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THE QUALITY OF FINANCIAL ADVICE:

What Influences Client Recommendations?

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Abstract

In this paper, we conduct an experiment with a large sample of financial planner professionals in Canada to elicit factors which may influence client recommendations. Using repeated client vignettes, we find that recommendations are often in-line with what one would expect from economic theory. In particular, advice is sensitive in expected ways to relative costs and benefits of particular options. In some domains, we find evidence that planners are more likely to recommend products they own themselves, their spouse owns, or they are licensed to sell. In the investment domain, we also find that planners are more likely to recommend products that clients inquire about even when this type of solicitation is randomized across clients and options. Finally, we find that planners are systematically sensitive to the gender of the client even when gender is uninformative regarding which recommendation to make.

1. Introduction

The quality of professional financial advice has attracted considerable attention. The question is important, considering that professional financial advice represents an estimated market of $60 billion in the U.S. Existing research does not paint a very positive portrait of advice quality. Some advice is, at worst, dishonest (Egan et al., 2019); under-performs in terms of returns (Hackethal et al., 2012, Hoechle et al., 2017, 2018); discriminates against women (Bucher-Koenen et al., 2020, Bhattacharya et al., 2020); or at best, acts out of good faith but with misguided beliefs (Foerster et al., 2017, Linnainmaa et al., 2021).

Assessing the quality of financial advice is notoriously difficult for many reasons. First, there is evidence of self-selection among consumers who seek financial advice. Those who know little and for whom advice would be most beneficial often do not seek any advice. It is rather the most financially sophisticated private investors who may be the ones obtaining advice (Bhattacharya et al., 2012). Second, it is sometimes difficult to establish the counterfactual, i.e., what would clients have done absent advice (Chalmers and Reuter, 2020)? Third, even when random assignment of advice is possible, client involvement in the form of explicit inquiries about certain products can influence the advice provided (Hackethal et al., 2018). Finally, data on client-advisor interactions are rare. Although audit studies are possible (Mullainathan et al., 2012), direct experiments in a real client-advisor setting are even more difficult given various constraints in the legal environment surrounding financial advice and the relationship between advisors and their clients.

In this paper, following the taxonomy proposed by Harrison and List (2004), we perform an artefactual field experiment with financial planners. We collaborated with the two major Canadian professional organizations: Institut québécois de planification financière (IQPF) in Québec and FP Canada in all other provinces, and sent their financial planners an invitation to participate in a survey. Hence, all our respondents, hereinafter referred to as "(financial) planners" or "FPs", hold a designation as Certified Financial Planner® professional (CFP® professional), Qualified Associate Financial Planner™ (QAFP™ professional), or planificateur financier (Pl. fin.). [1] These are specialized designations obtained through various requirements related to education, training, experience and qualifications: out of the 100,000 agents licensed to sell financial products in Canada, approximately 25,000 hold one of these certifications[2]. One would therefore expect the quality of advice provided by FPs from these professional organizations to be superior to that of other advisors.

By surveying FPs, we reach different types of individuals, which allows us to investigate advice from people who work in different settings. We collect information on demographics, preferences, employment, and financial situation of the planners to understand heterogeneity in financial advice. Our setting allows us to unpack financial planner characteristics and study how they affect the advice provided.

Our experiment is centered on eliciting planner recommendations over different options for different client scenarios, which we call vignettes, related to retirement saving, annuities, long- term care risk, and investments decisions. We randomize some of the features of these vignettes, such as client gender and characteristics, client involvement, planners' compensation scheme, and product fees and characteristics. By varying these features, we can elicit in an experimental setting the factors that impact planners' advice.

[1] *The closest equivalent to these certification agencies in the US is Certified Financial Planner Board of Standards, Inc. (CFP Board),*

[2] *See the numbers from https://www.financialplanningassociation.org/article/journal/SEP20-international-perspective-evolution-financial-services-canada, to which we add the number of Pl. fin..*

We model how various characteristics of planners, clients in the vignettes and vignettes them- selves impact recommendations made. In particular, we focus on 4 types of biases. First, we investigate how client involvement impacts recommendations (Hackethal et al., 2018). This is the case if a product the client inquires about is more likely to be recommended. Second, we look at the extent to which the gender of the client in the vignette impacts the recommendation made (Bhattacharya et al., 2020, Bucher-Koenen et al., 2020). Third, we explore the role of planner compensation on recommendations (Inderst and Ottaviani, 2012, Turner and Giordano, 2020). Finally, we investigate familiarity bias, the degree to which planners tend to recommend products they, or their spouse, own; or products which they are licensed to sell (Foerster et al., 2017, Linnainmaa et al., 2021).

We find that recommendations are often in-line with what one would expect from economic theory. On average, advice is sensitive in expected ways to relative cost and benefits of particular options. However, we find evidence in some domains that planners suffer from familiarity bias as they are more likely to recommend products they own, their spouses own, or they are licensed to sell. In the investment domain, we also find that planners are more likely to recommend products that clients inquire about even when this type of solicitation is randomized across clients and options. Finally, we find that planners are systematically sensitive to the gender of the client even when gender is uninformative regarding which recommendation to make.

Our findings suggest that training of financial advisors that raise awareness of these potential biases might help lower their prevalence. In many countries, individuals are faced with ever more complex financial choices. Financial advice is often argued to be a substitute to financial education, but a necessary condition is that advice is not unconsciously biased in a way that could harm the clients.

The paper is structured as follows. In section 2, we describe the experiment. In section 3, we present the econometric methodology used. Section 4 discusses the results. Finally, we conclude in section 5.

2. Experiment

2.1 Sampling Design and Response Rated

Surveying advisors directly is hard since there is no national registry of financial advisors. How- ever, in Canada, financial planners are represented by two national organizations, one in the province of Quebec (IQPF) and one in the rest of Canada (FP Canada). With the collaboration of these two organizations, we sent FPs an invitation to participate to a survey. Participation was re- warded with a random draw of 20 Amazon e-gift cards, ranging in value from CA$50 to CA$500[3] , and 0.5 continuing education credits for FP Canada certification holders who elected/opted in to receive them.[4] We used Asking Canadians, a well-known survey organization in Canada, to pro- gram and host our survey instrument[5]. The median response time was 25 minutes for FP Canada FPs and 26 minutes for FPs from Québec.

The survey instrument is organized in 5 parts. First, we ask planners questions regarding their background. Second, we present a series of hypothetical client situations (vignettes) and ask planners to choose out of several potential recommendations. We provide more information on the design of those vignettes in the next section. Third, we record information about planners' current employment. Fourth, we elicit information on planners' preferences and individual characteristics. Finally, we ask planners about their own financial behavior. The survey instrument was available in both French and English and respondents could elect which language they wish to use. The full English questionnaire is available in Appendix B.

2.2 Vignette Design

Since we focus on four types of biases, our vignettes are specifically designed to tease these out. We organize vignettes around 4 different domains: (1) Retirement savings, (2) Decumulation and longevity risk, (3) Long-term care risk, and (4) Investments.

For each of these domains, we elicit recommendations for two versions of the same vignette that differ by the realization of randomized features, thereby providing both between- and within- subject variation in vignette features[6]. We can randomize a number of features in the vignettes. In particular, we randomize the client's name as well as the gender in each vignette. Second, across all domains we randomize client involvement by adding a sentence stating that the client explicitly inquires information about one of the options in the recommendation set. For each situation presented, we ask the planners to chose one option out of multiple possible client recommendations. Hence, planners' recommendations are responses to eight hypothetical situations presented to each respondent. While hypothetical situations do not replace recommendations made in real life settings, they allow us full control over the information presented.

We are interested in what the financial planners recommend over the whole spectrum of options rather than what they could recommend given their licensing. Therefore, we ask the planners to assume that they have the necessary license(s) to sell any product or service. The exact preamble text is given by: *For all client situations, consider that inflation will be negligible in the foreseeable future and assume that marital status will remain unchanged. Please provide your best advice in each of the client scenarios presented based on the information provided. Assume that you have the necessary license(s) to sell any products/services.*

[3] *We paid out 2 cards for $500, 2 cards for $200, 6 cards for $100, and 10 cards for $50.*

[4] *For this option, respondents had to provide their e-mail address to the survey firm; 714 respondents elected to do so. Continuing education credits were not offered to Pl. fins.*

[5] *We obtained a response rate of around 9%. We received 1,044 complete surveys out of 19,469 mail-outs. We compare below in Table A1 characteristics of our respondents with those in the universe of FPs.*

[6] *The realizations of the variables are drawn with equal probabilities and for each vignette without replacement. That is, the realization of a random variable in the second version of a vignette cannot take on the same value as the realization of the same variable in the first version of the same vignette.*

Retirement savings vignette. The first vignette focuses on the topic of retirement savings and in particular the role played by taxation. In Canada, voluntary retirement savings can be accumulated in tax-preferred vehicles, providing a potentially higher effective rate of return relative to a taxable vehicle. A simple comparison of marginal tax rates at the times when contributions and withdrawals occur allows to choose between a contribution to a Registered Retirement Savings Plan (RRSP) and a Tax-Free Savings Account (TFSA). An RRSP contribution is optimal when the marginal tax rate at the time of contributing is higher than when withdrawal occurs, while the TFSA is optimal when the opposite is true. Boyer et al. (2022) provide experimental evidence that consumers have a hard time with this decision. Advice on retirement savings could there- fore be beneficial. We extend this framework by adding an option of investing in a universal life insurance policy, and an option of repaying debt. The option of repaying debt is more attractive when the interest rate paid exceeds the expected rate of return on investments. Universal life insurance, given its tax treatment, should usually not be favored to RRSP nor TFSA when there is contribution room in the latter accounts.

There are four randomized variables in the vignette for the retirement savings domain. First, we randomize the current marginal tax rates (MPR is 30% or 50%) which influences the optimal recommendation for RRSP and TFSA contributions. Second, we randomize the interest rate (APR is 2.5%, 5%, or 7%) on debt held by the client to vary the incentives to recommend debt repayment. Finally, we randomize the name-gender of the client, and client involvement through a prompt for universal life insurance.

We present the following vignette to respondents, in which we show an example of the possible values taken by the randomized elements:

James is 35 years old. He is married and has two kids under the age of 10. He wishes to invest $5,000 of pre- tax money. He has a current effective marginal tax rate of 30% and anticipates a marginal tax rate of 40% when he withdraws the amount contributed and the accumulated returns. He has $5,000 of outstanding debt at a 2.5% APR. Suppose that he could contribute the entire amount to either an RRSP or a TFSA; that he owns a Universal Life (UL) insurance policy; and that the withdrawal will not be eligible for any income splitting. The client inquires about the option of investing the money in the UL policy.

Decumulation vignette. The second vignette is about longevity risk and the decumulation of assets. Therefore, the question of annuitization is central (Yaari, 1965, Davidoff et al., 2005). In Canada, knowledge of annuities is limited and take-up is quite low (Boyer et al., 2020a). Hence, this is again a domain where advice could be beneficial to consumers.

The vignette we present features a client who has retired (around 70 years old) and has substantial retirement savings. The potential recommendations are to partially or fully annuitize retirement savings, or to invest in segregated funds or in mutual funds. In addition to client involvement through a prompt for mutual funds, and gender of the client, we also randomize a number of features. First, we randomize the family situation of the client to induce a bequest motive, which typically reduces the optimality of full annuitization and provides an incentive to invest into segregated funds with death benefit guarantees. We either specify the client as living alone without children, or living with a partner who is 10 years younger. Second, we randomize the health of the client to create variation in life expectancy: excellent (above average), good (average) or poor (below average). Given the payout rates on annuities do not vary by health status, this variation induces variation in the desirability of annuitizing wealth. Third, in the alternatives proposed, we randomize the rate of return on mutual funds (4%, 6% or 10%), which also influences the choice of investing vs. annuitization. Fourth, we randomize the payout on segregated funds ($15,750 or $14,000) to create variation in the desirability of this recommendation. It is important to note that the payout on the annuity is adjusted for the gender of the client in the vignette. This prevents mechanical gender effects, based, for example, on gender-specific longevity risk. Finally, to analyze the role of compensation, we randomly add a note stating that the sale of mutual funds contributes towards the planner's compensation. An example of the vignette is given by:

Suzie is 70 years old. She lives alone and has no children. She is renting a condo and she is in excellent (above average) health. Suzie has $350,000 (after-tax) in retirement savings. She has annual after-tax pension income of $40,000 (includes OAS and other income sources). She would like to be able to afford spending at least $50,000 per year. She is asking what she should be doing with her retirement savings. She inquires about the option of investing in mutual funds. Please provide your best advice ignoring any tax considerations.

Long-term care risk vignette. The third vignette is about long-term care risk. This risk is partially insured by public long-term care coverage or subsidies, but (Boyer et al., 2020b) show that considerable residual financial risk exists. Yet, take-up of insurance against this risk is quite low in Canada (roughly 10%) and recent years have seen a number of insurers offering such products drop out of the market. Hence, this is a domain where advice can be particularly helpful for consumers and could stimulate supply.

The vignette concerns a client living alone at age 70. The client has an outstanding mortgage carrying an interest rate which is randomized (1.5%, 2.5%, or 3.5%). We also provide details on long-term care risk and randomize the health of the client to generate variation in risk: excellent (above average), good (average) or poor (below average). We specify three different potential recommendations: one involving paying off the mortgage, which should be more optimal when the interest rate is higher on the mortgage; one involving investing to generate returns, with a rate of return which is randomized (2%, 3%, or 5%); and finally, an option to purchase a long-term care insurance policy with a premium which is a function of the gender of the client. Gender- specific premiums prevent mechanical gender effects, based, for example, on gender-specific risk of needing long-tern care. In addition to client gender, we also vary client involvement through a prompt for repaying the mortgage. An example is given below.

Joe is 70 years old. He lives alone in a house currently worth $250,000. He has a mortgage of $125,000 at an interest rate of 1.5% per year. He has $125,000 in retirement savings (all in a TFSA). He has annual after-tax pension income of $30,000 (includes OAS and other income sources). Joe would like to make sure he can afford long-term care when he needs it. The cost of one-year in a nursing home facility is close to $50,000 and he has been told that, in general, people can expect to live 2 to 3 years in a nursing home or other long-term care facility before they die. He is in good (average) health. He does not expect to stay in his home should he need long-term care. The client inquires about the option of using his retirement savings to pay off his mortgage.

Investment vignette. The fourth domain focuses on investment and in particular features an arbitrage in terms of investment fees (Khorana et al., 2009, Gil-Bazo and Ruiz-Verdú, 2009). The vignette isolates the investment trade-off from other trade-offs, involving for example debt. The recommendation options are guaranteed investment certificate (GIC), segregated funds, mutual funds, and exchange-traded funds (ETF). In addition to client involvement through an ETF prompt, and client gender, investment fees on segregated funds (2%, 3%, or 4%) and mutual funds (1%, 2%, or 3%) are randomized. When investment fees are high, an ETF recommendation is likely optimal. Further, since segregated funds can feature additional options relative to mutual funds, financial planners should be more likely to recommend segregated funds than mutual funds in case the former are associated with lower fees. We provide an example of an investment vignette:

Your client, Kate is a 45-year-old female high school teacher with an annual gross income of $50,000. She is married and has two kids under the age of 10. Her husband is currently looking for a job in marketing. Kate currently holds $75,000 in her TFSA and this year, there is no room to contribute to her RRSP (because she holds a DB pension). The mortgage on her house is fully paid off and the line of credit on the house is unused. Kate has $40,000 in a savings account that she is looking to invest (within her TSFA) for a time-horizon of three years. She inquires about the option of investing in an exchange-traded fund (ETF).

3. Econometric methods and data

We estimate separate econometric models for the four domains targeted by our vignettes: retirement savings, longevity risk, long-term care risk, and investments. For each domain we present respondent *i* with two vignettes, $j = 1, 2$.

We define the set of recommendations for a particular domain, $Y_i = [Y_{i,1}, Y_{i,2}]\ j = _{1,2.}$ There are $k = 1, ..., K$ potential recommendations for each vignette $(K = 4)$. Hence, $Y_{i,j}$ records the recommendation made. Let $Y_{i,j,k} = 1$ if $Y_{i,j} = k$.

Each planner has a set of socio-economic characteristics $\boldsymbol{X}_i$ which include among others age, gender, marital status, highest education, and personal income. These do not vary across scenarios or domains. We also have a set of planner characteristics, such as owning a particular product which is also scenario invariant. Denote the vector of such variables F_i.

We define a set of scenario-specific characteristics, $Z_{i,j}$, which consist of scenario characteristics such as the randomizations used in the vignettes. We include in this vector a set of order effects to capture the potential effect of the order of choice (first or second) in the sequence of vignettes. We denote by $W_{i,j}$ the variables of interest related to client involvement and gender of the client in the vignette.

We use multinomial choice models to study recommendations. In each of the four vignettes *v* presented to them, the FPs have the choice out of *K* alternatives, such as investing in mutual funds or segmented funds.

Let the deterministic value of recommending option k for the planner be denoted by $\overline{V}_{i,j,k}$.

Assume it is given by

$$\overline{V}_{i,j,k} = X_i\beta_k + Z_{i,j}\gamma_k + W_{i,j}\delta_k + F_i\alpha_k \tag{1}$$

where $\beta_k, \gamma_k, \delta_k, \alpha_k$ are option-specific parameters. Assume the unobserved taste of the planner for option *k* is given by $\epsilon_{i,j,k}$ and is independent across options and vignettes, as well as being distributed extreme value Type 1. Hence the value of making recommendation *k* in vignette *j* is $V_{i,j,k} = \overline{V}_{i,j,k} + \epsilon_{i,j,k}$.

The planner makes the recommendation with the highest value. Given that only value differences matter, we set $\beta_1 = \gamma_1 = \delta_1 = \alpha_1 = 0$. Given the assumption on the unobserved tastes, we obtain the following multinomial logit probabilities of recommending option *k* in vignette $_j$:

$$\Pr(Y_{i,j} = k|Z_{i,j}, W_{i,j}, X_i, F_i) = \frac{\exp(\overline{V}_{i,j,t})}{1 + \sum_{k'>1}\exp(\overline{V}_{i,j,k'})}, \quad k = 2, 3, 4. \tag{2}$$

Within a domain, the probability of obtaining both recommendations is

$$\Pr(Y_i|Z_i, W_i, X_i, F_i) = \prod_{i=1,2} \Pr(Y_{i,j}|Z_{i,j}, W_{i,j}, X_i, F_i). \tag{3}$$

Using these probabilities, we can estimate parameters θ by maximum likelihood. We use the sandwich estimator of the covariance matrix to compute robust standard errors.

Upon estimating the model, the parameters cannot be interpreted directly. Instead, we compute average partial effects. Denote by $p_{i,j,k}$ the probability of recommending option *k* in vignette *j* for respondent *i*. For a particular planner characteristic, say F_i, the average partial effect on the probability of observing recommendation *k* is given by

$$APE_k(F_i) = \frac{1}{NJ}\sum_i\sum_j \frac{\partial p_{i,j,k}}{\partial F} = \frac{1}{NJ}\sum_i\sum_j p_{i,j,k}(\alpha_k - \overline{\alpha}) \tag{4}$$

where $\overline{\alpha} = \frac{1}{K}\sum_k p_{i,j,k}\alpha_k$. One implication of this result is that the sign of a coefficient in a multinomial logit does not give the sign of the effect of a change in a covariate on the probability. Similar quantities can be estimated for other covariates. Standard errors of the average partial effects are computed using the delta rule. These estimates give the effect of changing a particular characteristic on the probability of each of the different recommendations. By design, the sum of the partial effects over the *K* options is zero as the probabilities must sum to one. Substitution across options takes place naturally under some restrictions about substitution patterns.

To test for the various biases we postulate, we compute a Wald test statistic on groups of coefficients related to a particular variable. For example, to test whether there are biases associated with a variable F_i, we need to test $\alpha_2 = \alpha_3 = \alpha_4 = 0$. We report the value of the Wald test statistic which is Chi-squared distributed and has degrees of freedom equal to the number of parameters restricted to be zero under the null hypothesis.

To interpret parameters of interest as biases, controlling for X_i is potentially important as one reason a planner might have the product he or she recommends to a client is that the client is similar to the planner. In reporting results below, we will test whether controlling for an extensive set of X_i impacts our conclusions.

3.1 Descriptive Statistics

Table 1 reports demographics and characteristics of FPs in our sample. A total of 1044 planners completed the survey.

Financial planners are on average 49.5 years old. 21% responded in French. As expected, the sample is much more educated than the general population. Close to 70% of respondents have a university degree (bachelor or more). Planners make on average $178,820 in annual income and hold real estate on average above $1 million. Close to 71% have an RRSP which is slightly higher than in the general population (58.6%)[7]. Close to two-thirds of respondents have a TFSA (64%). In terms of pensions, planners are more likely to have a defined benefit plan (25%) than a defined contribution one (12%).

Planners have on average 16 years of experience. In terms of advice areas, most planners provide investment planning (79%) and retirement planning (86%) (Table A2). Fewer planners provide advice in private banking (10%) and responsible investing (26%). Place of work is quite diverse with 1/3 (31%) working in a financial planning firm and 19.2% in banks, while 16.3% are self-employed.

A majority of planners offer financial planning, including implementation (63%). Fewer offer advice on insurance (4.5%). Planners do consult or refer clients to others: 84% occasionally or frequently refer clients to other experts.

In Table A1, we compare characteristics of FPs who respondent to the survey compared to the universe of FPs. We find that they are quite similar in terms of age, gender and experience. FPs responding to our survey are slightly more educated. If we think that education is correlated positively with advice quality, this self-selection would be unfavorable to finding evidence of bias.

[7] *Source: Statistics Canada Table 11-10-0016-01*

Table 1: Demographics and Characteristics of FPs

	Mean	Std. dev.	N
Characteristics			
Age	49.48	11.74	1,044
Female	0.34		1,044
French survey	0.21		1,044
Married or Common-law	0.82		1,044
Has children	0.77		1,044
Work experience (years)	16.35	9.87	979
IQPF (FP Canada omitted)	0.23		1,044
Complete after reminder	0.36		1,044
Education			
High school or less	0.07		1,044
College or some university	0.20		1,044
Bachelor degree or more	0.72		1,044
Province			
Quebec	0.24		1,044
Ontario	0.39		1,044
BC	0.14		1,044
Alberta	0.11		1,044
Other	0.11		1,044
Financials			
Annual income (imputed) ('000 $)	178.82	148.29	1,044
Annual income ('000 $)	176.74	147.71	823
Debt (imputed) ('000 $)	260.25	379.30	1,044
Debt ('000 $)	254.03	364.22	841
Share own real estate	0.75		1,044
Value of real estate ('000 $)	1,252.67	1,170.05	630
Share own DB plan	0.25		1,037
Share own RRSPs	0.71		1,044
Amount in RRSP ('000 $)	313.00	362.14	742
RRSP half or more risky assets	0.80		742
Share own TFSAs	0.64		1,044
Amount in TFSA ('000 $)	68.40	77.48	673
TFSA half or more risky assets	0.77		673
Share own group plans	0.19		1,044
Amount in group plan ('000 $)	58.20	95.89	199
Group plan half or more risky assets	0.83		199
Share own DC plan	0.12		1,044
Amount in DC plan ('000 $)	93.67	150.93	126
DC plan half or more risky assets	0.66		126
Share own other accounts	0.35		1,044
Amount in other accounts ('000 $)	348.34	492.42	368
Other accounts half or more risky assets	0.72		368

Note: This table presents summary statistics of variables collected through the survey. For continuous variables, we show the mean and standard deviation, and for binary variables we show the share. Complete after the reminder is a dummy variable indicating whether the respondent finished answering the survey after a reminder had been sent by the organization. For financial variables in which the respondent had the

choice of not responding, we use multiple imputation to assign missing values with information from the bracketing, conditional on basic socio-demographic covariates (education, a quadratic term in age, gender and province of residence).

In Table 2 we report information on familiarity with products sold, certification and compensation. Compensation schemes are diverse across planners. Only 10.4% are exclusively paid on salary. The vast majority has mixed compensation involving commissions, fees and bonuses. In addition to their certifications as Planificateur Financier (Pl. Fin) in Quebec and as Certified Financial Planner professional or Qualified Associate Financial Planner professional in the rest of Canada, planners hold a vast array of certifications with the most frequent being Personal Financial Planner (PFP) and Chartered Life Underwriter (CLU). Close to three quarters of planners have a license to sell mutual funds, 60% hold a license to sell insurance and only 22% hold a license to sell securities directly. In terms of specific licenses, relatively few have a license to sell exchange-traded funds (39%). Close to half have a license to sell long-term care insurance (52%).

The vast majority of planners hold mutual funds (80%), only 33% hold ETFs. Planners are not likely to have annuities or long-term care insurance. About one third have universal life insurance.

We also ask planners about preferences, expectations and self assessment (Table A3) as well as social norms (Table A4). Planners generally self-report as being quite patient and risk tolerant. Close to 70% of planners are willing to bear above average financial risk, 20% substantial risk. Most planners do not think clients should set aside money to leave to their children (73%). A majority also think children should not inherit their parent's home. Planners believe that debt can be beneficial to consumers. For themselves, planners have heterogeneous preferences regarding intertemporal consumption (whether to live long with few resources vs. few years with substantial resources).

Table 2:

Products owned and licensed to sell, Certifications, and Compensation

	Share	N
Products owned		
Universal life insurance	0.38	1,044
Mutual funds	0.85	1,044
Segregated funds	0.20	1,044
Annuity	0.03	1,044
Long-term care insurance	0.12	1,044
Index-linked GIC	0.06	1,044
Exchange-traded funds	0.46	1,044
Real estate	0.75	1,044
Products owned by spouse		
Universal life insurance	0.31	856
Mutual funds	0.80	856
Segregated funds	0.16	856
Annuity	0.03	856
Long-term care insurance	0.07	856
Index-linked GIC	0.05	856
Exchange-traded funds	0.33	856
Real estate	0.73	856
Licenses		
License to sell mutual funds	0.73	1,044
License to sell insurance	0.60	1,044
License to sell securities	0.22	1,044

	Share	N
Licenses (specific)		
Universal life insurance	0.58	1,044
Mutual funds	0.75	1,044
Segregated funds	0.58	1,044
Annuities	0.57	1,044
Long-term care insurance	0.52	1,044
Index-linked GIC	0.49	1,044
Exchange-traded funds	0.39	1,044
Certifications		
Chartered Financial Analyst (CFA)	0.02	1,044
Chartered Life Underwriter (CLU)	0.14	1,044
Chartered Professional Accountant (CPA)	0.06	1,044
Trust and Estate Practitioner (TEP)	0.03	1,044
Personal Financial Planner (PFP)	0.12	1,044
Registered Financial Planner (R.F.P.)	0.03	1,044
Registered Retirement Consultant (RRC)	0.09	1,044
Certified Health Insurance Specialist (CHS)	0.05	1,044
Certified Financial Planner (Other Country)	0.00	1,044
Elder Planning Counselor (EPC)	0.04	1,044
Other	0.18	1,044
Mode of compensation		
Salary only	11.40	119
Salary plus bonus based on sales	20.40	213
Primarily commissions	20.50	214
Primarily Assets under Management	32.47	339
Primarily fee for advice	8.05	84
Other	7.18	75
Total	100.00	1,044

Note: This table presents the share of the sample in each categories.

In terms of beliefs, planners tend to think that not investing in shares (stocks) is not a good thing (40% agree, 20% strongly agree). On average, planners expect the return on the Canadian stock market to be 8% per year. More than 72% of planners are at least somewhat confident about their own assessment of future returns.

Although they exhibit a certain degree of confidence, planners attach on average a 10% probability to the possibility that returns will exceed 20%, while they attach a 17% probability that returns will be negative. The overwhelming majority of planners think that clients do not have a good idea about optimal planning strategies (46% disagree, 43.3% strongly disagree). We asked planners about personality traits (Table A5 and A6). We find that overall planners are more likely to view themselves as extroverted, not quarrelsome, self-disciplined and dependable, not easily upset and very open to new experiences. They also think they are sympathetic and warm, organized, calm and emotionally stable.

4. Main Results

In this section, we first describe findings that are specific to the respective domain of each vignette. We present the effect of the randomized features of each scenario using average partial effects calculated from equation (4) following a multinomial logit estimation for which the dependent variable is a categorical variable representing the respondent's answer to the vignette. Appendix Table A7 reports the raw frequency of recommendations for the different vignettes we consider.

The results show that recommendations are generally sensitive to vignette features in a way which is consistent with economic theory. We investigate client involvement, gender, compensation effects, and familiarity bias. We define a planner to be familiar with a financial product if he or she owns the respective product themselves, if their spouse owns the respective product, or if the planner is licensed to sell the respective product. Throughout, we show that the effects we document are robust to controlling for planner characteristics. This is important to rule out any reflection bias in our estimation, where planners who look like clients in the vignettes could both recommend and hold the optimal products. We conclude that it is unlikely that observable planner characteristics interact with our experimental design to produce the findings we document.

Subsection 4.5 discusses potential biases pooling across all vignettes. The related tables re- port t-test results and describe how often a product is recommended across all scenarios when the planner is familiar with the respective product, when the vignette states that the planner is compensated for the sale of this product, and when the client inquires about the product.

Finally, in Subsection 4.6, we take a more detailed look into the determinants and heterogeneous effects of biases. We investigate planners' likelihood to recommend products solicited by clients when they are familiar with those products, and further explore the role of planners' characteristics in recommending familiar products and report the results.

4.1. Retirement savings vignette

In this scenario, the main drivers for recommendation are the interaction between the marginal tax rates (MTR) of the client at the time of contribution and withdrawal, and the APR on their debt. Because of the timing of taxation, when the MTR is higher at the time of contribution than withdrawal, an RRSP product should be favored in place of a TFSA, and vice versa. Further, all else equal, repaying the debt should be favored as the APR on debt increases relative to the expected return on investments. Finally, because of its tax treatment, in the vignettes presented investing the money in the universal life insurance policy should usually not be optimal: given that there is room for contribution in both the RRSP and the TFSA, individuals should prioritize these types of savings accounts.

Table 3 presents the baseline randomization effects. Given that the vignette specifies an MTR of 40% at the time of withdrawal, a MTR of 50% at the time of contribution results in a 42 percentage points higher likelihood that planners recommend investing into an RRSP than when the MTR at the time of contribution is 30%. Analogously, an MTR of 50% at the time of contribution leads to a 28 percentage points lower likelihood that planners recommend a contribution to a TFSA. Further, planners are less likely to recommend contributions to either RRSP or TSFA and more likely to recommend repaying outstanding debt when the APR on the client's debt is higher. These findings are big, statistically significant and in line with economic theory.

Table 3: Savings vignette - Effect of randomization

(Average partial effects from a multinomial logit estimation)

	RRSP	TFSA	UL	Debt
MTR when working (30% omitted)				
50%	0.424***	-0.279***	-0.001	-0.144***
	(0.01)	(0.01)	(0.00)	(0.02)
APR on debt (2.5% omitted)				
5%	-0.140***	-0.139***	-0.003	0.282***
	(0.02)	(0.02)	(0.00)	(0.02)
7.5%	-0.210***	-0.251***	-0.004	0.465***
	(0.02)	(0.02)	(0.00)	(0.02)
Female client	-0.003	0.015	-0.011*	-0.000
	(0.02)	(0.02)	(0.01)	(0.02)
Solicit UL	-0.036**	0.018	0.001	0.018
	(0.02)	(0.02)	(0.00)	(0.02)
Ordering	-0.025	0.02	0.003	0.002
	(0.02)	(0.02)	(0.00)	(0.02)
R-squared	0.27	0.27	0.27	0.27
Observations	2,088	2,088	2,088	2,088

*Note: This table presents average partial effects calculated using equation (4) following a multinomial logit estimation for which the dependent variable is a categorical variable representing the respondent's answer to the vignette. We include the vignette's randomized parameters as dependent variables, as well an ordering dummy variable equal to one for the second scenario presented to respondents. Standard errors are calculated using the Huber/White/sandwich estimator. ***, **, and * represent significance at the 1, 5 and 10 percent level, respectively.*

In terms of client involvement, an explicit inquiry by the client about universal life insurance does not lead to a significantly higher propensity for planners to recommend this product in the savings domain. This is reassuring as universal life, given its tax treatments, can hardly be argued as optimal in any of the randomizations presented to participants. Interestingly[8], female clients are around one percentage point less likely to receive the recommendation to invest into their universal life insurance than their male counterparts. Given the general suboptimality of the universal life insurance recommendation in this context, this suggests better recommendations to female clients[9].

[8] *Appendix Table A9 shows that this is confirmed even when we condition on planners answering positively to the statement that "clients usually know what is best for their own financial situation"*

[9] *In Appendix Table A10 we show that this result is not driven by the planner's gender. We also find that female planners are less likely than male planners to recommend repaying outstanding debt.*

Table 4: Recommendation when optimal (t-tests)

	Optimal	Not optimal	Diff.
A. Savings Vignette			
Recommend RRSP	0.7229	0.2237	0.4993***
	711	1,377	
Recommend TFSA	0.4918	0.1131	0.3787***
	612	1,476	
Recommend Debt	0.6193	0.3156	0.3037***
	415	1,673	
B. Investment Vignette			
Recommend MF	0.1923	0.0744	0.1179***
	1,846	242	

*Note: This table presents a series of t-tests comparing how often a product is recommended when it is optimal or not for the client. ***, **, and * represent significance at the 1, 5 and 10 percent level, respectively.*

Table A8 shows that these results are robust to a range of control variables. In addition to planners' gender, their age, years of work experience, and risk aversion also has an effect on their advice. While older planners are less likely to recommend contributions to a TSFA and more likely to recommend investing in the universal life insurance or the repayment of outstanding debt, an additional year of work experience decreases the likelihood to recommend investing in the universal life insurance by 0.1 percentage points. More risk averse planners on the other hand are less likely to recommend a contribution to an RRSP and more likely to advise their client to repay outstanding debt first. This provides evidence that even when conditions are randomized across vignettes, planner characteristics can still explain client recommendations.

The results suggest that planners optimally advise their clients between potential contributions to RRSPs and TFSAs, and debt repayment. To more precisely identify optimal recommendations in this context, we compute and compare the future values for the options to invest in an RRSP, to invest in a TSFA, and to repay the outstanding debt in all possible combinations of realizations of the randomized APR and MTR. We define a recommendation (RRSP, TFSA, repaying debt) as optimal, when it has the highest future value out of the three options. For these calculations, we assume that all contributions are made for a 25 year horizon, and we use the planners' expectations on stock market returns elicited in the survey. Hence, the respective future values are calculated as follows:

$$RRSP = 5000 * (1 + stockmkt\ expectation)^{25} * (1 - MTR\ in\ retirement\ (fixed\ at\ 0.4))$$

$$TFSA = 5000 * (1 - MTR\ when\ working\ (randomized)) * (1 + stockmkt\ expectation)^{25}$$

$$DEBT = 5000 * (1 - MTR\ when\ working\ (randomized)) * (1 + APR\ (randomized))^{25}$$

Panel A. of Table 4 shows that planners are 50 percentage points, 38 percentage points, and 30 percentage points more likely to recommend investing in an RRSP, investing in a TFSA, and repaying outstanding debt, respectively, when the respective option is the optimal choice. This provides strong evidence that planners respond to the randomizations in a way that is consistent with economic theory. It also suggests that planners are paying attention to the vignette presented in the survey and responding to the best of their knowledge.

Table 5 shows how product familiarity affects planners' recommendations to clients. We find a 1 percentage point higher likelihood of planners to recommend investing in the universal life insurance when they own this product themselves. The effect is, however, only statistically significant on the 10% level. Finally, financial planners who hold debt themselves (which is the case for 75% of FPs in our sample) are 12 percentage points less likely to recommend repaying debt to clients. We conclude from this that financial planners believe that having personal debt is not inconsistent with investing. Table A30 shows that adding controls does not significantly impact our conclusions on product familiarity.

Table 5: Savings vignette - Product Familiarity

(Average partial effects from a multinomial logit estimation)

	Products Owned				Products Spouse				Products Licenced			
	RRSP	TFSA	UL	Repay Debt	RRSP	TFSA	UL	Repay Debt	RRSP	TFSA	UL	Repay Debt
Products												
RRSP	0.02	0.01	-0.00	-0.03								
	(0.03)	(0.03)	(0.00)	(0.03)								
TFSA	-0.02	0.02	0.01**	-0.01								
	(0.03)	(0.02)	(0.00)	(0.03)								
Universal life insurance	0.02	-0.00	0.01*	-0.03	0.02	0.00	0.01	-0.03	0.01	-0.01	-0.00	-0.00
	(0.02)	(0.02)	(0.00)	(0.02)	(0.02)	(0.02)	(0.00)	(0.02)	(0.02)	(0.02)	(0.00)	(0.02)
Debt	0.06***	0.05***	0.00	-0.12***								
	(0.02)	(0.02)	(0.00)	(0.02)								
Random. controls?	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
R^2	0.283	0.283	0.283	0.283	0.274	0.274	0.274	0.274	0.274	0.274	0.274	0.274
Wald test	0.000	0.000	0.000	0.000	0.194	0.194	0.194	0.194	0.798	0.798	0.798	0.798
Observations	2,088	2,088	2,088	2,088	1,712	1,712	1,712	1,712	2,088	2,088	2,088	2,088

*Note: This table presents average partial effects calculated using equation (4) following a multinomial logit estimation for which the dependent variable is a categorical variable representing the respondent's answer to the vignette. We measure product familiarity using the respondent's answer to questions on ownership, spouse's ownership, and license to sell the different products. When a variable is not measured in our survey, we omit it from the estimation. We include all randomized parameters as controls, following Table 3. We report the p-value of a Wald test of joint significance of the familiarity variables. Standard errors are calculated using the Huber/White/sandwich estimator. ***, **, and * represent significance at the 1, 5 and 10 percent level, respectively.*

4.2. Decumulation (longevity risk) vignette

Our baseline results for the decumulation scenario are reported in Table 6. As predicted by eco- nomic theory, planners are less likely to recommend partial or full annuitization (5 percentage points and 7 percentage points, respectively) to clients with a bequest motive (determined by their family status) than to clients without bequest motive. Similarly, planners are more likely to recommend the purchase of mutual funds (6 percentage points) or segregated funds (6-7 percentage points) to clients with heirs. In line with optimal choice from economic theory, our baseline model predicts that planners are also 11 percentage points more likely to recommend segregated funds to clients in poor health (relative to clients in excellent health). Similarly, planners are 14 percentage points less likely to recommend partial annuities to clients in poor health. This is intuitive since a poor health status typically leads to a shorter life-span, which decreases the present value of an annuity and makes segregated funds with death benefit guarantees more attractive. Although the effect is much smaller in magnitude, planners do have a higher propensity to recommend full annuitization to clients in poor health. This highlights that although planners' recommendations are often in-line with what one would expect from economic theory, there are some puzzling exceptions.

All aforementioned results in this scenario are robust to a range of control variables (Table A12). Contrary to optimal choice, planners are less likely to recommend mutual funds when these have a higher rate of return, regardless of whether the model controls for other characteristics or not. This result is surprising at first glance but could be explained as follows. The vignette only states the expected return of the mutual funds without specifying the risk. Since high expected returns are usually associated with higher risks, planners may take this into account when they make their recommendation and therefore consider the product too risky for the client. The randomized payout of segregated funds does not seem to affect planners' recommendation for or against segregated funds.

In order to investigate the role of planner compensation on recommendations, the decumulation vignette also contains a random sentence stating that the investment sale of mutual funds contributes towards the planner's compensation. This compensation is relevant for the option to recommend the exclusive purchase of mutual funds, as well as for the option to recommend partial annuitization and the investment of the remaining wealth into mutual funds. Interestingly, our baseline model predicts that compensation based on mutual fund purchases is associated with a lower likelihood to recommend the purchase of mutual funds exclusively, but with a higher likelihood of recommending partial annuitization – where the remaining wealth is invested into mutual funds – as well as full annuitization (Table 6). Controlling for other factors, the positive relationship between compensation based on mutual fund purchases and a recommendation for partial annuitization becomes insignificant. We find no significant effect of client involvement in the form of an explicit inquiry about mutual funds (Table A11). We do, however, find gender effects in the decumulation scenario. The participating planners are 4 percentage points less likely to recommend mutual funds to a female client than to a male client (Tables 6 and A13). Female planners, on the other hand, are less likely than their male counterparts to recommend partial annuitization to any client (Tables A13 and A12).

Table 6: Decumulation vignette - Effect of randomization

(Average partial effects from a multinomial logit estimation)

	MF	Seg fund	Part Annuity	Full Annuity
Bequest motive? (None is omitted)				
Yes	0.06***	0.07***	-0.05**	-0.07***
	(0.02)	(0.02)	(0.02)	(0.01)
Health status (Excellent omitted)				
Average	0.01	-0.00	-0.03	0.02
	(0.02)	(0.02)	(0.03)	(0.02)
Poor	-0.01	0.11***	-0.14***	0.03**
	(0.02)	(0.02)	(0.03)	(0.01)
Rate on Mutual Funds returns (4% omitted)				
6%	0.02	-0.03	0.01	-0.00
	(0.02)	(0.02)	(0.03)	(0.01)
10%	-0.06***	0.04*	0.01	0.01
	(0.02)	(0.02)	(0.03)	(0.01)
Payout on Seg funds (15,750$ omitted)				
14,000$	0.01	-0.02	-0.01	0.02
	(0.02)	(0.02)	(0.02)	(0.01)
Female client	-0.04**	0.03*	0.01	0.00
	(0.02)	(0.02)	(0.02)	(0.01)
Solicit MF	0.01	-0.01	-0.01	0.01
	(0.02)	(0.02)	(0.02)	(0.01)
MF compensated	-0.08***	0.04**	-0.02	0.06***
	(0.02)	(0.02)	(0.02)	(0.01)
Ordering	0.02	0.04***	-0.08***	0.02*
	(0.02)	(0.02)	(0.02)	(0.01)
R-squared	0.04	0.04	0.04	0.04
Observations	2,088	2,088	2,088	2,088

*Note: This table presents average partial effects calculated using equation (4) following a multinomial logit estimation for which the dependent variable is a categorical variable representing the respondent's answer to the vignette. We include the vignette's randomized parameters as dependent variables, as well an ordering dummy variable equal to one for the second scenario presented to respondents. Standard errors are calculated using the Huber/White/sandwich estimator. ***, **, and * represent significance at the 1, 5 and 10 percent level, respectively.*

Table 7 reports our results related to familiarity bias (additional controls in Table A31). We find that planners who are familiar with segregated funds through any of the three channels (owner- ship, spousal ownership, license to sell) are between 8 to 16 percentage points more likely to recommend segregated funds to their clients than planners who are not familiar with these products. Similarly, planners who are familiar with annuities are between 13 and 34 percentage points more likely to recommend partial annuitization. Interestingly, the license to sell annuities is negatively associated to the recommendation of full annuitization. Planners with this license seem to recommend partial annuitization instead. Familiarity with mutual funds only significantly increases the likelihood of recommending the exclusive purchase of mutual funds for those planners who are licensed to sell the funds.

Table 7: Decumulation vignette - Product Familiarity

(Average partial effects from a multinomial logit estimation)

	Products Owned				Products Spouse				Products Licenced			
	MF	Segfund	Partial An.	Full An.	MF	Segfund	Partial An.	Full An.	MF	Segfund	Partial An.	Full An.
Products												
Mutual funds	0.05*	0.02	-0.06*	-0.01	-0.02	0.03	-0.01	-0.00	0.13***	-0.07***	-0.05*	-0.01
	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)
Segregated funds	-0.14***	0.13***	0.02	-0.00	-0.17***	0.14***	0.03	-0.00	-0.05	0.16***	-0.14**	0.02
	(0.03)	(0.02)	(0.03)	(0.01)	(0.04)	(0.02)	(0.03)	(0.02)	(0.05)	(0.04)	(0.06)	(0.03)
Annuity	-0.18**	0.01	0.13**	0.03	-0.24**	-0.03	0.25***	0.02	-0.03	-0.04	0.15***	-0.07**
	(0.07)	(0.04)	(0.06)	(0.03)	(0.10)	(0.06)	(0.08)	(0.04)	(0.05)	(0.04)	(0.06)	(0.03)
Random. controls?	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
R^2	0.053	0.053	0.053	0.053	0.060	0.060	0.060	0.060	0.057	0.057	0.057	0.057
Wald test	0.000	0.000	0.000	0.000	0.194	0.194	0.194	0.194	0.798	0.798	0.798	0.000
Observations	2,088	2,088	2,088	2,088	1,712	1,712	1,712	1,712	2,088	2,088	2,088	2,088

*Note: This table presents average partial effects calculated using equation (4) following a multinomial logit estimation for which the dependent variable is a categorical variable representing the respondent's answer to the vignette. We measure product familiarity using the respondent's answer to questions on ownership, spouse's ownership, and license to sell the different products. When a variable is not measured in our survey, we omit it from the estimation. We include all randomized parameters as controls, following Table 6. We report the p-value of a Wald test of joint significance of the familiarity variables. Standard errors are calculated using the Huber/White/sandwich estimator. ***, **, and * represent significance at the 1, 5 and 10 percent level, respectively.*

4.3. Long-term care risk vignette

The results of the baseline model reported in Table 8 suggest that planners generally make optimal recommendations in the long-term care (LTC) risk scenario. Higher mortgage interest rates are associated with a higher propensity (9-14 percentage points) for planners to recommend paying off the mortgage first, and a lower likelihood (7-12 percentage points) of a recommendation to purchase mutual funds. Similarly, planners are less likely to recommend paying off the mortgage or purchasing LTC insurance and more likely to recommend mutual funds when mutual funds have a higher rate of return. A client with poor health status is less likely to receive a recommendation to purchase mutual funds than a client in excellent health. The effect of a poor health status in the recommendation for LTC insurance is, however, insignificant. These results from the randomization in the long-term care risk vignette are robust to a range of control variables (Table A14).

Table 8: Long-term care risk vignette - Effect of randomization

(Average partial effects from a multinomial logit estimation)

	Mortgage	MF	LTCI
Borrowing rate (1.5% omitted)			
2.5%	0.09***	-0.07***	-0.02
	(0.02)	(0.02)	(0.03)
3.5%	0.14***	-0.12***	-0.02
	(0.02)	(0.02)	(0.03)
Health status (Excellent omitted)			
Average	-0.01	-0.03	0.04*
	(0.02)	(0.02)	(0.03)
Poor	0.03*	-0.07***	0.03
	(0.02)	(0.03)	(0.03)
Rate on Mutual Funds returns (2% omitted)			
3%	-0.06***	0.08***	-0.02
	(0.02)	(0.03)	(0.03)
5%	-0.09***	0.18***	-0.09***
	(0.02)	(0.02)	(0.03)
Female client	-0.01	-0.02	0.02
	(0.02)	(0.02)	(0.02)
Solicit mortgage	0.01	0.02	-0.03
	(0.02)	(0.02)	(0.02)
Ordering	0.04**	0.04*	-0.08***
	(0.02)	(0.02)	(0.02)
R-squared	0.04	0.04	0.04
Observations	2,088	2,088	2,088

*Note: This table presents average partial effects calculated using equation (4) following a multinomial logit estimation for which the dependent variable is a categorical variable representing the respondent's answer to the vignette. We include the vignette's randomized parameters as dependent variables, as well an ordering dummy variable equal to one for the second scenario presented to respondents. Standard errors are calculated using the Huber/White/sandwich estimator. ***, **, and * represent significance at the 1, 5 and 10 percent level, respectively.*

We find no significant effect of client involvement in the form of an explicit inquiry about the repayment of a mortgage (Table A15). We also find no general gender discrimination in the long- term care domain (Tables 8 and A16). Female planners, however, are less likely than their male counterparts to recommend the repayment of a mortgage and more likely to recommend mutual funds (Table A16).

Our survey allows us to analyze a range of additional planner characteristics. One interesting finding is that planners who are more impatient are more likely to recommend mutual funds and less likely to recommend LTC insurance to their clients.

A robust relationship between planners' product ownership (as a measure of product familiarity) and the recommendation in the long-term care risk scenario can be observed for real estate: planners who own real estate themselves are more likely to advise their clients to pay off their mortgage. Analogously to the findings in scenario 1, planners holding debt themselves are less likely to recommend repaying the mortgage (Tables 9 and A32). Planners' licenses seem to matter for their recommendations on other products in this scenario: planners who hold a license to sell mutual funds or LTC insurance are significantly more likely to recommend the respective product.

Table 9: Long-term care risk vignette - Product Familiarity
(Average partial effects from a multinomial logit estimation)

	Products Owned			Products Spouse			Products Licenced		
	Mortgage	MF	LTCI	Mortgage	MF	LTCI	Mortgage	MF	LTCI
Products									
Debt	-0.06***	0.03	0.03						
	(0.02)	(0.02)	(0.02)						
Real estate	0.05***	-0.04*	-0.01	0.01	-0.00	-0.01			
	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)	(0.03)			
Mutual funds	-0.02	-0.03	0.05*	-0.01	-0.05*	0.06*	-0.05***	0.06**	-0.00
	(0.02)	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Long-term care insurance	-0.02	-0.02	0.04	-0.01	-0.01	0.02	-0.02	-0.08***	0.10***
	(0.02)	(0.03)	(0.03)	(0.03)	(0.04)	(0.05)	(0.02)	(0.02)	(0.02)
Random. controls?	YES	YES	YES	YES	YES	YES	YES	YES	YES
R^2	0.044	0.044	0.044	0.038	0.038	0.038	0.045	0.045	0.045
Wald test	0.002	0.002	0.002	0.651	0.651	0.651	0.000	0.000	0.000
Observations	2,088	2,088	2,088	1,712	1,712	1,712	2,088	2,088	2,088

*Note: This table presents average partial effects calculated using equation (4) following a multinomial logit estimation for which the dependent variable is a categorical variable representing the respondent's answer to the vignette. We measure product familiarity using the respondent's answer to questions on ownership, spouse's ownership, and license to sell the different products. When a variable is not measured in our survey, we omit it from the estimation. We include all randomized parameters as controls, following Table 8. We report the p-value of a Wald test of joint significance of the familiarity variables. Standard errors are calculated using the Huber/White/sandwich estimator. ***, **, and * represent significance at the 1, 5 and 10 percent level, respectively.*

4.4. Investment vignette

Table 10 reports the baseline results for the randomization in the investment vignette. As in the previous scenarios, planners mostly recommend investment options in line with economic theory. Higher fees for mutual funds and segregated funds are associated with a lower propensity to recommend investing in the respective product. When mutual fund fees are higher, planners are more likely to recommend ETFs. These results hold even when we control for a range of planner characteristics (Table A17).

In this scenario, it would be misguided for planners to choose mutual funds when they are associated with higher fees than segregated funds. We construct a variable identifying these cases as SegDomMut = 1 if segregated fund fees are weakly lower than mutual fund fees. We can define the cases when segregated funds (weakly) dominate mutual funds since segregated funds have additional options and guarantees, such as death benefits. We can, however, not define a case in which mutual funds dominate segregated funds, since we cannot measure the value of these options due to a lack of detail in our response options. Panel B. of Table 4 shows that planners are about 11.8 percentage points more likely to recommend mutual funds when they are not dominated by segregated funds. We confirm that planners are more likely to recommend segregated funds when their fees are lower or equal to the fees associated with mutual funds (see Table A20).

Table 10: Investment vignette - Effect of randomization

(Average partial effects from a multinomial logit estimation)

	GIC	MF	Segfund	ETF
Mutual Fund fees (1% omitted)				
2%	0.00	-0.07***	0.01	0.06**
	(0.03)	(0.02)	(0.01)	(0.03)
3%	0.03	-0.16***	0.02**	0.10***
	(0.03)	(0.02)	(0.01)	(0.02)
Segfund fees (2% omitted)				
3%	-0.01	0.02	-0.02*	0.01
	(0.03)	(0.02)	(0.01)	(0.02)
4%	0.02	0.01	-0.03***	0.00
	(0.03)	(0.02)	(0.01)	(0.02)
Female client	-0.02	0.00	0.01	0.00
	(0.02)	(0.02)	(0.01)	(0.02)
Solicit ETF	-0.05**	-0.04**	-0.00	0.09***
	(0.02)	(0.02)	(0.01)	(0.02)
Ordering	-0.01	-0.02	0.01	0.02
	(0.02)	(0.02)	(0.01)	(0.02)
R-squared	0.02	0.02	0.02	0.02
Observations	2,088	2,088	2,088	2,088

*Note: This table presents average partial effects calculated using equation (4) following a multinomial logit estimation for which the dependent variable is a categorical variable representing the respondent's answer to the vignette. We include the vignette's randomized parameters as dependent variables, as well an ordering dummy variable equal to one for the second scenario presented to respondents. Standard errors are calculated using the Huber/White/sandwich estimator. ***, **, and * represent significance at the 1, 5 and 10 percent level, respectively.*

We do not find any evidence for gender discrimination in this scenario (Tables 10, A18, and A19). Female financial planners, however, are more likely to recommend mutual funds and less likely to recommend a GIC than their male counterparts. Planners' annual income, their work experience as well as their level of patience and risk aversion do not seem to affect their recommendations (Table A17).

In the investment domain, client involvement has a significant effect on the planners' advice: when the client in the vignette inquires about the option to invest in ETFs, planners are 9 percentage points more likely to recommend the purchase of ETFs, and 4 and 5 percentage points less likely to recommend mutual funds and an index-linked 3-year GIC, respectively (Tables 10, A18, and A19). Our findings with respect to the role of client gender and client involvement also hold when we control for a range of planner characteristics (Table A17).

Table 11 reports the baseline effects with respect to familiarity biases for the investment vignette. It shows that financial planners are more likely to recommend purchasing mutual funds, segregated funds, and ETFs if they own the respective product themselves.

These results are robust to a range of control variables (Table A33). Interestingly, planners who own GICs and planners whose spouse owns a GIC are significantly more likely to recommend the purchase of mutual funds and less likely to recommend the purchase of a GIC, respectively. These effects do, however, become insignificant when we control for individual planner characteristics (Table A33). Tables 11 show that licenses have a big impact on planners' recommendations (see also Table A33). Even though the instructions in the vignettes ask respondents to assume that they have the necessary license(s) to sell any product or service, planners are more likely to recommend any of the four products (GIC, mutual funds, segregated funds, and ETFs) in the fictitious scenario when they actually hold the license

to sell the respective product. Overall, our results suggest that planners are more likely to recommend investment products that they are more familiar with.

A good approach to identifying potential familiarity bias in the investment scenario, however, is to analyze whether financial planners who are familiar with mutual funds (according to the definition above) recommend mutual funds when they are (weakly) dominated by segregated funds. To this end, we split our sample into a sub-sample with observations for which the randomization in the investment vignette resulted in higher segregated fund fees than mutual fund fees, and a sub-sample for which mutual fund fees are higher or equal to segregated fund fees (i.e., a sub- sample in which mutual funds are weakly dominated by segregated funds). We also estimated our model based on those two sub-samples (see Table A21). We find that planners who own mutual funds themselves are still 16-17 percentage points more likely to recommend mutual funds than planners who do not own any, even when mutual funds are dominated by segregated funds. This result holds regardless of whether or not we control for individual planner characteristics. Planners who are licensed to sell mutual funds, however, are only more likely to recommend those when they are not dominated by Segregated funds.

Table 11: Investment vignette - Product Familiarity

(Average partial effects from a multinomial logit estimation)

	Products Owned				Products Spouse				Products Licenced			
	GIC	MF	Segfund	ETF	GIC	MF	Segfund	ETF	GIC	MF	Segfund	ETF
Products												
Index-linked GIC	-0.07	0.07**	-0.01	0.00	-0.11**	0.05	-0.03	0.10**	0.06**	-0.00	-0.01	-0.05**
	(0.05)	(0.03)	(0.02)	(0.04)	(0.06)	(0.04)	(0.03)	(0.05)	(0.02)	(0.02)	(0.01)	(0.02)
Mutual funds	-0.04	0.15***	-0.03***	-0.08***	0.06*	0.02	0.01	-0.08***	-0.01	0.14***	-0.03***	-0.10***
	(0.03)	(0.03)	(0.01)	(0.03)	(0.03)	(0.02)	(0.01)	(0.03)	(0.03)	(0.02)	(0.01)	(0.03)
Segregated funds	0.00	0.01	0.04***	-0.05*	-0.03	0.00	0.06***	-0.03	0.00	0.05***	0.05***	-0.10***
	(0.03)	(0.02)	(0.01)	(0.03)	(0.03)	(0.03)	(0.01)	(0.03)	(0.02)	(0.02)	(0.01)	(0.02)
Exchange-traded funds	0.08***	-0.17***	-0.03***	0.11***	0.08***	-0.17***	-0.03**	0.12***	-0.07**	-0.06***	-0.05***	0.18***
	(0.02)	(0.02)	(0.01)	(0.02)	(0.03)	(0.02)	(0.01)	(0.02)	(0.03)	(0.02)	(0.01)	(0.02)
Random, controls?	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
R^2	0.068	0.068	0.068	0.068	0.060	0.060	0.060	0.060	0.055	0.055	0.055	0.055
Wald test	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Observations	2,088	2,088	2,088	2,088	1,712	1,712	1,712	1,712	2,088	2,088	2,088	2,088

*Note: This table presents average partial effects calculated using equation (4) following a multinomial logit estimation for which the dependent variable is a categorical variable representing the respondent's answer to the vignette. We measure product familiarity using the respondent's answer to questions on ownership, spouse's ownership, and license to sell the different products. When a variable is not measured in our survey, we omit it from the estimation. We include all randomized parameters as controls, following Table 6. We report the p-value of a Wald test of joint significance of the familiarity variables. Standard errors are calculated using the Huber/White/sandwich estimator. ***, **, and * represent significance at the 1, 5 and 10 percent level, respectively.*

4.5. Propensity to recommend products across domains

In this subsection, we describe potential biases at the product level by pooling the answers to all relevant scenarios together. This analysis allows us to summarize the main findings across the different domains of vignettes presented to respondents. We analyze how often planners recommend a product when planners themselves are familiar with the product (according to the three definitions of familiarity), when their clients inquire about it, and when the scenario specifies that planners are compensated for the sale of the respective product.

We first explore the relationship between planners' familiarity with all products in our vignettes and their likelihood to recommend the respective product. To that end, we compare the propensity to recommend these products across familiarity groups in a series of t-tests: (1) planners who own the product themselves vs. planners who do not own the product; (2) planners whose spouse owns the product vs. planners whose spouse does not own the product; and (3) planners who are licensed to sell the product vs. planners who are not licensed to sell the product. Tables 12 reports the results.

We find that planners are significantly more likely to recommend universal life insurance, mutual funds, annuities, segregated funds, and ETFs when they own the respective product them- selves. They also have a higher propensity to recommend repaying debt when they own real estate or hold debt themselves. We do not find a significant effect of ownership of RRSPs, TFSAs, LTC insurance, and GICs on the recommendation of these products. The biggest effect on recommendations comes from annuity ownership and ETF ownership. Owning these products increases the propensity to recommend them to clients by 12.5 and 12.3 percentage points, respectively (Table 12).

Table 12: Recommending a product when familiar (t-tests)

	Owns it	Doesn't Own	Diff.
A. Recommending a product owned			
RRSP	0.3949	0.3907	0.0042
	1,484	604	
TFSA	0.2340	0.2062	0.0278
	1,346	742	
UL	0.0112	0.0031	0.0081**
	800	1,288	
Debt	0.2385	0.3314	-0.0930***
	3,120	1,056	
MF	0.2893	0.2331	0.0562***
	5,316	948	
Annuities	0.6324	0.5069	0.1254**
	68	2,020	
Seg fund	0.1976	0.0860	0.1116***
	840	3,336	
LTCI	0.5360	0.4902	0.0458
	250	1,838	
ILGIC	0.4141	0.4811	-0.0671
	128	1,960	
ETF	0.3761	0.2526	0.1234***
	952	1,136	

	Owns it	Doesn't Own	Diff.
B. Recommending a product owned by the spouse			
UL	0.0115	0.0042	0.0072*
	524	1,188	
MF	0.2790	0.2830	-0.0040
	4,122	1,014	
Annuities	0.7391	0.5030	0.2361***
	46	1,666	
Seg fund	0.2172	0.0887	0.1285***
	548	2,876	
LTCI	0.5159	0.4924	0.0234
	126	1,586	
ILGIC	0.3929	0.4951	-0.1022*
	84	1,628	
ETF	0.3857	0.2587	0.1270***
	560	1,152	
C. Recommending a product licensed to sell			
UL	0.0049	0.0081	-0.0031
	1,220	868	
MF	0.3025	0.2174	0.0851***
	4,668	1,596	
Annuities	0.4966	0.5300	-0.0334
	1,188	900	
Seg fund	0.1358	0.0713	0.0645***
	2,408	1,768	
LTCI	0.5420	0.4446	0.0974***
	1,096	992	
ILGIC	0.4922	0.4623	0.0300
	1,028	1,060	
ETF	0.3654	0.2731	0.0923***
	810	1,278	

*Note: This table presents a series of t-tests comparing how often a product is recommended when it is owned by the respondent, the spouse or the respondent is licensed to sell the product. ***, **, and * represent significance at the 1, 5 and 10 percent level, respectively.*

When the spouse of a planner owns an annuity, a segregated fund, an ETF, a universal life insurance policy, or a GIC, planners are more likely to recommend these products to their clients. The effects for the UL policies and GICs are, however, only significant on the 10% level. Again, the highest impact stems from annuity ownership. A planner with a spouse who owns an annuity is around 23 percentage points more likely to recommend this product to their client (Table 12).

Interestingly, the effect of holding the license to sell annuities on recommending such a product is insignificant. The same holds for universal life insurance policies and GICs. However, holding a license to sell mutual funds, segregated funds, LTC insurance, or ETFs significantly increases the likelihood of recommending the respective product to clients (Table 12).

To test the relationship between compensation based on product sales and recommendation for these products, we pool the observations in which the planner recommends a product he could be compensated for in the fictional scenario; that is, we pool the observations where the planner recommends to invest in mutual funds exclusively or in

partial annuitization and mutual funds. We conduct a t-test comparing how often a product is recommended when the respondent is financially compensated to do so (Table A22). We find that planners are about 10 percentage points less likely to recommend a product when they are compensated for it. Because planners did not have financial incentives to act on this randomization in our experimental setting, this may represent a lower bound.

We also conduct a series of t-tests comparing across scenarios how often a product is recommended when it is solicited by the client. It confirms that - across all products considered for client involvement - an inquiry made by the client only has a significant impact on recommendation, when the solicited product is an ETF (Table A23).

We further explore whether financial planners are more likely to recommend products solicited by clients when they are familiar with these products. We find that product familiarity has a statistically significant impact on planners' recommendations of products solicited by their clients. When controlling for planner fixed effects, we find that FPs are about 5.1 percentage points more likely to recommend the product the client asks about when they own the product themselves (see Table A24). The propensity to recommend a product the client inquires about increases by about 5.8 percentage points when the planner's spouse owns this product (in comparison to no familiarity with the product). Finally, holding the license to sell a product increases the likelihood of recommending the respective product in the fictitious vignettes by up to 4.5 percentage points. Further controlling for scenario fixed effects, we still find an effect of product familiarity by ownership, spousal ownership, and licensing, on recommending a solicited product of about 2.0 percentage points, 2.4 percentage points, and 4.3 percentage points, respectively.

4.6. Heterogeneous effects

Our extensive survey allows us to analyze which planner characteristics drive familiarity biases. To that end, we define three binary variables that equal 1 if a planner recommends a product they are familiar with according to the respective definition of familiarity (ownership, spousal owner- ship, and licenses).[10] We compute marginal effects resulting from the respective logit regressions on these variables (Tables A25, A26 and A27). Our results suggest that female planners, planners with children, and very impatient planners have a higher propensity than their counterparts to recommend products that they own themselves (Table A25). Female planners and those who are compensated primarily based on assets under management are more likely to recommend a product owned by their spouses than male planners and planners who are compensated with a salary (Table A26).

A financial planner's compensation mode also seems to matter for their decision to recommend products they are licensed to sell. Planners who receive a bonus based on sales on top of their salary, and those compensated primarily based on assets under management or primarily on commissions, have a higher propensity to recommend a product they are licensed to sell than their colleagues who are compensated exclusively by salary. Interestingly, Pl. fins (planners certified by IQPF) are on average between 13 and 16 percentage points more likely to recommend products they are licensed to sell than their colleagues at FP Canada. Finally, we asked respondents to indicate how they would assess their own financial advice compared to other financial planners'. We find that those planners who have less confidence in their own advice compared to others' are less likely to recommend products that they are licensed to sell than planners who assess their own advice as better than average.

We have also investigated heterogeneous effects with respect to compensation and client involvement and found that patience and real-life compensation may matter. Tables A34 and A35 in Appendix show the respective detailed results.

[10] *For the recommendation to repay debt in scenario 1, we consider a planner to be familiar with debt if he or she holds debt themselves. For the recommendation to repay a mortgage in scenario 3, we consider a planner to be familiar with a mortgage if he or she holds debt themselves or owns real estate.*

5. Conclusion

In many countries, there is a trend towards more responsibility for individuals regarding financial decision-making. Whether it is to save for retirement, decumulate saving into retirement, man- age long-term risk or investing optimally, individuals have to make more frequently complex and integrated decisions regarding their finances. While financial advice is often argued to be a substitute for financial education, a necessary condition for that to be the case is that the quality of advice is high and that advisors are not biased in a way that harms clients; either because they sell products they know, because they want to please clients by recommending what clients inquire about, or because they are influenced by compensation or by other characteristics of clients such as gender.

We perform an artefactual field experiment to look specifically at the presence of such biases in a group of highly skilled financial planners. Our experiment is centered on eliciting planner recommendations over different options for different client scenarios, which we call vignettes, related to retirement saving, annuities, long-term care risk, and investments decisions. We collaborated with the two major Canadian organizations (IQPF in Québec and FP Canada in all other provinces) and sent financial planners an invitation to participate in a survey. Given their certification, one could expect the quality of advice provided by these financial planners to be superior to that of other advisors, and therefore that the presence of biases goes undetected.

Table 13: Summary of Results Across Biases and Domains

Domain/Bias	Familiarity	Involvement	Gender	Compensation
Savings	Undetected	Undetected	Detected	NA
Decumulation	Detected	Undetected	Detected	Detected
LTC risk	Detected	Undetected	Undetected	NA
Investment	Detected	Detected	Undetected	NA

We summarize in Table 13 the findings we obtained for each type of biases we targeted in the different domains. Overall, we find that biases are frequent but vary across domains.

Our results are consistent with an emerging body of research on the quality of advice. For example, Foerster et al. (2017) analyze whether Canadian financial advisors tailor their clients' portfolios to client characteristics. They find that an advisor's own portfolio is a strong predictor for the allocation they chose for their clients' portfolios and that advisor fixed effects explain a large part of the variation in client portfolios, more so than client characteristics. Our setting allow us to unpack the effect of financial planner characteristics on recommendation.

Our results have potential implications for practitioners. For example, training of planners, even highly skilled ones, that raises awareness of familiarity bias might help lower its prevalence. The same could be said of biases related to gender of the client and client involvement. Biases related to compensation are more complicated to solve as they bring up the obvious potential trade-off between incentives and quality of advice. However, that apparent trade-off may be mis- guided, at least in the long-term as the willingness to pay for high quality advice from the demand side can create enormous value, both for society in general but also for advisors and shareholders.

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A. Online Appendix: Additional Results

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