

# DO WOMEN RECEIVE WORSE FINANCIAL ADVICE?\*

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## ABSTRACT

Trained undercover men and women posed as potential clients and visited all 65 local financial advisory firms in Hong Kong. We find that women are more likely than men to receive advice to buy only individual or only local securities. This effect is significant for financial planners, but not for securities firms. Women who signal that they are highly confident, highly risk tolerant, or have a domestic outlook, are especially likely to receive suboptimal advice. Our theoretical model interprets these patterns as an interaction between statistical discrimination and 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

## **I. Introduction**

As women become wealthier, they are more likely to manage their wealth on their own. For example, in 2014, more than 46 percent of all investors at the Hong Kong Stock Exchange were women (Hong Kong Exchange and Clearing Limited 2014).<sup>1</sup> Their investment choices can have important consequences for women’s economic empowerment. To the extent that individual investors’ choices are guided by financial advisors, the quality of advice that women receive is crucial.<sup>2</sup> Further, even if we establish that women and men receive different advice, the implications of this are unclear until we understand the reasons why this happens. This paper attempts to address these issues.

During 2018-19, undercover “auditors” trained by us and a market research firm visited 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. After the visit, they answered an online exit survey and reported the names of all the products the advisor recommended to them. Experimentally induced random variation in the assignment of auditor gender and avatars to financial advisors, as well as stratified random matching of auditors and financial advisory

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<sup>1</sup> Some evidence suggests that Hong Kong women aspire more to participate in financial markets than women elsewhere. In a 2017 online survey, 62 percent of Hong Kong women respondents said that they planned to invest in stocks, in stark contrast to 5 percent of women respondents in the UK (IP Global 2017).

<sup>2</sup> Nearly 30 percent of American households say they would consult financial planners before making an investment (Federal Reserve Board 2016). In a representative survey across eight European Union member states, Chater, Huck, and Inderst (2010) found that 79 percent of household investors had consulted a financial professional, and 27 percent had specifically consulted a financial advisor. We estimate that in 2017, Hong Kong had 3.36 licensed financial advisors per 1000 members of the labor force.

firms, ensure that the advice that we observe is not confounded by endogenous matching of advisor and advisee or by underlying differences in these auditor characteristics.<sup>3</sup>

A key challenge in our study 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.<sup>4</sup> Besides, advice that is ex-ante optimal may not generate high returns ex-post, due to contemporaneous shocks to the economy that are beyond the control of financial advisors. To avoid these problems, our measure of advice quality is built on the observation from classical finance that, regardless of the investor's risk appetite, a diversified portfolio is ex-ante superior to an undiversified one. Accordingly, we view financial advice as *suboptimal* if it is either “undiversified”, meaning that it *only* consists of recommendations to purchase individual risky securities, or if it is “home-biased”, that is, it *only* includes recommendations to purchase local securities.<sup>5</sup>

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

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<sup>3</sup> A literature has emerged around audit studies in financial markets (Anagol, Cole, and Sarkar 2013; Gine, Cuellar, and Mazer 2014; Mowl and Boudot 2014; Sane and Halan 2016). Floyd and List (2016) provide a taxonomy to explain where audit studies fit in the field experiment literature. Bertrand (2016) reviews the existing field experiment literature on the prevalence of discrimination. Gender discrimination in financial markets have 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 to identify gender differences, they found that women investors are discouraged from buying actively managed or international funds, and encouraged to hold more liquid assets.

<sup>4</sup> 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.

<sup>5</sup> Some scholarly work has measured advice quality in terms of the management fee, since regardless of advisee characteristics, the lowest fee index fund is the optimal choice for every investor (Elton, Gruber and Busse 2004, Choi, Laibson and Madrian 2010, Mullainathan, Noeth, and Schoar 2012, Bucher-Koenen et al 2020). This approach cannot be applied in our context because only three funds in Hong Kong are linked to the broad index. We show later that our results are qualitatively similar when we instead use market-adjusted returns as an ex-post measure of advice quality.

that advisors at securities firms, whose revenue comes mainly from trading commissions, recommended to auditors that they purchase only risky individual securities in 41% of the visits. In contrast, advisors at financial planning firms, which earn commissions from a larger variety of products, recommended only risky individual securities in a significantly lower 25% of visits.<sup>6</sup> We interpret this as a straightforward response to advisor incentives: individual securities are likely to be traded at a higher frequency and thereby generate greater revenue for securities firms. Financial planners do not earn direct revenues from these trades and so have a lower incentive to recommend them.

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 quality advice, were significantly more likely to give suboptimal (single securities or home-biased) advice to female than to male auditors. Furthermore, the randomized variation in the attributes that auditors signaled helps us to identify how advisors respond to client characteristics. We find that financial planners were especially likely to distinguish by gender among clients who signaled that they were risk tolerant, confident, or had a domestic outlook.

Our stylized theoretical model rationalizes this as the result of an interaction between advisors' incentives and stereotypical beliefs about their advisees' financial knowledge.<sup>7</sup> In our model, financial advisors whose revenues come mostly from trading commissions (securities firms) have the incentive to recommend individual and local securities that trade frequently in the local exchange.<sup>8</sup> Financial planners earn much smaller trading commissions; instead they sell a range of financial products appropriate to the client's stage in the life cycle and cultivate

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<sup>6</sup> Financial advisors in securities firms (SFs) are like full-service brokers in the U.S., whereas financial planning firms (FPs) are similar to private wealth managers.

<sup>7</sup> Lusardi and Mitchell (2008), Bucher-Koenen et al. (2016), and Klapper and Lusardi (2020) document that that women have lower financial literacy than men on average. Bertrand (2020) discusses "sticky" stereotypes about gender-specific skills and gender-specific roles.

<sup>8</sup> Several scholars have argued that financial advisors have conflicts of interest (Mehran and Stulz 2007, Stoughton, Wu and Zechner 2011, Inderst and Ottaviani 2012a, 2012b, 2012c; Chen and Gesche 2017). Alternatively, advisors themselves may lack the appropriate financial knowledge (Linnainmaa, Melzer and Previtero 2020). This last hypothesis is unlikely to explain our results, since our study focuses only on licensed financial advisors, who have passed an examination set by the Securities and Finance Commission of Hong Kong.

long-term relationships. This lowers the chance that they recommend only individual or local securities.

Financial planners, unlike security firms, face a different calculus. As they are more client-specific, it induces them to “cater” to the client’s inclinations since this increases the likelihood that the client maintains the relationship. However, ex-ante such “catered” advice is detrimental to their client’s interest, and clients who detect this may terminate the relationship. If advisors perceive that male clients have better financial knowledge and so are more discerning, then their tendency to provide suboptimal, catered advice is mitigated to a greater extent when the client is male. The net result is that female clients are more likely to receive suboptimal advice, and that this tendency increases by more if a female, rather than male client, signals risk tolerance, confidence, or domestic outlook.

Our model thus highlights the fact that conflicts of interest 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 client’s financial knowledge that drives gender differences.

Our work also offers an important insight into whether gender differences in advice result from statistical or taste-based discrimination.<sup>9</sup> It is possible that advisors have a distaste for confident, risk-tolerant women investors who defy their gender stereotypes. However, if this taste-based explanation were the only reason for gender differences in advice, advisors at both type of firms would differentiate by client gender, not just those at financial planning firms.

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

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<sup>9</sup> 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).

varies multiple attributes of auditors, and randomly assigns auditors to advisors. In this way, we can cleanly identify how advisors respond to certain individual attributes.<sup>10</sup>

Since an audit study can only be conducted at the initial contact point between the client and the advisor, we can only observe how financial professionals advise walk-in prospective clients. We cannot rule out the possibility that advisors might have advised these female clients better in subsequent meetings. However, it is hard to imagine why advisors would give systematically worse advice at the first meeting than at later meetings. In any case, the central question remains: why is there a gender difference in the quality of (initial) advice?

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

## **II. Empirical 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 the retail equity investors were women. As women's education, labor force participation, and wealth increases all over the world, and they become important clients of the retail advising industry, insights from Hong Kong's advising industry can provide lessons for what to expect.

Although they are increasingly important as a market segment, women in Hong Kong continue to be less financially knowledgeable than men, according to previous studies. In a

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<sup>10</sup> Previous work suggests that women are more risk-averse, less confident in their ability to save and invest, make more conservative financial choices, and trade less frequently than men do (Bajtelsmit and Bernasek 1996, Barber and Odean 2001, Bertrand 2010, Merrill Lynch 2018). Some have found that among wealthy advisees, there are no gender differences in confidence (Baeckstrom, Marsh, and Silvester 2019). All our auditors were selected to be representative of the average middle-income Hong Kong person.

2018 representative sample of Hong Kong adults, men scored higher than women on a financial literacy test, and also self-reported higher levels of confidence about 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). They are employed not just by financial planner (FP) firms that provide personalized wealth management advice, but also by securities firms (SF), that provide full-service brokerages. 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 and hire financial advisors to be "account executives". These executives may advise clients upon request, but many of their investors are self-directed. The revenues of these firms come from trading commissions for executing their clients' orders on the stock exchange. Margins are a low 6 to 20 basis points per Hong Kong dollar (HKD) traded, and revenue is mainly a function of the trading volume.<sup>11</sup> Different firms offer fairly homogenous services; so they mostly compete on the fees they charge to clients. For this reason, once investors open an account with a securities firm, they are likely to remain its client.

In contrast, financial planner firms (FPs) provide personalized wealth management advice. The financial advisors who work at FPs are called "relationship managers", and mainly work with clients who are looking to delegate their investment decisions. They advise clients not just on exchange-traded products, but also on non-traded financial products such as mutual funds and complex insurance products. When their client wishes to purchase an exchange-traded product, the relationship manager channels the order to a securities firm and earns a fraction of the trade commission. If the client purchases a fund, the fund house transfers about half the management fee to the FP. However, FPs earn larger commissions on structured products. For

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<sup>11</sup> See, for example, the following link for the trading commission information from one of the Hong Kong security firms, Chief: <https://www.chiefgroup.com.hk/en/securities/hk-charges>.

example, they may receive as much as 90% of the sales revenue from insurance-linked annuity products.

This coexistence of clearly separate securities firms and financial planning firms with different business models allows us to analyze how advisors incentives can interact with their perceived gender differences in clients' financial knowledge to generate gender differences in financial advice.

### III. Model

We build on Inderst and Ottaviani's (2012a, 2012b, 2012c) canonical framework that models the advisor's trade-off when giving suboptimal financial advice. Suboptimal advice in our setting is a recommendation to purchase individual risky or local securities.

The benefit to an advisor of giving suboptimal advice is the future stream of commissions that this relationship will generate. This depends both on the suboptimality of advice and the likelihood that the client returns to the advisor in the next period. The benefit is traded off against the total cost to the advisor of giving suboptimal advice.

We first model the behavior of the financial planner (FP) firm. The FP advises a retail investor  $i$ , who is defined by four independently distributed attributes: risk tolerance level ( $r$ ), confidence ( $c$ ), geographical outlook ( $o$ ), and gender ( $g$ ). We denote advice quality by  $\gamma \in [0, 1]$ . If the advice is optimal, i.e.,  $\gamma = 0$ , the FP receives a payoff that is normalized to zero. If the advice is suboptimal either in the sense of being undiversified or home-biased, i.e.,  $\gamma > 0$ , then the FP receives additional payoff, expressed as:

$$\Pi_{FP,i} = \underbrace{m(\gamma)[1 + \beta\{\theta_{FP,i}(\gamma, r_i, c_i, o_i, g_i)\}]}_{\text{benefit}} - \underbrace{C_{FP,i}(\gamma, g_i)}_{\text{cost}} \quad (1)$$

The first term in equation (1) is the FP's benefit from recommending suboptimal products. It is the present value of *additional* commissions that the FP earns by giving suboptimal advice; this drives the conflict of interest. It is made up of the additional commissions in the first period, and the discounted value of additional commissions in the second period if the client maintains the relationship. The discount rate is  $\beta$ . We assume that the per-period additional commission,



$m(\gamma)$ , is increasing in the suboptimality over the advice. The parameter  $\theta_{FP,i}$  measures the probability that client  $i$  returns to FP for advice in the next period.

The second term in equation (1) is the FP's total cost of recommending suboptimal products, which includes both the monetary and non-monetary cost of violating one's code of conduct. To model taste-based discrimination, we allow the non-monetary cost to be smaller when the advisor gives bad advice to a male client than to a female client. We assume the total cost increases at an increasing rate as the suboptimality of the advice increases.

Two opposing forces are at play when we consider the probability that client  $i$  returns to FP for advice in the next period. The first force is catering. FPs have an incentive to “cater” to the clients' preferences (Mullainathan, Noeth, and Schoar, 2012). Risk tolerant clients are more likely to be satisfied if the advisor recommends individual risky securities. Confident clients are looking to “beat the market,” and so prefer that the advisor recommends individual securities that could perform above the market average. Clients with a domestic outlook prefer to invest in familiar, local firms, and so are more satisfied if the advisor recommends such securities. High catering clients are characterized by high risk tolerance, high confidence, and with domestic outlook; low catering clients are characterized by low risk tolerance, low confidence, and with international outlook. The second and opposing force is that discerning clients may recognize that they have received suboptimal advice, and then terminate the relationship. We assume that the advisor believes that male clients are more discerning than female clients. This may simply reflect the fact that women, on average, report lower financial knowledge than men do.<sup>12</sup> So we assume that the advisor believes that the marginal benefit of giving bad advice to women is larger than that of giving bad advice to men, and we further assume that this difference increases in receptivity to catering.

To simplify the analysis, we now make the following parametric assumptions that respect all the economic forces we have discussed above:

$$m(\gamma) = \gamma \tag{2}$$

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<sup>12</sup> Alternatively, the advisor's beliefs could be biased in the sense of Bordalo et al. (2019), in that advisors perceive the differences between men and women's financial knowledge to be larger than they actually are.

$$\theta_{FP,i}(\gamma, r_i, c_i, o_i, g_i) = \kappa(r_i, c_i, o_i)(1 - \delta(g)) - \gamma \quad (3)$$

where

$$\kappa(\cdot) = \begin{cases} 1 & \text{for high catering clients} \\ K & \text{for low catering clients } (0 < K < 1) \end{cases}$$

$$\delta(\cdot) = \begin{cases} 0 & \text{for female clients} \\ D & \text{for male clients } (0 < D < 1) \end{cases}$$

and

$$C_{FP,i} = \gamma^2 \tau(\cdot) \quad (4)$$

where, if there is no taste-based discrimination, then  $\tau(\cdot)=1$ . If there is taste-based discrimination,

$$\tau(\cdot) = \begin{cases} 1 & \text{for female clients} \\ T & \text{for male clients } (0 < T < 1) \end{cases}$$

Inserting (2), (3) and (4) in (1), and differentiating the first term in (1) with respect to  $\gamma$ , we obtain the marginal benefit for FPs of giving suboptimal advice as:

$$MB_{FP,i}(\gamma, r_i, c_i, o_i, g_i) = 1 + \beta \kappa(r_i, c_i, o_i)(1 - \delta(g)) - 2\beta\gamma \quad (5),$$

and differentiating the second term in (1), we obtain the marginal cost for FPs of giving suboptimal advice as:

$$MC_{FP,i}(\gamma, g_i) = 2\gamma \text{ if there is no taste-based discrimination} \quad (6a)$$

and

$$MC_{FP,i}(\gamma, g_i) = 2\gamma\tau(\cdot) \text{ if there is taste-based discrimination} \quad (6b)$$

We now turn to the analysis for a securities firm. Since securities firms (SFs) provide a homogeneous service in a fiercely competitive industry, once clients open an account with a

particular securities firm, they have little incentive to switch to a different one. We, therefore, assume that a SF always expects to retain a client (i.e.  $\theta_{SF,i} = 1$ ).<sup>13</sup>

So the marginal benefit for SFs from giving suboptimal advice can be written as:

$$MB_{SF,i}(\gamma, r_i, c_i, o_i, g_i) = 1 + \beta \quad (7)$$

The marginal cost of the SF has the same functional form as the marginal cost of the FP as given in (6a) and (6b).

[INSERT FIGURE I ABOUT HERE]

Consider first the case when there is no taste-based discrimination. In Panel A of Figure I we follow equation (5) to depict the marginal benefit curves of the financial planner, and equation (7) to depict the marginal benefit curve of the securities firm. As we see in equation (7), the SF's marginal benefit curve is constant. For financial planners, as we see in equation (5), each marginal benefit curve is a downward sloping line with a slope of  $-2\beta$ , with different intercepts that depend on client characteristics. High-catering female clients are receptive to catering and have little discerning ability, and therefore the advisor receives the greatest marginal benefit from giving them suboptimal advice. Low-catering male clients are both not receptive to catering and can discern bad advice, therefore the advisor receives the lowest marginal benefit from giving them suboptimal advice. As the graph shows, the gender difference in marginal benefit amongst high-catering clients is given by  $\beta D$ , whereas that amongst low-catering clients is given by  $K\beta D < \beta D$ .

As we see in equation (6a), the marginal cost curve in Panel A of Figure I is a ray through the origin with a slope of  $2\gamma$ . This curve is the same for both SFs and for FPs, and it does not depend on client characteristics.

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<sup>13</sup> Note, we do not consider the possibility that a client of a securities firm might switch to a financial planner. This is because financial planners offer a larger range of services, and so an investor could maintain their relationship with the securities firm even if they engage a financial planner.

The equilibria occur where the marginal benefit curves intersect the marginal cost curve. Note first that the intersection point of the SFs is always to the right of the intersection points of the FPs. So we obtain

*Implication 1 (Difference in Advice Quality by Firm Type): Advice from securities firms is more likely to be undiversified and home-biased than advice from financial planners.*

Next note that, for FPs, at a given level of catering receptivity, the equilibria for female clients always occur at higher levels of suboptimality than for male clients. However, for SFs, there is no gender difference. Therefore, we get:

*Implication 2 (Gender Difference in Advice Quality by Firm Type): If there is no taste-based discrimination, financial planners are more likely to give suboptimal advice to female clients than to male clients, but securities firms do not differentiate between the genders.*

The incentive to give suboptimal advice in financial planners is tempered by the concern that clients who detect that they have received poor quality advice may not return. Since advisors believe that male clients are more likely to detect that the advice is suboptimal, this constrains the financial planner from catering to the male client's characteristics but has less of a constraining effect when the client is female. This consideration does not enter the decision process of the securities firm because they always retain the client. As a result, securities firms are more likely to give suboptimal advice, but they do not distinguish by client gender.

Notice that the vertical gap between the marginal benefit curves for female and male clients in Panel A of Figure I is larger when the clients have high-catering needs than when they have low-catering needs ( $\beta D > K\beta D$ ). This gives us:

*Implication 3 (Gender Difference in Advice Quality by Client Attributes – Financial Planners): Financial planners' propensity to give more suboptimal advice to women than to men is larger if they are highly risk-tolerant, highly confident, or have a domestic outlook.*

When choosing the quality of advice they give, the financial planner trades off the benefit from receptivity to catering against the risk that the client detects that the financial advice is

bad. Recall that the advisor perceives that women are less likely to detect bad financial advice than men, and this gender difference in the ability to detect increases in receptivity to catering. This generates a larger gender difference in advice quality among high-catering needs clients than low-catering needs clients.

In Panel B of Figure I, we introduce the possibility of taste-based discrimination. As equation (6b) shows, the marginal cost curves now differ by client gender: if the advisor is advising a male client their marginal cost curve has a slope of  $2\gamma$ ; if they are advising a female client it has a slope of  $2\gamma^T < 2\gamma$ . The marginal benefit curves remain the same as in Panel A. Implications 1 and 3 remain the same as before; however, Implication 2 will now change. This gives us:

*Implication 4 (Taste-based Discrimination): If financial advisors have a distaste for advising female clients, then both securities firms and financial planners are more likely to give suboptimal advice to women than to men.*

We will now examine if these implications hold in our data.

#### **IV. 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 that allowed them to practice as a financial advisor. 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.<sup>14</sup> We removed multinational firms since their operating procedure is determined globally, and so their advisors' conduct in Hong Kong may be relatively constrained. 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.<sup>15</sup>

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<sup>14</sup> Employers apply for Type 4 licenses on behalf of the employee; thus each Type 4 license corresponds to an employer-employee pair. If the employee leaves this firm's employment, the license becomes inactive. This ensured that we correctly identified the universe of all firms that provided financial advising services.

<sup>15</sup> If a firm does not post its contact information publicly, a prospective client is unlikely to be able to schedule an appointment with an advisor in that firm. Such a firm does not qualify for our study.

In Summer 2018, our bilingual research assistant contacted each firm individually, via telephone or email. She pretended to be a potential retail customer and used a free-flowing script in Cantonese, the local language in Hong Kong, to inquire if the firm would provide her personalized financial advice. These phone calls allowed us to identify firms unsuitable for our study, such as banks that only advise depositors; firms that only advise corporate clients, only accept referred clients, only advise after the client has made an initial deposit, only provide a trading platform but do not advise clients, or those that only sell gold, insurance, or futures.

After eliminating unsuitable firms, our sampling frame consisted of 90 individual advisory firms. These consisted of 75 securities firms and 15 financial planning firms. We included all 191 branch offices corresponding to these 90 firms in our study.<sup>16</sup>

We designed our experiment so that each auditor embodied an “avatar” comprising of three attributes: risk tolerance, confidence, and geographic outlook. We allowed each attribute to take two values: high or low risk-tolerance, high or low confidence, and a domestic or an international outlook. This created 8 possible avatars. We collaborated with a market research firm, which hired 32 auditors (16 men and 16 women); we assigned each avatar to 4 auditors (2 men and 2 women). We then randomly assigned to each auditor between 18 and 20 visits to the branch offices.<sup>17</sup>

Every branch office received multiple visits, each from a different auditor. To maximize the precision of our estimates, we balanced the gender  $\times$  avatar assignment across these multiple visits. It was also critical that the auditors maintain the appearance that they were potential clients. Since the advisor could have asked to see the auditor’s Hong Kong identity card, we instructed each auditor to truthfully provide his/her name when making their appointments. Auditors only visited firms with prior appointments. An individual auditor was

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<sup>16</sup> We initially assigned 111 of the 191 branch offices to auditors, and held 80 branch offices in reserve to be used for replacements if a visit failed. We created 594 branch  $\times$  auditor random assignments, linking 32 auditors to 111 firm-branches from 74 firms. Our power calculations from the statistics obtained from an initial pilot study had estimated this sample size to be large enough. Details are provided in Section B of the Data Appendix.

<sup>17</sup> The auditors scheduled and attended their appointments independent of each other.

assigned to visit only one branch of any given firm; this helped to avoid detection if firms had centralized appointment scheduling platforms.

To make our estimates representative of the local market, we assigned more visits to firms with more branches.<sup>18</sup> However, to avoid creating suspicion, no branch received more than 6 visits.

Some of our visits failed because the staff at the advisory firm told auditors that the firm did not offer recommendations or insisted on prior referrals or insisted that the auditor open an account.<sup>19</sup> In such cases, we subsequently assigned the auditor to visit another branch office. The distribution of the originally assigned visits and the actual visits are in Table D.1 in the Data Appendix. Section E in the Data Appendix provides details about these failed visits. More importantly, the reasons why visits failed 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.

We provided the auditors with scripts that they could incorporate naturally into their conversation to signal their avatar. Each auditor was assigned to a single avatar, that they role-played in all their visits. In this way, they were less likely to “blow their cover” by forgetting their lines or mistakenly signaling the wrong avatar. The market research firm trained auditors to pose as potential clients who are visiting a financial advisor for the first time. They would all state the same investment objective, investment amount, and investment horizon, and seek appropriate product recommendations.<sup>20</sup>

To signal that they were highly risk-tolerant, 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*

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<sup>18</sup> 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.

<sup>19</sup> 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 Data Appendix. As a result, our analysis is run on data from 463 visits.

<sup>20</sup> In 6 cases, auditors reported that advisors appeared to remember having met an auditor previously. To avoid any biases caused by contamination, we did not include these 6 visits in our estimation sample. In addition, we dropped the visit immediately prior.

*are good. So, I can afford to lose some money.*” In contrast, an auditor signaling a 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 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.”*<sup>21</sup> 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.

Financial advisors commonly administer a risk profile questionnaire to first-time clients. In order to ensure that auditors’ responses to the questionnaire would align with their avatar, we created model answers for three risk profile questionnaire 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, since we desired that the experimentally-varied attributes and gender of the auditors, but not their other characteristics, generate the bulk of the variation in the advisors’ perceptions of the auditors, they needed to be relatively homogenous in other

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<sup>21</sup> Our theoretical model assumes that confidence and financial knowledge are orthogonal. This assumption is carried over to our empirical design: we assume that when the auditors signal their confidence using this script, this does not reveal their financial knowledge. However, it is possible that advisors interpreted the high confidence script as signaling self-belief about high financial literacy instead. If self-belief about financial literacy is positively correlated with actual financial literacy (Allgood and Walstad 2015), then advisors might have advised high confidence-signaling auditors in the same way as they would have advised financially literate clients. By this argument, both men and women who signal high confidence should receive non-dominated advice. Instead, we find that confident women (but not men) were more likely to received *dominated* advice.



aspects. Accordingly, all our 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 auditors spoke the native language, Cantonese. Section C in Data 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.<sup>22</sup> Similarly, we required that they had either no or limited experience trading on the stock exchange.<sup>23</sup> After they had been hired, the auditors reported their characteristics through an online questionnaire that we had designed. Five individuals quit during the study and were replaced.<sup>24</sup> Table I presents descriptive statistics for all 37 individuals who were auditors. Note, however, that at any point, only 32 auditors were involved, with two men and two women playing each of the 8 avatars.

[INSERT TABLE I ABOUT HERE]

Unsurprisingly, male and female auditors differed in a number of characteristics. The women were on average three years older than the men. All the women, but only about two-third of the men, were married. Accordingly, the average women auditor had more children. This likely reflects gender differences in labor force participation: married women with children are more likely to work part-time, whereas for men, 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. This fact is also reflected in their

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<sup>22</sup> Despite this instruction, one male auditor did have a Bachelor's degree in journalism. However, he fulfilled all other criteria: age, monthly income and net worth, and limited investment experience.

<sup>23</sup> Note, the market research firm could not have verified the candidates' self-reported information, and candidates may have lied to qualify for the job. To avoid this, we requested the market research firm *not* to advertise any non-verifiable hiring criteria, but to use them to screen out candidates after they had applied for the job.

<sup>24</sup> One female auditor quit because of an accident, and one male auditor left Hong Kong on a month-long business trip. The market research company fired one male and one female auditor about one-third of the way into the study on grounds of unsatisfactory performance, specifically because they did not probe sufficiently to ascertain the advisors' product recommendations. We do not know the reason why the fifth auditor quit.

lower probability of holding a mandatory provident fund.<sup>25</sup> Men were more educated than women: 47% (22%) of men (women) had studied beyond senior secondary school. Men also reported owning greater wealth than women did: 58% (33%) of men (women) reported a net worth above HK\$500,000. 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.

After they completed each visit, auditors were given 24 hours to fill in an online questionnaire where they reported on various details of the visit. 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. We were careful to not reveal our research question to the market research firm or to the auditors. Section D of the Data Appendix provides details on protocol.

## **V. 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 Figure II Panel A, our original schedule included 149 visits by men and 149 visits by women playing a low risk-tolerance avatar, and 148 visits by men and 148 visits by women playing a high risk-tolerance avatar. As we described above, some visits were unsuccessful and so we replaced them with visits to the branch offices we had held in reserve. The brown (darker) bars show that this did not create an imbalance in our actual visits. The visits were also gender-balanced in terms of the confidence (Panel B of Figure II) and the geographic outlook (Panel C of Figure II) attributes.

[INSERT FIGURE II 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

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<sup>25</sup> 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.

not select which advisor was assigned to meet our auditor. If firms simply assign to each prospective client the first available advisor, it is reasonable to think that the advisor match was random. However, firms could also selectively match advisors to clients based on the client's characteristics, specifically their gender, since that was observable at the time when the auditor made the appointment or walked in.<sup>26</sup>

As we see in Table II, 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 audit they were about as likely (24.3%) to meet a female advisor as when men conducted the visit (27.2%). This pattern is similar across both securities firms and financial planners.

[INSERT TABLE II ABOUT HERE]

## **VI. Empirical Results**

We now proceed to analyze the quality of advice that auditors received. Within 24 hours of the visit, auditors filled in an online questionnaire, where they reported the name of each product that the advisor had suggested.

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

[INSERT TABLE III ABOUT HERE]

In 30 percent of the visits, advisors did not recommend any specific product. In Table IV we examine the content that was discussed in these visits. Note first that no-advice visits predominantly took place at securities firms. In 56 percent of the 120 such visits at SFs, the advisor claimed that their firm only facilitated trades, but did not give customized advice to

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<sup>26</sup> After this research was concluded, we learned from an acquaintance who works at a securities firm that they direct “walk-in” clients to the first available specialist.

retail investors. In 23 (=17+6) percent they administered a risk profile questionnaire to the auditor or discussed risk diversification strategies, and in 23 percent they required the auditor to open an account before they would give advice. 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 IV ABOUT HERE]

Importantly, in our empirical analysis, all visits where the auditor did not receive specific product recommendations will be coded as “undominated advice”. This implies that our results are *not* driven by the 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.<sup>27</sup>

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 the idiosyncratic risk that could be diversified away at no loss of expected return. Therefore, we code 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 includes advice to buy a basket of securities or a government bond as well as no advice.

This classification allows us to circumvent the usual problems that arise with evaluating the quality of financial advice. *Ex-post* measures of advice quality such as the raw (or risk-adjusted) rate of return on the portfolio are not appropriate in our context, because in an initial visit, the advisor is unlikely to discuss exact portfolio shares of each product they recommend. *Ex-ante* measures, such as the distance from an efficient portfolio, are also inherently problematic because they require that we observe the client’s true risk appetite and the feasible opportunity set. Our definition provides a simple and conservative measure of the extent to which advisors give prospective clients suboptimal advice. Importantly, advisors at both

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<sup>27</sup> In the Internet Appendix, we show multinomial regressions where instead the dependent variables take three possible values: No Advice, Undiversified Advice (UA) and Not Undiversified Advice; or No Advice, Home-Biased Advice (HB) and Not Home-Biased Advice. Our main conclusions are unaffected.

securities firms (SF) and financial planning (FP) firms can recommend diversified products if they choose to. For example, SFs could recommend baskets such as exchange-traded funds (ETFs), rather than individual risky securities. Similarly, FPs could recommend baskets such as mutual funds.<sup>28</sup>

We also 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 no advice.

Table V presents the summary statistics of the variables described above. Panel A provides univariate statistics regarding Implication 1, viz. that securities firms are more likely to provide suboptimal advice than financial planners. In Column (1), we see that across both types of firms, in 38.4% of the visits, the advisor only recommended single risky securities. In line 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 ( $p\text{-value} = 0.011$ ). Column 2 of Panel A shows that in 38.9% of the visits, the advisor recommended only local securities. However, this propensity to give home-biased advice is equally prevalent among advisors at securities firms and financial planners.

[INSERT TABLE V ABOUT HERE]

Panel B provides univariate statistics regarding Implication 2 of our model, viz. that financial planners differentiate by auditor gender more than securities firms do. In columns (1) and (2), we see that a male auditor visiting a securities firm was offered undiversified (home-biased) advice 39.3% (36.1%) of the time, whereas a female auditor was offered undiversified (home-biased) advice a very similar 42.6% (43.1%) of the time. In contrast, 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

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<sup>28</sup> Our main conclusions are unaffected when we analyze the ex-post returns of the recommended products (see Section VI (D)).

(home-biased) advice 36.8% (44.7%) of the time. The differences are 23.3%,  $p < 0.05$  (20.4%,  $p < 0.10$ ). Thus, financial planners appear more likely to give suboptimal advice to female than to male clients, whereas securities firms are less likely to differentiate advice according to the clients' gender. Further, as there seems to be no gender bias among securities firms, there is no evidence in favor of taste-based discrimination.

Multivariate regressions allow rigorous tests of our hypotheses. We use the following specification:

$$y_{ai} = \alpha + \beta \text{Financial Planner}_a + \gamma \text{High Risk Tolerance}_i + \delta \text{High Confidence}_i + \mu \text{International Outlook}_i + \mathbf{X}_i + \epsilon_{ai} \quad (8)$$

Here,  $y_{ai}$  is a binary variable indicating the quality of the advice that auditor  $i$  received when they visited advisor  $a$ .<sup>29</sup> 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  $\text{Financial Planner}_a$  takes value 1 if the firm is a financial planner.<sup>30</sup> 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. Finally, vector  $\mathbf{X}_i$  includes controls for the age, education level, and net worth of the auditor. In all regressions, standard errors are clustered at the level of the auditor.<sup>31</sup>

In Columns (1)–(3) of Table VI, the dependent variable takes value 1 if the advisor recommended only single risky securities, and 0 otherwise. Column (1) essentially replicates the result from Column (1) of Panel A, Table V. 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 essentially unaffected by these controls.

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<sup>29</sup> Note that each observation in our dataset is a visit by a particular auditor to a particular branch office of an advisory firm. In our empirical specifications, a branch office is considered synonymous with an advisor. In reality, of course, branch offices may employ multiple advisors.

<sup>30</sup> During her initial phone calls to each advisor firm, our research assistant ascertained the business model of the firm. We use this to identify the securities firms and financial planners in our study.

<sup>31</sup> In the Internet Appendix, we show results where standard errors are clustered at the level of the branch of the advisory firm. Also, in the Internet Appendix, we show results with firm-fixed effects and auditor-level clustered standard errors.

Similarly, when we additionally control for the auditor's personal characteristics in column (3), we continue to find that financial planners were 15 percentage points less likely than securities firms to give undiversified advice.

[INSERT TABLE VI 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 V.

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

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

$$y_{ai} = \alpha + \beta \text{Female Auditor}_i + \gamma \text{High Risk Tolerance}_i + \delta \text{High Confidence}_i + \mu \text{International Outlook}_i + \mathbf{X}_i + \epsilon_{ai} \quad (9)$$

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

In columns (1)–(6) of Table VII, 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 percentage points more likely to receive advice only to buy single risky securities than men auditors were. The estimate remains stable and highly significant when we control for the randomly varying avatar attributes in column 2, and it even increases in magnitude when we further control for auditor characteristics in column 3.

[INSERT TABLE VII 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 0.01 to 0.04, and none are statistically significant. As discussed earlier, this is consistent with the idea that rather than competing on advice quality, securities firms compete on service fees; as a result, their advice quality does not vary by client attributes.

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 they are to male clients. Once again, securities firms do not appear to vary their advice by client’s gender.

To summarize, we find strong evidence in favor of Implication 2 of our model: Financial planners were more likely to give suboptimal advice to female clients than to male clients. However, the fact that securities firms do not vary advice quality by gender indicates that advisors do not engage in taste-based discrimination (see Implication 4).

The experimental variation we induced in the auditor’s avatar attributes allows us to examine more deeply the causes for gender difference in advice. Implication 3 states that financial planners are more likely to cater their advice to client attributes when the client is female than when the client is male. Tables VIII, IX, and X examine this prediction.

In Table VIII we use the following empirical specification to investigate whether gender difference in advice quality varies by risk tolerance:

$$y_{ai} = \alpha + \beta \text{Female Auditor}_i + \gamma \text{High Risk Tolerance}_i + \omega (\text{Female Auditor}_i \times \text{High Risk Tolerance}_i) + \mathbf{X}_i + \epsilon_{ai} \quad (10)$$

We use this specification to estimate the predicted probability that the auditor receives suboptimal advice, and then compute the difference in predicted probability owing to auditor’s gender within a risk-tolerance level. For brevity, in the top panel of Table VIII, we report the predicted probabilities for the four gender  $\times$  risk tolerance subgroups, and in the bottom panel, we report the difference in predicted probabilities by gender (keeping risk tolerance constant), and then by risk tolerance (keeping gender constant). In column 2, we notice that female auditors who were highly risk tolerant were more likely to receive undiversified advice than male auditors who were highly risk tolerant (40 pp, significant at 5%). However, if the auditors had low risk tolerance, then the likelihood of receiving undiversified advice did not vary by gender (difference = 17 pp, not significant). We depict these results in Figure III, Panel A.



[INSERT TABLE VIII ABOUT HERE]

[INSERT FIGURE III ABOUT HERE]

In Table IX, we examine how advice quality varies by the client's confidence level. Using the regression specification below

$$y_{ai} = \alpha + \beta \text{Female Auditor}_i + \delta \text{High Confidence}_i + \omega (\text{Female Auditor}_i \times \text{High Confidence}_i) + \mathbf{X}_i + \epsilon_{ai} \quad (11)$$

we notice in column (2) that highly confident female auditors were significantly more likely to receive undiversified advice than highly confident male auditors (difference = 34 pp, significant at 5%). Less confident female auditors were also more likely to receive undiversified advice than less confident male auditors (difference significant at 10%); however the difference is clearly sharper among highly confident auditors. We depict these results in Figure III, Panel B.

[INSERT TABLE IX ABOUT HERE]

Finally, in Table X we examine home-biased advice, using the specification:

$$y_{ai} = \alpha + \beta \text{Female Auditor}_i + \delta \text{Domestic Outlook}_i + \omega (\text{Female Auditor}_{ai} \times \text{Domestic Outlook}_{ai}) + \mathbf{X}_i + \epsilon_{ai} \quad (12)$$

where the dependent variable indicates whether the advisor only recommended local securities. In column 2, we see when two auditors of different genders signaled that they had a domestic investment outlook, the financial planner was more likely to recommend only local securities to the woman than to the man (difference = 34 pp, significant at 10%). However, if they instead signaled they had an international outlook, there was no significant gender difference in the likelihood of such advice (difference = 11 pp, not significant). See Figure IV.

[INSERT TABLE X ABOUT HERE]

[INSERT FIGURE IV ABOUT HERE]

Taken together, our results are consistent with the idea that advisors at financial planning firms attempt to “cater” to clients' risk preferences, confidence, and geographic outlook, but they respond to these attributes more sharply when the client is female clients than when the

client is male. 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.

## VII. Supplementary Findings

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

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

Table VI showed that financial planners provide better advice than securities firms do. However, in Table VII, 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. As a result, a priori it is unclear which type of firm would provide better advice to a female client, on average.

To answer this question, in Table XI, we show results from specification (8), run separately for male and female auditors. As we see in columns (4)–(6) and (10)–(12), the average female client is equally likely to receive suboptimal advice from financial planners and securities firms. In contrast, columns (1)–(3) and (7)–(9) make it clear that an average male client receives better advice at a financial planner than a securities firm. In particular, he is 25–26 percentage points (significant at 1%) less likely to receive undiversified advice, and 12–15 percentage points (insignificant) less likely to receive home-biased advice, if he visits a financial planner rather than a securities firm.

[INSERT TABLE XI ABOUT HERE]

### 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?<sup>32</sup>

Although we randomized the assignment of auditors to advisory firm branches, we could not select which advisor the auditor met. Therefore, we cannot claim to have random variation

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<sup>32</sup> 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.

in advisor gender. Note, however, that as we saw in Table II, both men and women auditors were equally likely to meet female advisors. This is suggestive evidence that advisory firms do not selectively match advisors and advisees on gender.

To understand the relation between advisor's gender and quality of financial advice, we run the specification:

$$y_{ai} = \alpha + \beta \text{Female Auditor}_i + \sigma \text{Female Advisor}_a + \omega (\text{Female Auditor}_i \times \text{Female Advisor}_a) + \mathbf{X}_i + \epsilon_{ai} \quad (13)$$

In column 2 in the bottom panel of Table XII, we see that female and male auditors were equally likely to receive undiversified advice if they met female advisors (difference = 17 pp, not significant). However, female auditors were 26% more likely than male auditors (statistically significant at 5%) 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 = 26 pp, although not statistically significant) than if they met female advisors (difference = 7 pp, not significant). Thus, we have suggestive evidence that it is mainly men who offer female investors suboptimal advice.<sup>33</sup>

[INSERT TABLE XII ABOUT HERE]

### *C. Other Audit Visit Outcomes*

So far, we have classified advice quality with discrete indicators like “undiversified” or “home-biased”? However, each audit involved a face-to-face conversation, and auditors subsequently reported to us detailed information about what transpired in these conversations. This allows us to examine differences in the content of conversations by advisor type and auditor gender. In Table XIII 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

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<sup>33</sup> 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.

1). They also spent less time speaking with the auditors (row 2) and asked fewer questions (row 3, 4, 5).

[INSERT TABLE XIII ABOUT HERE]

Overall, securities firms treated men and women auditors similarly (see column 10). One exception is that they asked female auditors fewer questions about their financial situation than they asked male auditors. Surprisingly, female auditors were also more likely to report that the advisors were willing to advise them. Financial planners also asked women auditors fewer demographic questions (see row 3, column 11).

#### *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, it is possible that advisors selectively recommended particular securities that beat the market ex-post. Indeed, some have argued that retail investors visit advisors to request tips about “hot stocks”, and so advice quality should only be evaluated in terms of that metric. 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 but did not specify portfolio weights, or they mentioned a particular 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 had equal weight, and compute the market-adjusted return (return in excess of Hang Seng Index, the broad stock market index in Hong Kong) of the portfolio over the three-month period starting at 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 XIV, 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.

[INSERT TABLE XIV ABOUT HERE]

In Panel B, 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 much larger gender difference of 2.93 percentage points, although this too is imprecisely estimated, and statistically not different from zero.

In Tables A.1 and A.2 in the Internet Appendix A, we repeat the exercises from Tables VI and VII, using this measure of *ex-post* advice quality as the dependent variable. Although not statistically significant, the point estimates in Internet Table A.1 suggest that financial planners provide better advice than securities firms. Similarly, although not statistically significant, the point estimates in Internet Table A.2, suggest that financial planners provide worse advice to women than to men, whereas the gender differences are smaller for securities firms. Thus, despite the fact that these differences are non-significant due to low statistical power, there is suggestive evidence that financial planners' recommendations to women generate lower market returns.

#### *E. The Case of No Advice*

In 30 percent 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 plausible that given a choice between no advice, dominated advice and 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.

In columns 1 and 2 of Table A.3 in the Internet Appendix A, we run multinomial regressions where we code the dependent variable to take one of the three values: No Advice, Undiversified Advice (UA), and Not Undiversified Advice. Similarly, in columns 3 and 4, the dependent variable can take one of the three values: No Advice, Home-Biased Advice (HB), and Not Home-Biased Advice. In each regression specification, the third category is the reference category. As column 1 shows, relative to the reference category, financial planners were less likely than securities firms to not advise at all and were also less likely to give undiversified advice. Columns 3 and 4 show that relative to the reference category, financial planners were equally likely as securities firms to avoid advising, but were 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 on firm type and gender differences are confirmed in multinomial regressions in Table A.4 in the Internet Appendix A. 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.

Our previous results on differences across the three auditor attributes—risk tolerance, confidence, and geographic outlook—continue to hold in the multinomial specifications, shown in Tables A.5–A.7 in the Internet Appendix A. Specifically, these specifications confirm that among the risk-tolerant, confident, and domestic outlook-bearing auditors, women were significantly more likely to receive dominated advice over undominated advice.

#### *F. Robustness to Alternative Clustering of Standard Errors*

In all our regressions in the main analysis (Tables VI–X), we clustered the standard errors at the auditor level to allow for correlated error terms across multiple visits conducted by the same auditor. However, advisors working at the same firm branch might share common characteristics. To account for this, in Tables A.8–A.12 in the Internet Appendix A, we redo

all our tests by clustering the standard errors at the level of the branch that the auditor visited. 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 A.13–A.16 in the Internet Appendix A, we repeat the analysis from Tables VII–X with firm fixed effects and standard errors clustered at the auditor level. Our results are qualitatively unchanged.

## **VIII. Conclusion**

Some studies suggest that advisors differentiate between men and women simply because they use the client’s gender as a proxy for their risk preferences or other characteristics that matter for determining their optimal financial portfolio. To the extent that these preferences are difficult to measure objectively, 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 are. We explain this as the result of advisors’ incentives and beliefs 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 sharper when the client is female. We argue this is because of the lay belief that women are less financially knowledgeable and so might not detect the catered—poor— advice.

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 investors would typically not seek financial advice. Instead, we argue that advisors were most likely aware of the empirically well-established fact that the average man is more financially knowledgeable than the average

woman. 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 results are driven by taste-based discrimination.



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**Table I: Characteristics of the Auditors**

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

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

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

This table reports the distribution of the visits by gender of the auditor and advisor for the two firms combined, and separately for securities firms and financial planning firms.

	Male Advisor (1)	Female Advisor (2)	Total Number (3)
<b>All Firms</b>			
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
<b>Financial Planning Firms</b>			
Male Auditor	0.82 (0.49)	0.18 (0.5)	37
Female Auditor	0.82 (0.51)	0.18 (0.5)	38
Total	61 (0.81)	14 (0.19)	75
<b>Securities Firms</b>			
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 III: Distribution of Recommendations across Product Classes**

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

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

**Table IV: 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.

<b>Content of Conversation or Other Explanations</b>	<b>Financial Planners (N=19) (1)</b>	<b>Securities Firms (N=120) (2)</b>
“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 <sup>#</sup>	0.11	0.01

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

<sup>#</sup> Reason is unclear.



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

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

**Panel A: Advice Quality by Firm Type**

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

**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*
<i>p-value</i>	<i>0.50</i>	<i>0.16</i>	<i>0.02</i>	<i>0.06</i>

**Table VI: Advice Quality and Type of Firm**

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

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

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

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

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

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

The top panel shows the predicted probabilities that auditors of each gender and risk tolerance combination receive *Undiversified Advice* when they visit Financial Planners. The predictions are obtained from regression equation (10). *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*) and auditor's age (in years). The bottom panel reports the difference in the predicted probability (and t-test for the difference) that an auditor of a given gender (risk tolerance) receives *Undiversified advice*, keeping risk tolerance (gender) constant. Standard errors reported in parentheses are clustered at the auditor level. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% level.

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

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

The top panel shows the predicted probabilities that auditors of each gender and confidence combination receive *Undiversified Advice* when they visit Financial Planners. The predictions are obtained from regression equation (11). *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*) and auditor's age (in years). The bottom panel reports the difference in the predicted probability (and t-test for the difference) that an auditor of a given gender (confidence level) receives *Undiversified advice*, keeping confidence (gender) constant. Standard errors reported in parentheses are clustered at the auditor level. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% level.

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

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

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

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

**Table XI: 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 *International Outlook* take the value 1 (0) when an auditor plays the avatar of high (low) risk tolerance, high (low) confidence, and international (domestic) outlook in the audit visit, respectively. *Educated above senior secondary school* and *Net worth above HK\$500,00* are indicator variables. *Age* is the age of the auditor in years. Standard errors are clustered at the auditor level and are reported in parentheses below coefficients. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% level.

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

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

The top of the table shows the predicted probabilities (Prd. Pr.) to receive *Undiversified advice* (*Home biased advice*) by auditor's and advisor's gender for the audit visits to Financial Planners. The probabilities are obtained from regression equation (13). *Demographic Controls* include dummy for auditor's education (=1 if Educated beyond sr. secondary school), dummy for net worth (=1 if *Net Worth above HK\$500,000*) and auditor's age (in years). 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** ( 0.077)	0.166** ( 0.075)	0.267** ( 0.126)	0.264** ( 0.133)
Prd. Pr. [Male Auditor, Female FA]	-0.000 ( 0.000)	-0.016 ( 0.034)	0.143 ( 0.140)	0.102 ( 0.148)
Prd. Pr. [Female Auditor, Male FA]	0.419*** ( 0.086)	0.421*** ( 0.094)	0.516*** ( 0.069)	0.522*** ( 0.081)
Prd. Pr. [Female Auditor, Female FA]	0.143 ( 0.144)	0.157 ( 0.146)	0.143 ( 0.144)	0.170 ( 0.152)
Among Female FA: [Female Auditor - Male Auditor]	0.143 ( 0.144)	0.173 ( 0.152)	0.000 ( 0.201)	0.068 ( 0.219)
Among Male FA: [Female Auditor - Male Auditor]	0.253** ( 0.115)	0.255** ( 0.123)	0.249* ( 0.144)	0.258 ( 0.168)
Among Female Auditors: [Female FA - Male FA]	-0.276* ( 0.151)	-0.263* ( 0.147)	-0.373** ( 0.142)	-0.352** ( 0.139)
Among Male Auditors: [Female FA - Male FA]	-0.167** ( 0.077)	-0.181* ( 0.092)	-0.124 ( 0.211)	-0.162 ( 0.245)
Demographic Controls	No	Yes	No	Yes
Observations	75	75	75	75
R-squared	0.072	0.114	0.122	0.046



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

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

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

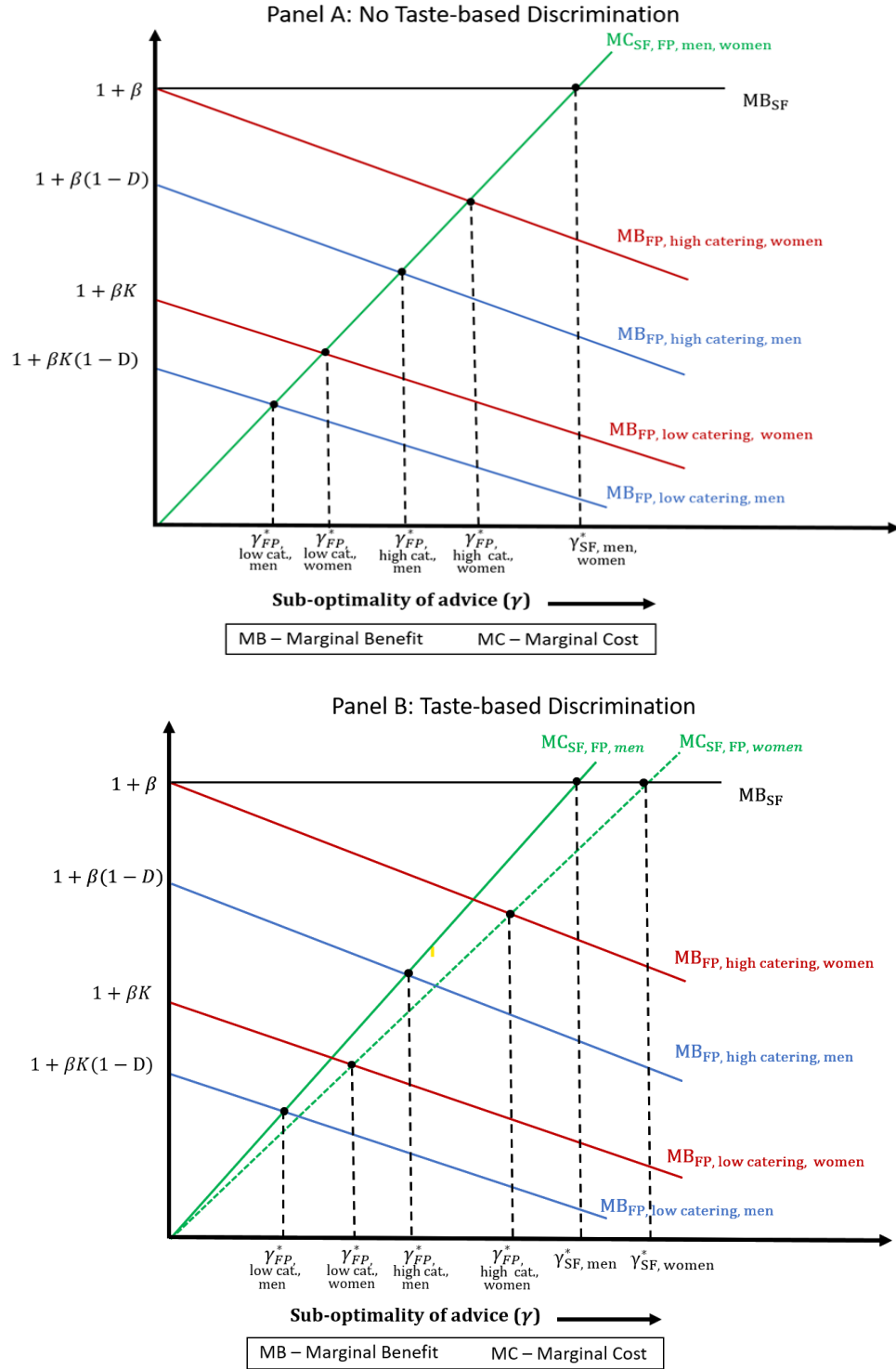
**Table XIV: Ex-Post Market-Adjusted Return by Type of Firm and Auditor's Gender**

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

<b>Panel A: Ex-Post Market-Adjusted Return by Firm Type</b>	
	Ret (1)
All Firms	0.25%
<i>p-value</i>	0.5
N	221
Securities Firms (SF)	0.08%
<i>p-value</i>	0.83
N	194
Financial Planners (FP)	1.44%
<i>p-value</i>	0.26
N	27
Diff (SF – FP)	-1.36%
<i>p-value</i>	0.23

<b>Panel B: Ex-Post Market-Adjusted Return by Firm Type and Auditor's Gender</b>		
	Ret (SF) (1)	Ret (FP) (2)
Male	0.28%	2.97%
Female	-0.07%	0.04%
Diff (M-F)	0.35%	2.93%
<i>p-value</i>	0.66	0.25

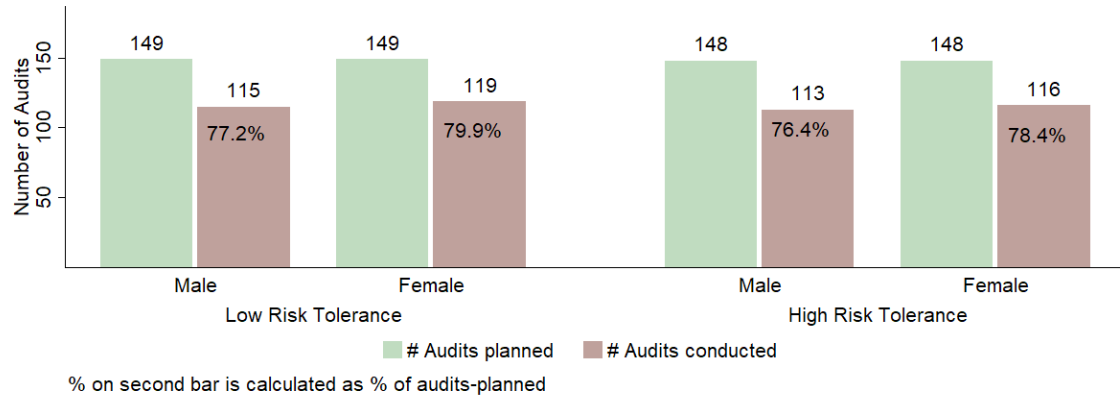
**Figure I:**  
**Dominant Advice Given in Equilibrium by Security Firms and Financial Planners**



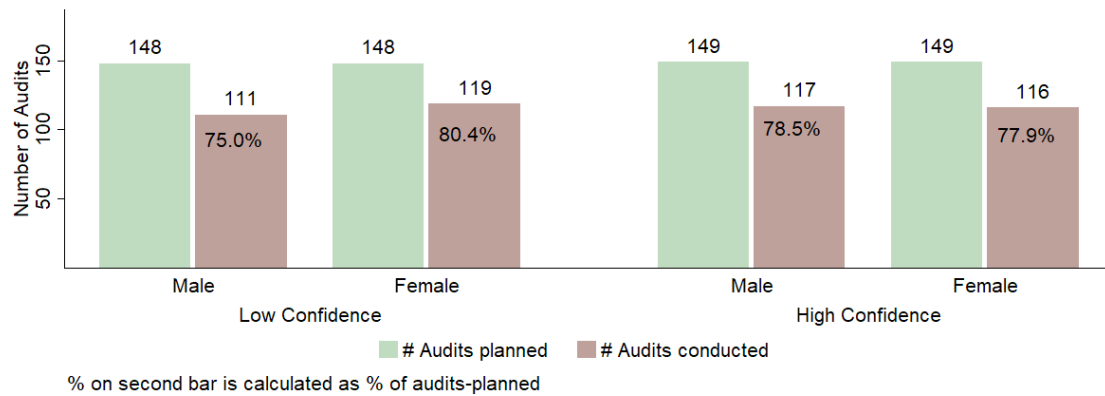
*Notes:* The figures show the marginal benefit (MB) and the marginal cost (MC) curves for financial planners (FP) and security firms (SF). Their points of intersection are the equilibrium points. Panel A depicts the curves for the case of no taste-based discrimination, whereas Panel B depicts curves for the case of taste-based discrimination. 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. “High catering” clients are characterized by high risk tolerance, high confidence, and with domestic outlook; “low catering” clients are characterized by low risk tolerance, low confidence, and with international outlook.

**Figure II:**  
**Gender Balance**

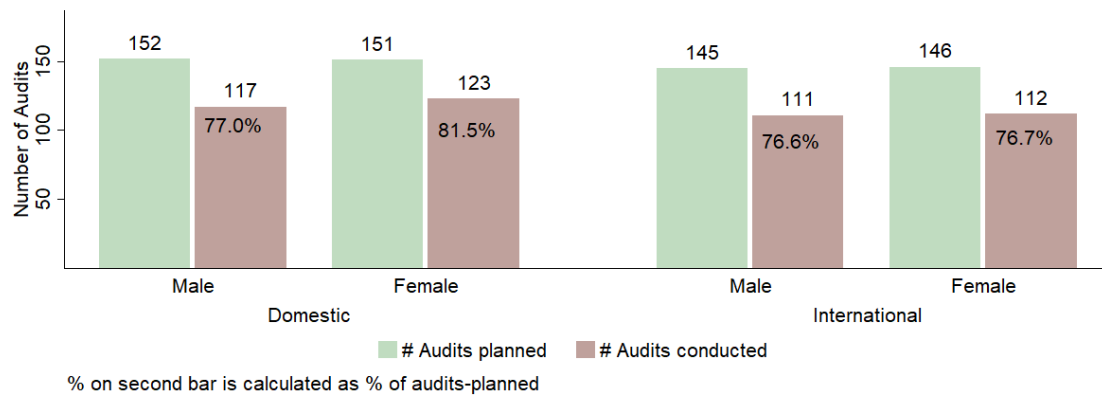
Panel A. Gender Balance - by Risk Tolerance



Panel B. Gender Balance - by Confidence

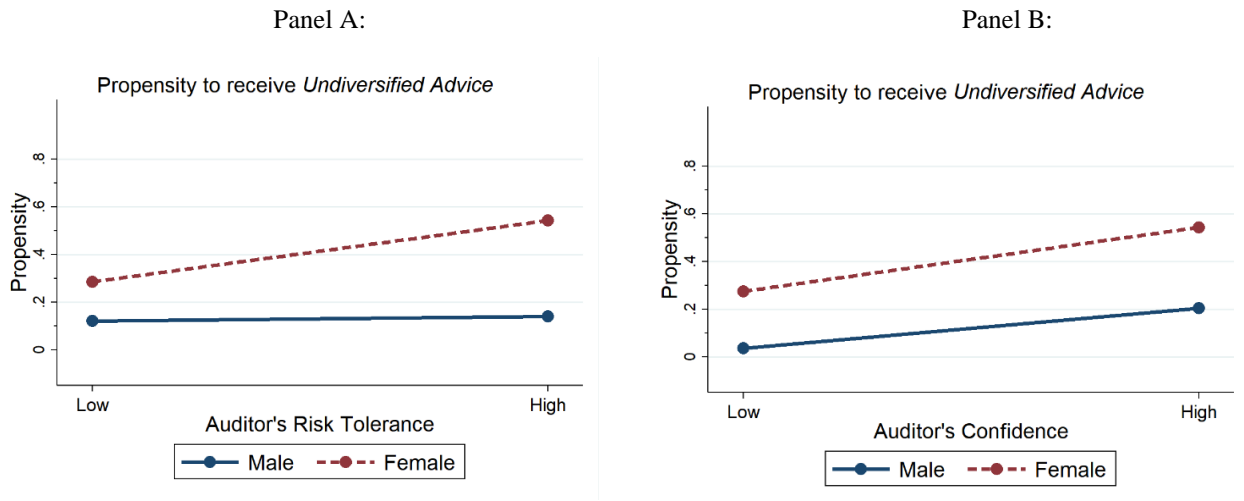


Panel C. Gender Balance - by Outlook



*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 III:**  
**Propensity to Receive Undiversified Advice**

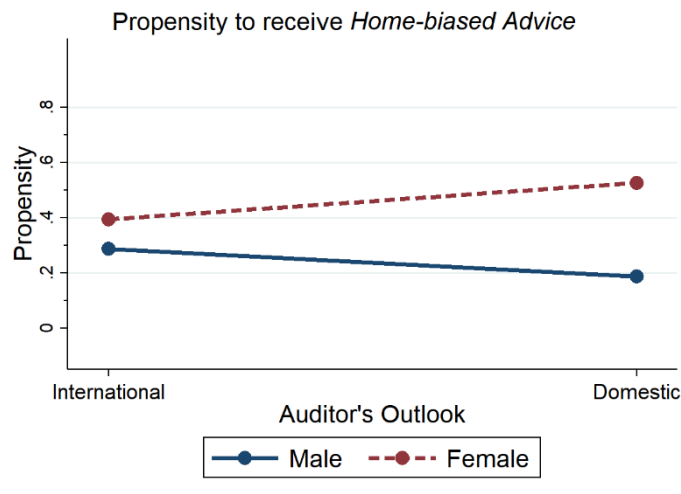


*Notes:* Panel A depicts the probability that a financial planner gives undiversified advice at low versus high risk tolerance levels, separately for men and women. The numbers on the y-axis are from Column 2 in Table VIII. Panel B depicts the probability that a financial planner gives undiversified advice at low versus high confidence levels, separately for men and women. The numbers on the y-axis are from Column 2 in Table IX.

**Figure IV:**

**Propensity to Receive Home-Biased Advice**

Amongst financial planners, the figure shows the gender differences giving home-biased advice to



*Notes:* This figure depicts the probability that a financial planner gives home-biased advice to males and females with different geographic outlook.



## **Data Appendix**

### *A. Identifying Financial Advisory Firms in Hong Kong*

Our goal was to conduct an audit study with financial advisory firms that provide advice to retail investors. Given our research question, we were specifically interested in local advisory firms and wanted to avoid multinational firms whose policies and internal rules may be set at an international level. We followed a painstaking approach to identify our sampling frame. As described in the main text of the paper, the Securities and Futures Ordinance of Hong Kong SAR mandates that individuals have to obtain a Type 4 license from the Hong Kong Securities and Finance Commission (SFC) before they can 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 obtain a list of 847 individual firms.

All the firms in this list of firms may not be available to provide advice to retail clients. To ensure that a firm offers financial advice to retail customers through appointment, we tasked our bilingual research assistant to contact all these 847 firms in the summer of 2018. She contacted each of the 847 firms individually via telephone or email. She used a free-flowing script in Cantonese, pretending to be a potential retail customer. This process narrowed our list of potential firms down to 90 individual firms.<sup>34</sup> Some of these 90 firms had multiple branches. We had a sampling frame of 191 firm-branches.

### *B. Selection of Company-branches to Audit*

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<sup>34</sup> 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).

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

In anticipation that some of the visits may fail because of unforeseen operational reasons, we chose 111 branches from 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 D.1.

**Table D.1: 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.

Strata	Initially Assigned Visits					Conducted Visits					
	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).

### *C. Hiring Auditors*

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

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

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

### *D. Visit Protocol*

Each auditor was provided with the list of assigned companies for the given month. The sequence in which they would visit the companies in the given month was left to them. The first step in the audit visit was to make an appointment. To standardize the appointment process, our Research Assistant first called a few financial advisors for an appointment. We recorded these appointment conversations and provided samples to the auditors. Auditors were reminded to read through their profile instructions before the visit. Within 24 hours after the visit, auditors

were required to answer a bilingual online questionnaire about the visit. They were also encouraged to collect the visiting card of the person they talked to.

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

#### *E. Operational Changes in the Assignment during the Audit Study*

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

## Internet Appendix A

**Table A.1: Advice Quality using Ex-post Returns: Financial Planners vs. Securities Firms**

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

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

**Table A.2: Advice Quality using Ex-post Returns: Firm Type and Gender Differences**

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

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

**Table A.3: Advice Quality and Type of Firm - A Multinomial Logit Regression**

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

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

**Table A.4: Gender Difference in Advice Quality and Type of Firm - A Multinomial Logit Regression**

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

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



**Table A.5: Gender Difference and Auditor's Risk Tolerance in Financial Planner Visits - A Multinomial Logit Regression**

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

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

**Table A.6: Gender Difference and Auditor's Confidence in Financial Planner Visits - A Multinomial Logit Regression**

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

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

**Table A.7: Gender Difference and Auditor's Geographic Outlook in Financial Planner Visits - A Multinomial Logit Regression**

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

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

**Table A.8: Advice Quality and Type of Firm (Standard Errors Clustered at Branch level)**

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

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

**Table A.9: Gender Difference in Advice Quality and Type of Firm (Standard Errors Clustered at Branch level)**

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

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

**Table A.10: Gender Difference and Auditor's Risk Tolerance in Financial Planner Visits****(Standard Errors Clustered at Branch level)**

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

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

**Table A.11: Gender Difference and Auditor's Confidence in Financial Planner Visits****(Standard Errors Clustered at Branch level)**

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

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

**Table A.12: Gender Difference and Auditor's Geographic Outlook in Financial Planner Visits****(Standard Errors Clustered at Branch level)**

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

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



**Table A.13: 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 *International Outlook* take the value 1 (0) when the auditor plays an avatar of high (low) risk tolerance, high (low) confidence, and international (domestic) outlook in the audit visit, respectively. *Educated beyond sr. secondary school* and *Net Worth above HK\$500,000* are indicator variables. *Age* is the age of the auditor in years. Standard errors are clustered at the auditor level and are reported in parentheses below coefficients. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% level.

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

**Table A.14: Gender Difference and Auditor's Risk Tolerance in Financial Planner Visits****(Firm FE with Standard Errors Clustered at Auditor level)**

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

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

**Table A.15: Gender Difference and Auditor's Confidence in Financial Planner Visits****(Firm FE with Standard Errors Clustered at Auditor level)**

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

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

**Table A.16: Gender Difference and Auditor's Geographic Outlook in Financial Planner Visits****(Firm FE with Standard Errors Clustered at Auditor level)**

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

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

## Internet Appendix B: Visit Protocol for Auditors

### 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。
  - 低風險承擔能力，請通過這樣說來暗示：“我想買翻D比較安全既產品。我驚如果我買錯咗會蝕錢。我都可以接受一DD損失，但係太多就唔得。”
  - 高風險承擔能力，請通過這樣說來暗示：“我唔介意個市唔好果陣會蝕錢，不過我就希望個市好果陣賺多D，所以有時蝕錢都可以接受既。”
- 信心水平 - 您要麼信心不足，要麼高度自信。
  - 信心不足，請通過這樣說來暗示：“我之前從未自己做過重要既財務決策，我地屋企都係我父母/先生/太太話事。所以今次過來都係我需要你建議既原因。”
  - 高度自信，請通過這樣說來暗示：“我通常都係自己做財務決策，通常就唔會接受顧問既幫助。今次只不過係有個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：“我係香港出世，以後都打算退休之後留系香港。”**即使您有目前在國外的親戚，都請不要提及任何國外的親戚。**

**B) 你必須問這些問題：**

Q1) 根據我的情況，您會推薦哪種金融產品？

對於每種產品，請提出問題/插入評論，例如：

Q2) “我不知道這個產品，你能解釋它是什麼嗎？”或“你能告訴我多一些關於這個產品的信息嗎？”

FA 告訴您有關該產品的更多信息後，請進行詢問：

Q3) “這個產品適合我是因為.....？”

追問

1. 如果你在訪問一位理財顧問(FA):

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

- 如果你有本地展望，請問：

Q4a) “蘋果/微軟/谷歌/臉書

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

- 如果你有國際展望，請問：

Q4a) “蘋果/微軟/谷歌/臉書

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

如果 Q1 推薦的產品是股票（你會從 Q2 的答案中得知），請詢問：

- 如果你有本地展望，請問：

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

- 如果你有國際展望，請問：

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

2. 如果你在訪問一間證券公司：

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

- 如果你有本地展望，請問：

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

- 如果你有國際展望，請問：

Q4a) “*蘋果/微軟/谷歌/臉書*

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

如果 Q1 推薦的產品是股票（你會從 Q2 的答案中得知），請詢問：

- 如果你有本地展望，請問：

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

- 如果你有國際展望，請問：

- Q4b) “*標準普爾500指數基金怎麼樣？我所有的朋友都在談論它。*”

訪問結束後

- 請在訪問後24小時內填寫神秘顧客訪談結束問卷。

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

## 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: *“About 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.