < -a$ find that the net benefit is larger if they visit FPs.

For the left tail of the distributions, the expected financial knowledge of male and female clients are:

$$E_m^L = E(X_m | X_m < -a) = \mu - \sigma \frac{\phi\left(\frac{-a-\mu}{\sigma}\right)}{\Phi\left(\frac{-a-\mu}{\sigma}\right)} = \mu - \sigma \frac{\phi\left(\frac{a+\mu}{\sigma}\right)}{1 - \Phi\left(\frac{a+\mu}{\sigma}\right)}$$

$$E_f^L = E\left(X_f \middle| X_f < -a\right) = -\mu - \sigma \frac{\phi\left(\frac{-a+\mu}{\sigma}\right)}{\Phi\left(\frac{-a+\mu}{\sigma}\right)} = -\mu - \sigma \frac{\phi\left(\frac{a-\mu}{\sigma}\right)}{1-\Phi\left(\frac{a-\mu}{\sigma}\right)}$$

For the middle part of the distributions, the expected financial knowledge of male and female clients are:

$$E_m^M = E(X_m | -a \le X_m \le a) = \mu - \sigma \frac{\phi\left(\frac{a-\mu}{\sigma}\right) - \phi\left(\frac{-a-\mu}{\sigma}\right)}{\Phi\left(\frac{a-\mu}{\sigma}\right) - \Phi\left(\frac{-a-\mu}{\sigma}\right)}$$

$$= \mu - \sigma \frac{\phi\left(\frac{a-\mu}{\sigma}\right) - \phi\left(\frac{a+\mu}{\sigma}\right)}{\Phi\left(\frac{a-\mu}{\sigma}\right) + \Phi\left(\frac{a+\mu}{\sigma}\right) - 1}$$

$$E_f^M = E\left(X_f \middle| -a \le X_f \le a\right) = -\mu - \sigma \frac{\phi\left(\frac{a+\mu}{\sigma}\right) - \phi\left(\frac{-a+\mu}{\sigma}\right)}{\Phi\left(\frac{a+\mu}{\sigma}\right) - \Phi\left(\frac{-a+\mu}{\sigma}\right)}$$

$$= -\mu + \sigma \frac{\phi\left(\frac{a-\mu}{\sigma}\right) - \phi\left(\frac{a+\mu}{\sigma}\right)}{\Phi\left(\frac{a-\mu}{\sigma}\right) + \Phi\left(\frac{a+\mu}{\sigma}\right) - 1}$$

Note that

$$E_m^M = -E_f^M$$

B. The Range Condition of the Financial Knowledge Cut-off

<u>For the left tail:</u>

$$E_m^L - E_f^L = 2\mu - \sigma\left(\frac{\phi\left(\frac{-a-\mu}{\sigma}\right)}{\Phi\left(\frac{-a-\mu}{\sigma}\right)} - \frac{\phi\left(\frac{-a+\mu}{\sigma}\right)}{\Phi\left(\frac{-a+\mu}{\sigma}\right)}\right)$$

To simplify notations, define

$$\lambda(x) = \frac{\phi(x)}{\Phi(\mathrm{x})}$$

Here, λ(x), is the Inverse Mills Ratio. It is well known that $\lambda'(x) < 0$.

We want to compute:

$$\lim_{a\to\infty}\left(\frac{\phi\left(\frac{-a-\mu}{\sigma}\right)}{\Phi\left(\frac{-a-\mu}{\sigma}\right)} - \frac{\phi\left(\frac{-a+\mu}{\sigma}\right)}{\Phi\left(\frac{-a+\mu}{\sigma}\right)}\right) = \lim_{a\to\infty}\left(\lambda\left(\frac{-a-\mu}{\sigma}\right) - \lambda\left(\frac{-a+\mu}{\sigma}\right)\right)$$

Because $\lambda(x)$ is continuous and differentiable, by applying the Mean Value theorem, we obtain

$$\lambda\left(\frac{-a-\mu}{\sigma}\right)-\lambda\left(\frac{-a+\mu}{\sigma}\right)=\lambda'(x)\left(-\frac{2\mu}{\sigma}\right),$$

where $x \in (\frac{-a-\mu}{\sigma}, \frac{-a+\mu}{\sigma})$. Note that as $a \to \infty$, we have $x \to -\infty$. And it is well-established (https://rpubs.com/FJRubio/IMR) that

$$\lim_{x\to-\infty}\lambda'(x)=-1$$

Thus,

$$\lim_{a\to\infty}\left(\lambda\left(\frac{-a-\mu}{\sigma}\right)-\lambda\left(\frac{-a+\mu}{\sigma}\right)\right)=\lim_{a\to\infty}\lambda'(x)\left(-\frac{2\mu}{\sigma}\right)=\lim_{x\to-\infty}\lambda'(x)\left(-\frac{2\mu}{\sigma}\right)=\frac{2\mu}{\sigma}$$

So, when $a \to \infty$, $E_m^L - E_f^L \to 0$

When $a \to 0$, $E_m^L - E_f^L \to 2\mu - \sigma\left(\frac{\phi\left(\frac{-\mu}{\sigma}\right)}{\Phi\left(\frac{-\mu}{\sigma}\right)}-\frac{\phi\left(\frac{\mu}{\sigma}\right)}{\Phi\left(\frac{\mu}{\sigma}\right)}\right) \to 2\mu - \sigma\left(\lambda\left(\frac{-\mu}{\sigma}\right)-\lambda\left(\frac{\mu}{\sigma}\right)\right) > 2\mu > 0$

as $\lambda'(x) < 0$.

<u>For the middle part:</u>

$$E_m^M - E_f^M = 2\,E_m^M = -2E_f^M = 2\mu + 2\sigma\left(\frac{\phi\left(\frac{a+\mu}{\sigma}\right)-\phi\left(\frac{a-\mu}{\sigma}\right)}{\Phi\left(\frac{a-\mu}{\sigma}\right)+\Phi\left(\frac{a+\mu}{\sigma}\right)-1}\right)$$

It is easy to see that when $a \to \infty$, $E_m^M - E_f^M \to 2\mu$

It is also easy to see that when a→ 0, for the both distributions of the men and the women, the only realization of the random variable, "financial knowledge" in the range [-a,a] is zero.

So, when $a \to 0$, $E_m^M - E_f^M \to 0$

We notice, therefore, that as a increases from 0 to +∞, $(E_m^L - E_f^L)$ decreases from a number greater than 2 μ to 0, but $(E_m^M - E_f^M)$ increases from 0 to 2 μ. As these are continuous functions, there must be at least one crossing point. Let the first crossing point be a*. This implies that the range condition is:

$$(E_m^L - E_f^L) > (E_m^M - E_f^M) \text{ if } a < a^*$$

Internet Appendix B: Supplementary Tables

Table B.I: 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)	1.45%
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*

Table B.II: 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 *Domestic Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and domestic (international) outlook in the audit visit, respectively. *Educated beyond sr. the secondary school* , *Net Worth above HK$500,000* , and *Traded Stocks* takes the value of 1 if the auditor education is higher than senior secondary school, if the net worth of the auditor is more than HK$500,000, and if the auditor has traded stocks before, respectively. *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)	(2)	(3)
	Market-Adjusted Return	Market-Adjusted Return	Market-Adjusted Return
Financial Planner	1.363	1.051	1.061
	(1.130)	(1.140)	(1.155)
High Risk Tolerance		-0.758	-0.775
		(0.747)	(0.784)
High Confidence		0.624	0.753
		(0.737)	(0.767)
Domestic Outlook		-1.399*	-1.397*
		(0.746)	(0.775)
Educated beyond sr. secondary school			-0.675
			(0.961)
Net Worth above HK$500,000			0.492
			(0.939)
Age			0.004
			(0.097)
Traded Stocks			0.883
			(1.035)
Constant	0.084	0.786	0.136
	(0.395)	(0.759)	(3.884)
Observations	221	221	221
R-squared	0.007	0.029	0.038

Table B.III: 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 *Domestic Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and domestic (international) outlook in the audit visit, respectively. *Educated beyond sr. the secondary school* , *Net Worth above HK$500,000* , and *Traded Stocks* takes the value of 1 if the auditor education is higher than senior secondary school, if the net worth of the auditor is more than HK$500,000, and if the auditor has traded stocks before, respectively. *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	5.622	-0.345	-0.249	-0.832
	(2.507)	(2.732)	(4.252)	(0.775)	(0.772)	(0.877)
High Risk Tolerance		-2.967	-4.076		-0.591	-0.684
		(3.541)	(3.377)		(0.769)	(0.808)
High Confidence		1.053	9.616		0.801	0.733
		(3.723)	(5.635)		(0.770)	(0.794)
Domestic Outlook		-0.486	8.654		-1.479*	-1.773**
		(3.373)	(6.061)		(0.772)	(0.794)
Educated beyond sr. secondary school			6.874			-0.760
			(6.149)			(0.982)
Net Worth above HK$500,000			-3.883			0.615
			(3.642)			(0.978)
Age			-1.237**			0.184
			(0.469)			(0.112)
Traded Stocks			5.150			0.545
			(4.210)			(1.065)
Constant	2.966	3.771	37.409**	0.278	0.789	-6.435
	(1.805)	(2.856)	(14.319)	(0.581)	(0.881)	(4.239)
Observations	27	27	27	194	194	194
R-squared	0.052	0.086	0.349	0.001	0.027	0.056

Table B.IV: 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 *Domestic Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and domestic (international) outlook in the audit visit, respectively. *Educated beyond sr. the secondary school* , *Net Worth above HK$500,000* , and *Traded Stocks* takes the value of 1 if the auditor education is higher than senior secondary school, if the net worth of the auditor is more than HK$500,000, and if the auditor has traded stocks before, respectively. *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	-0.729*	-1.023***	-0.528	-0.526*
	(0.374)	(0.332)	(0.376)	(0.310)
High Risk Tolerance	0.969***	0.348	0.274	-0.930***
	(0.276)	(0.261)	(0.223)	(0.239)
High Confidence	-0.300	0.364	-0.472*	0.148
	(0.294)	(0.221)	(0.264)	(0.198)
Domestic Outlook	0.867***	0.115	1.144***	0.623***
	(0.309)	(0.209)	(0.277)	(0.227)
Educated beyond sr. secondary school	0.126	-0.142	0.274	0.006
	(0.401)	(0.374)	(0.327)	(0.279)
Net Worth above HK$500,000	-0.281	-0.579*	-0.145	-0.421
	(0.347)	(0.306)	(0.324)	(0.363)
Age	-0.056*	-0.014	-0.062**	-0.026
	(0.033)	(0.026)	(0.029)	(0.028)
Traded Stocks	0.650*	0.680**	0.036	-0.307
	(0.362)	(0.298)	(0.364)	(0.340)
Constant	1.265	0.465	1.986*	1.772
	(1.214)	(1.026)	(1.168)	(1.183)
Observations	463	463	463	463
Pseudo R^2	0.055	0.055	0.062	0.062

Table B.V: 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 *Domestic Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and domestic (international) outlook in the audit visit, respectively. *Educated beyond sr. secondary school, Net Worth above HK$500,000,* and *Traded Stocks* 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)			
Category	Financial Planner Firms		Securities Firms		Financial Planner Firms		Securities Firms	
	No Advice	UA	No Advice	UA	No Advice	UA	No Advice	UA
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female Auditor	0.953	2.414***	-0.631	-0.267	0.750	1.914***	-0.555	-0.067
	(0.983)	(0.795)	(0.426)	(0.325)	(0.990)	(0.735)	(0.398)	(0.246)
High Risk Tolerance	2.200***	1.407**	0.732**	0.165	1.457*	-0.434	0.026	-1.061***
	(0.769)	(0.603)	(0.315)	(0.285)	(0.795)	(0.807)	(0.226)	(0.225)
High Confidence	-1.289	1.065	-0.222	0.375	-1.156	1.307**	-0.460	0.096
	(1.186)	(0.808)	(0.354)	(0.260)	(1.139)	(0.665)	(0.302)	(0.226)
Domestic Outlook	0.471	0.439	0.927**	0.190	0.653	0.864	1.221***	0.747***
	(0.769)	(0.590)	(0.386)	(0.246)	(0.780)	(0.617)	(0.326)	(0.219)
Educated beyond sr. secondary school	0.880	1.911*	-0.152	-0.370	0.932	1.966**	0.036	-0.168
	(1.243)	(1.086)	(0.519)	(0.453)	(1.211)	(0.823)	(0.387)	(0.262)
Net Worth above HK$500,000	-0.767	-1.169	-0.280	-0.633*	-1.040	-1.740**	-0.012	-0.282
	(0.780)	(0.869)	(0.402)	(0.352)	(0.773)	(0.741)	(0.375)	(0.372)
Age	0.016	-0.067	-0.052	-0.022	0.025	-0.049	-0.065*	-0.049*
	(0.129)	(0.065)	(0.048)	(0.038)	(0.125)	(0.070)	(0.038)	(0.026)
Traded Stocks	0.688	-0.359	0.687	0.916***	0.933	-0.047	-0.173	-0.394
	(1.340)	(1.000)	(0.433)	(0.344)	(1.302)	(0.788)	(0.448)	(0.330)
Constant	-2.847	-0.539	1.552	0.963	-2.853	-0.024	2.624*	2.858***
	(4.327)	(2.201)	(1.644)	(1.409)	(4.284)	(2.967)	(1.374)	(1.010)
Observations	75	75	388	388	75	75	388	388
Pseudo R^2	0.182	0.182	0.046	0.046	0.158	0.158	0.069	0.069

Table B.VI: Gender Difference and Auditor's Attributes in Financial Planner Visits - A Multinomial Logit Regression

The top half of the table reports the predicted probabilities (Prd. Pr.) that auditors of each combination of gender and attribute receive *Undiversified Advice* in columns (1) through (4) and *Home-biased Advice* in columns (5) and (6), when they visit Financial Planners. The regression model is a multinomial logit, where the dependent variable has three possible categories: *No Advice, Undiversified Advice (UA), Not Undiversified Advice* in columns (1) through (4); and *No Advice, Home-biased Advice (HB), Not Home-biased Advice* in columns (5) and (6). The last category is the reference category in each column. The probabilities are obtained from regression equation (5). The key independent variable/attribute (X) is an indicator variable taking the value of 1 (0) for *High (Low) Risk Tolerance* in columns (1) and (2), *High (Low) Confidence* in columns (3) and (4), and *Domestic (International) Outlook* in columns (5) and (6). *Demographic Controls* include a dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000),* a dummy for auditor's trading experience (=1 if have traded stocks before), and auditor's age (in years). The bottom half of the table reports the difference in the predicted probability and t-test for the difference in the respective dependent variable across auditors' gender with a particular attribute, and across particular attribute of auditors for a given gender. 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 (Y)	Undiversified Advice (UA)		Undiversified Advice (UA)		Home-biased Advice (HB)	
	No Advice	UA	No Advice	UA	No Advice	HB
Independent Variable/Attribute (X)	*X = Risk Tolerance*		*X = Confidence*		*X = Outlook*	
	(1)	(2)	(3)	(4)	(5)	(6)
Prd. Pr. [Male, X=0]	0.145**	0.121*	0.522***	0.064	0.239**	0.289**
	(0.062)	(0.064)	(0.128)	(0.051)	(0.110)	(0.121)
Prd. Pr. [Male, X=1]	0.371***	0.146	0.057	0.200***	0.270***	0.195
	(0.119)	(0.090)	(0.056)	(0.076)	(0.094)	(0.126)
Prd. Pr. [Female, X=0]	0.170**	0.289***	0.269***	0.264***	0.180**	0.381***
	(0.082)	(0.093)	(0.104)	(0.094)	(0.073)	(0.101)
Prd. Pr. [Female, X=1]	0.487***	0.452***	0.134	0.604***	0.311**	0.519***
	(0.182)	(0.170)	(0.096)	(0.099)	(0.148)	(0.108)
Among X=1: [Female – Male]	2.467**	3.288***	1.923	2.358***	1.511	2.365**
	(1.206)	(1.120)	(1.500)	(0.753)	(1.156)	(1.139)
Among X=0: [Female – Male]	0.513	1.213	-0.842	1.385	-0.194	0.374
	(0.860)	(0.857)	(0.893)	(1.191)	(0.853)	(0.833)
Among Females: [(X=1) – (X=0)]	3.426***	2.739***	-0.127	1.588*	1.667	1.436*
	(1.224)	(0.980)	(1.264)	(0.873)	(1.056)	(0.738)
Among Males: [(X=1) – (X=0)]	1.473**	0.664	-2.892**	0.614	-0.038	-0.555
	(0.733)	(1.002)	(1.152)	(1.175)	(0.891)	(1.110)
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	75	75	75	75	75	75
Pseudo R^2	0.147	0.147	0.136	0.136	0.091	0.091

Table B.VII: 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 *Domestic Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and domestic (international) outlook in the audit visit, respectively. *Educated beyond sr. secondary school*, *Net Worth above HK$500,000*, and *Traded Stocks* 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		
	(1)	(2)	(3)	(4)	(5)	(6)
Financial Planner	-0.156***	-0.151***	-0.155***	-0.050	-0.072	-0.068
	(0.057)	(0.054)	(0.056)	(0.058)	(0.053)	(0.052)
High Risk Tolerance		-0.007	-0.023		-0.202***	-0.230***
		(0.043)	(0.047)		(0.036)	(0.039)
High Confidence		0.110**	0.117**		0.091*	0.079
		(0.046)	(0.048)		(0.047)	(0.049)
Domestic Outlook		-0.050	-0.065		0.029	0.014
		(0.045)	(0.046)		(0.045)	(0.048)
Educated beyond sr. secondary school			-0.032			-0.018
			(0.059)			(0.059)
Net Worth above HK$500,000			-0.098**			-0.066
			(0.046)			(0.059)
Age			0.003			0.002
			(0.006)			(0.006)
Traded Stocks			0.076			-0.079
			(0.064)			(0.061)
Constant	0.410***	0.383***	0.269	0.397***	0.440***	0.467*
	(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	0.038	0.001	0.053	0.071

Table B.VIII: 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 *Domestic Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and domestic (international) outlook in the audit visit, respectively. *Educated beyond sr. secondary school*, *Net Worth above HK$500,000*, and *Traded Stocks* 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**	0.290**	0.034	0.037	0.021	0.204**	0.202**	0.253*	0.070	0.072	0.044
	(0.096)	(0.100)	(0.127)	(0.052)	(0.051)	(0.059)	(0.092)	(0.094)	(0.122)	(0.050)	(0.050)	(0.059)
High Risk Tolerance		0.119	0.125		-0.028	-0.043		-0.160	-0.161		-0.209***	-0.234***
		(0.091)	(0.093)		(0.048)	(0.053)		(0.109)	(0.109)		(0.038)	(0.044)
High Confidence		0.137	0.206		0.106**	0.120**		0.164	0.261**		0.079	0.069
		(0.117)	(0.129)		(0.050)	(0.051)		(0.105)	(0.107)		(0.053)	(0.055)
Domestic Outlook		-0.047	0.008		-0.051	-0.063		0.026	0.083		0.031	0.023
		(0.098)	(0.103)		(0.051)	(0.051)		(0.120)	(0.137)		(0.049)	(0.052)
Educated beyond sr. secondary school			0.186*			-0.052			0.224*			-0.038
			(0.100)			(0.065)			(0.121)			(0.065)
Net Worth above HK$500,000			-0.107			-0.106*			-0.234*			-0.039
			(0.083)			(0.055)			(0.124)			(0.066)
Age			-0.006			0.001			-0.002			-0.002
			(0.015)			(0.007)			(0.019)			(0.008)
Traded Stocks			-0.081			0.125*			-0.015			-0.077
			(0.093)			(0.072)			(0.133)			(0.069)
Constant	0.135**	0.048	0.252	0.393***	0.378***	0.352	0.243***	0.220*	0.240	0.361***	0.413***	0.610**
	(0.051)	(0.085)	(0.523)	(0.033)	(0.055)	(0.263)	(0.060)	(0.114)	(0.716)	(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	0.155	0.001	0.016	0.027	0.046	0.095	0.152	0.005	0.058	0.074

Table B.IX. Gender Difference and Auditor's Attributes in Financial Planner Visits (Standard Errors Clustered at Branch level)

The top half of the table reports the predicted probabilities (Prd. Pr.) that auditors of each combination of gender and attribute receive *Undiversified Advice* in columns (1) through (4) and *Home-biased Advice* in columns (5) and (6), when they visit Financial Planners. The probabilities are obtained from regression equation (5). The key independent variable/attribute (X) is an indicator variable taking the value of 1 (0) for *High (Low) Risk Tolerance* in columns (1) and (2), *High (Low) Confidence* in columns (3) and (4), and *Domestic (International) Outlook* in columns (5) and (6). *Demographic Controls* include a dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000),* a dummy for auditor's trading experience (=1 if have traded stocks before), and auditor's age (in years). The bottom half of the table reports the difference in the predicted probability and t-test for the difference in the respective dependent variable across auditors' gender with a particular attribute, and across particular attribute of auditors for a given gender. 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.

Dependent Variable (Y)	Undiversified Advice		Undiversified Advice		Home-biased Advice	
Independent Variable/Attribute (X)	*X = Risk Tolerance*		*X = Confidence*		*X = Outlook*	
	(1)	(2)	(3)	(4)	(5)	(6)
Prd. Pr. [Male, X=0]	0.136**	0.125	0.100	0.080	0.278***	0.291***
	(0.065)	(0.085)	(0.070)	(0.075)	(0.084)	(0.090)
Prd. Pr. [Male, X=1]	0.133	0.156	0.176**	0.186**	0.211***	0.193**
	(0.089)	(0.097)	(0.090)	(0.087)	(0.073)	(0.085)
Prd. Pr. [Female, X=0]	0.280***	0.288***	0.273***	0.257***	0.429***	0.390***
	(0.091)	(0.104)	(0.089)	(0.096)	(0.121)	(0.142)
Prd. Pr. [Female, X=1]	0.538***	0.516***	0.500***	0.537***	0.471***	0.524***
	(0.132)	(0.138)	(0.147)	(0.150)	(0.153)	(0.181)
Among X=1: [Female – Male]	0.405***	0.360**	0.324**	0.352**	0.260	0.330
	(0.133)	(0.156)	(0.145)	(0.150)	(0.162)	(0.197)
Among X=0: [Female – Male]	0.144	0.163	0.173	0.177	0.151	0.099
	(0.122)	(0.155)	(0.112)	(0.120)	(0.140)	(0.166)
Among Females: [(X=1) – (X=0)]	0.258*	0.228	0.227	0.280	0.042	0.133
	(0.143)	(0.154)	(0.175)	(0.181)	(0.219)	(0.250)
Among Males: [(X=1) – (X=0)]	-0.003	0.031	0.076	0.106	-0.067	-0.098
	(0.112)	(0.140)	(0.124)	(0.116)	(0.099)	(0.134)
Demographic Controls	No	Yes	No	Yes	No	Yes
Observations	75	75	75	75	75	75
R-squared	0.112	0.123	0.109	0.146	0.049	0.089

Table B.X: Gender Difference in Advice Quality and Type of Firm (Firm FE with Standard Errors Clustered at Auditor level)

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 *Domestic Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and domestic (international) outlook in the audit visit, respectively. *Educated beyond sr. secondary school*, *Net Worth above HK$500,000*, and *Traded Stocks* 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**	0.367**	0.038	0.039	0.028	0.262**	0.254*	0.330**	0.067	0.068	0.049
	(0.112)	(0.114)	(0.138)	(0.055)	(0.052)	(0.063)	(0.126)	(0.137)	(0.147)	(0.058)	(0.048)	(0.041)
High Risk Tolerance		0.117	0.135		-0.013	-0.025		-0.183	-0.192		-0.177***	-0.192***
		(0.094)	(0.096)		(0.055)	(0.053)		(0.141)	(0.135)		(0.051)	(0.052)
High Confidence		0.081	0.166		0.138**	0.154**		0.080	0.201		0.078	0.078
		(0.122)	(0.111)		(0.057)	(0.058)		(0.166)	(0.126)		(0.062)	(0.058)
Domestic Outlook		-0.062	0.022		-0.075	-0.089*		0.071	0.170		0.010	0.011
		(0.150)	(0.149)		(0.060)	(0.052)		(0.143)	(0.112)		(0.052)	(0.053)
Educated beyond sr. secondary school			0.230*			-0.038			0.262*			-0.025
			(0.132)			(0.072)			(0.134)			(0.047)
Net Worth above HK$500,000			-0.127			-0.107			-0.297**			-0.034
			(0.154)			(0.064)			(0.114)			(0.069)
Age			-0.004			0.001			-0.002			-0.003
			(0.012)			(0.007)			(0.019)			(0.006)
Traded Stocks			-0.042			0.133**			0.045			-0.062
			(0.166)			(0.061)			(0.172)			(0.059)
Constant	0.111	0.056	0.105	0.391***	0.365***	0.311	0.220**	0.222	0.162	0.363***	0.409***	0.599***
	(0.069)	(0.148)	(0.432)	(0.041)	(0.058)	(0.269)	(0.100)	(0.191)	(0.751)	(0.045)	(0.077)	(0.219)
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	0.179	0.216	0.249	0.329	0.189	0.221	0.230

Table B.XI: Gender Difference and Auditor's Attributes in Financial Planner Visits (Firm FE with Standard Errors Clustered at Auditor level)

The top half of the table reports the predicted probabilities (Prd. Pr.) that auditors of each combination of gender and attribute receive *Undiversified Advice* in columns (1) through (4) and *Home-biased Advice* in columns (5) and (6), when they visit Financial Planners. The probabilities are obtained from regression equation (5). The key independent variable/attribute (X) is an indicator variable taking the value of 1 (0) for *High (Low) Risk Tolerance* in columns (1) and (2), *High (Low) Confidence* in columns (3) and (4), and *Domestic (International) Outlook* in columns (5) and (6). These specifications include firm fixed effects. *Demographic Controls* include a dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK$500,000)*, a dummy for auditor's trading experience (=1 if have traded stocks before), and auditor's age (in years). The bottom half of the table reports the difference in the predicted probability and t-test for the difference in the respective dependent variable across auditors' gender with a particular attribute, and across particular attribute of auditors for a given gender. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level.

Dependent Variable (Y)	Undiversified Advice		Undiversified Advice		Home-biased Advice	
Independent Variable/Attribute (X)	*X = Risk Tolerance*		*X = Confidence*		*X = Outlook*	
	(1)	(2)	(3)	(4)	(5)	(6)
Prd. Pr. [Male, X=0]	0.112	0.084	0.095	0.046	0.228	0.206*
	(0.088)	(0.074)	(0.113)	(0.106)	(0.153)	(0.107)
Prd. Pr. [Male, X=1]	0.109	0.121	0.131	0.152	0.213	0.185
	(0.102)	(0.119)	(0.097)	(0.105)	(0.145)	(0.147)
Prd. Pr. [Female, X=0]	0.323***	0.336***	0.340***	0.329***	0.440***	0.393***
	(0.090)	(0.112)	(0.092)	(0.108)	(0.113)	(0.112)
Prd. Pr. [Female, X=1]	0.568***	0.579***	0.484***	0.537***	0.538***	0.658***
	(0.119)	(0.133)	(0.144)	(0.154)	(0.088)	(0.106)
Among X=1: [Female – Male]	0.459***	0.458**	0.354**	0.385**	0.324*	0.473**
	(0.163)	(0.191)	(0.159)	(0.162)	(0.168)	(0.206)
Among X=0: [Female – Male]	0.211	0.252	0.245	0.283	0.213	0.188
	(0.128)	(0.150)	(0.155)	(0.184)	(0.185)	(0.162)
Among Females: [(X=1) – (X=0)]	0.245	0.243	0.145	0.208	0.097	0.264*
	(0.147)	(0.153)	(0.168)	(0.150)	(0.143)	(0.154)
Among Males: [(X=1) – (X=0)]	-0.003	0.037	0.036	0.106	-0.014	-0.021
	(0.132)	(0.146)	(0.156)	(0.163)	(0.218)	(0.160)
Demographic Controls	No	Yes	No	Yes	No	Yes
Observations	74	74	74	74	74	74
R-squared	0.271	0.294	0.251	0.288	0.220	0.296

Table B.XII: Financial Literacy by Gender and Advice Fee

This table uses data from the 2016 wave of the Health and Retirement Study (HRS, Module 3) in the United States. It shows the difference in the measured financial literacy score by gender for HRS respondents who paid for professional financial advice and those who did not. The financial literacy score is the number of financial literacy questions (out of 4) that the respondent answered correctly. The respondent is coded as receiving professional financial advice if they receive help with decisions about money management, specifically help with stocks, bonds or mutual funds, buying annuities or buying health, life or other insurance, from a financial advisor, planner, accountant, or other professional. They are coded as receiving this advice for payment if they report that they pay for this advice a percentage of their assets or money per visit; they are coded as receiving it for free if they report they pay nothing or receive free advice. Female indicates the gender of the respondent. Standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Dependent variable	Financial Literacy Score	Financial Literacy Score
Category	Paid Advice	Free Advice
	(1)	(2)
Female	-0.271*	-0.304
	(0.158)	(0.442)
Constant	3.224***	3.000***
	(0.114)	(0.358)
Observations	122	35
R-squared	0.024	0.014

Table B.XIII: Advice Quality by Firm Type and Auditors' Characteristics

This table shows the incidence of Undiversified Advice (UA) and Home-Biased Advice (HB) as they vary by financial-advisory firm type and by auditor's age (Panel A), education (Panel B), net worth (Panel C), and trading experience (Panel D).

Panel A: Advice Quality by Firm Type and Auditor's Age

	Securities Firms		Financial Planners	
	UA	HB	UA	HB
	(1)	(2)	(3)	(4)
Young	0.416	0.389	0.238	0.31
Old	0.404	0.404	0.273	0.394
Diff (Y-O)	0.012	-0.015	-0.035	-0.084
p-value	*0.81*	*0.77*	*0.74*	*0.45*

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

	Securities Firms		Financial Planners	
	UA	HB	UA	HB
	(1)	(2)	(3)	(4)
Lower Education	0.416	0.408	0.271	0.333
Higher Education	0.397	0.373	0.222	0.37
Diff (L-H)	0.019	0.035	0.049	-0.037
p-value	*0.72*	*0.51*	*0.65*	*0.75*

Panel C: Advice Quality by Firm Type and Auditor's Net Worth

	Securities Firms		Financial Planners	
	UA	HB	UA	HB
	(1)	(2)	(3)	(4)
Lower Net Worth	0.428	0.428	0.293	0.39
Higher Net Worth	0.386	0.355	0.206	0.294
Diff (L-H)	0.042	0.073	0.087	0.096
p-value	*0.40*	*0.15*	*0.40*	*0.39*

Panel D: Advice Quality by Firm Type and Auditor's Trading Experience

	Securities Firms		Financial Planners	
	UA	HB	UA	HB
	(1)	(2)	(3)	(4)
Not Traded Stocks	0.394	0.456	0.345	0.379
Traded Stocks	0.423	0.346	0.196	0.326
Diff (N-T)	-0.029	0.109	0.149	0.053
p-value	*0.57*	*0.03***	*0.15*	*0.64*

Table B.XIV: Advice Quality by Auditors' Trading Experience

This table shows the incidence of Undiversified Advice (UA) as they vary by auditors' trading experience.

	Undiversified Advice
Not Traded Stocks	0.388
Traded Stocks	0.382
Diff (Traded - Not traded)	0.006
p-value	*0.90*

Table B.XV: Characteristics of Securities Recommended to High-Risk Tolerance Auditors

To construct this table, we collected data on the buy and hold return of all single securities that financial advisors recommended to auditors who were playing a high-risk tolerance avatar, over the 3 months after the recommendation date. We did the same for all securities in the Hang Seng Index over the same 3-month window. Column 1 presents the mean of the variances and the mean of the skewnesses of these 3-month buy and hold returns of the recommended stocks. Column 2 presents the mean of the variances and the mean of the skewnesses of these 3-month buy and hold returns of the Hang Seng Index stocks.

	Securities Recommended to High-Risk Tolerance Auditors	**Hang Seng Index Securities**
	(1)	**(2)**
Mean of the variances of raw return	0.003	0.006
Mean of the skewnesses of raw return	-0.001	0.096

Internet Appendix C: Study Design in Detail

C.1 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 become 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 get 847 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.[45] Some of these 90 firms had multiple branches. We had a sampling frame of 191 firm-branches.

C.2 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

[45] 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).

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 74 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 74 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 C.I.

Table C.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)		Num. of Companies		Num 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	14	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). 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. Accordingly, we assigned more visits to firms with more branch offices.

C.3 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 financial 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.

C.4 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 D gives the Cantonese script as well as an English translation of the visit protocol.

C.5 Operational Changes in the Assignment during the Audit Study

As described in section C.2 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. 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 D: Visit Protocol for Auditors in Cantonese

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/恒生指數 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。

Visit Protocol – English Version

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: "*They want to study in Hong Kong, and 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.