# Financial Advisors and Risk-Taking*

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**Abstract**

We show that financial advisors increase stock market participation and risk-taking. We first exploit a regulatory change in Canada that restricted the supply of financial advisors in all provinces except Quebec. Our estimates suggest that having a financial advisor increases stock market participation and reduces investments in cash accounts. We also use micro-level data on financial advisory accounts to document that the length of the advisor-client relationship—a measure of trust—increases clients' willingness to take financial risk. Using exogenous shocks to advisor-client pairings as an instrument for the relationship length, we find that clients who started with a new advisor before the 2007–2009 financial crisis were less likely to remain invested in the stock market throughout the crisis.

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# 1 Introduction

Many households seek financial advice. In the U.S. more than half of mutual fund purchases are made through investment advisors (Investment Company Institute 2013). At the same time, advisors appear to provide their clients with close to zero gross returns relative to passive benchmarks, and negative 2% to 3% net returns after fees (Bergstresser, Chalmers, and Tufano 2009; Foerster, Linnainmaa, Melzer, and Previtero 2017). This evidence suggests that households must either be unaware of the costs of advice, or that they reap other substantial benefits from having an advisor.

In this paper, we investigate whether financial advisors provide benefits by encouraging stock market participation and risk-taking. Using both a regulatory change and micro-level shocks to advisor-client relationships, we document that advisors have economically large effects on these decisions.

Many households have no equity investments either directly or indirectly through mutual funds and retirement accounts. Guiso, Sapienza, and Zingales (2008), for example, show that the participation rate, even when accounting for both channels, is below 50% for most developed countries. This pattern of limited stock market participation is called the "participation puzzle." If the risk premium is positive and there are no fixed participation costs, everyone, independent of their risk aversion, should invest at least one dollar in the stock market (Arrow 1965; Vissing-Jørgensen 2003).

Several theoretical models address the roles of trust and financial advice in the participation decision. Guiso, Sapienza, and Zingales (2008) show that lack of trust can lead to low stock market participation. Georgarakos and Inderst (2014) model the interaction between financial advice and stock market participation. Households with lower financial capabilities invest in stocks only if they trust their financial advisors. Gennaioli, Shleifer, and Vishny (2015) present a model of trust that reconciles the underperformance of active management with the prevalence of financial advice. Households who do not understand financial investments, or who are not comfortable making risky investments on their own, hire advisors. In their model, financial advisors provide peace of mind to their clients. The negative performance is a just payment for this anxiety reduction.

The empirical challenge in assessing advisors' effects on financial decisions is that of identification. Even if advised households invest more in equities, that does not necessarily imply that financial advisors exert influence. A client may seek advice because he plans to invest heavily in the stock market. Moreover, omitted variables such as financial literacy and risk-tolerance could drive both the investment decisions and the decision to seek advice. We address this identification challenge by identifying plausibly exogenous variation in the use of financial advisors and in the amount of time each client has worked with his advisor.

We begin our analysis by using the Canadian Financial Monitor (CFM) survey of households. In addition to providing demographic information, this survey measures households' asset holdings, and the use of financial advisors. We study a 2001 regulatory change that imposed licensing, financial reporting, and capital requirements on Canadian financial advisors operating outside of the province of Quebec. This change is a shock to the supply of financial advisors that is plausibly unrelated to demand for advice.

Using a difference-in-differences model to compare households outside of Quebec to those in Quebec, we find that the change reduced households' likelihood of using an advisor by 10 percentage points. Exploiting this variation within an instrumental-variables model, we estimate that financial advisors increase the marginal households' risky asset share by 30 percentage points. The instrumental-variables estimate exceeds the estimate from a least squares regression that controls for household characteristics. This gap between the OLS and IV estimators suggests that individuals who are comfortable holding risky assets are less likely to solicit an advisor's input.

Advisors' influence on stock market participation largely accounts for the increase in the share of risky assets. A household's likelihood of owning any risky assets (stocks and mutual funds) increases by 59 percentage points by having an advisor. The likelihood of having investments in checking, savings and money market accounts falls by 28 percentage points. Advisors therefore facilitate greater stock market participation and risk-taking.

Our second analysis uses micro-level data on financial advisors and their clients to examine if trust explain why financial advisors increase stock market participation, as suggested by Gennaioli, Shleifer, and Vishny (2015). We obtained administrative data from three Canadian financial advisory firms—known as Mutual Fund Dealers. Each dealer provided a detailed history of all client transactions for 15 years—from 1999 through 2013—as well as demographic information for all their clients and advisors. We obtain panel data on over 500,000 clients with roughly 5,000 advisors and we can observe how long each client has worked with the same advisor.

We first show that the length of the advisor-client relation predicts financial risk-taking. When we partition clients by tenure with their advisors, we find that clients in the top decile invest 10 percentage points more in risky assets than those in the bottom decile. Stock market participation also correlates with the length of the relationship. The non-participation rate falls from 11 to 5 percent when we move from the bottom to the top decile. Advisor-level differences do not drive these patterns. When we take each advisor and sort his clients by the length of the relationship, we find that a movement from the advisor's newest to oldest client on average corresponds to an increase of 7 percentage points in the risky share.

These empirical patterns are plausibly driven by variation in trust. A client who has worked with his advisor longer likely trusts his advisor more.[1] The length of the relationship may, however, correlate with other factors that affect the investment decisions, such as stock market experience. A one-year increase in the length of the relationship increases also the client's overall market experience by a year. These empirical patterns could therefore either stem from trust in the specific advisor (Gennaioli, Shleifer, and Vishny 2015) or from general trust in the stock market (Guiso, Sapienza, and Zingales 2008). We use data on clients who work with multiple advisors over the 15-year sample period to disentangle these two effects. We find that tenure with the same advisor is significantly more important than general stock market experience in determining risk-taking.

Gennaioli, Shleifer, and Vishny (2015) predict that a client's trust in his financial advisor is particularly important in facilitating risk-taking when uncertainty is high. After a poor recent performance clients could perceive investing to be riskier. We study how client risk-taking varies with the length of his advisor relationship during these times. We also study the 2007–2009 financial crisis to test if advisors facilitate risk-taking at times of heightened uncertainty. In both analyses, we identify exogenous variation in the length of the relationship by collecting data on advisors who quit the industry; these are advisors who either retire, resign, or die. The switches in advisors that result from these events exhibit little client-level selection. Linnainmaa, Melzer, and Previtero (2016) show that these switches are typically transfers of an advisor's entire "book of business:" all clients of the former advisor typically go to the same new advisor.

We show that clients who have been with their advisors for a long time are significantly less

[1] Glaeser, Laibson, Scheinkman, and Soutter (2000), for example, study a two-person trust game and find that the number of months since the first meeting predicts the level of trust and trustworthiness.

likely to sell risky assets following low returns. When we use involuntary client displacements to identify exogenous variation in the length of the client-advisor relationship, we find similar effects on the performance-flow sensitivity. After experiencing poor returns, displaced clients are more likely to sell risky assets and less willing to assume risk when purchasing new assets.

We also use these involuntary displacements to examine if trust in the financial advisor affected clients' willingness to remain in the stock market during the 2007–2009 financial crisis. We find that clients who were forced to switch to a new advisor before the crisis are 8 percentage points less likely to remain invested in the stock market throughout the crisis.

Our results suggest that advisors exert significant influence over their clients' investment decisions. Increases in risk-taking could benefit clients. The welfare implications of these results, however, are nuanced. Our point estimates suggest that having an advisor increases the proportion invested in risky assets by 30 percentage points. If the equity premium is 5%—a number that exceeds the upper bound of the forward-looking estimate in Fama and French (2002)—this increase enhances expected returns by 1.5%. This increase therefore falls short of the estimates for the cost of advice, which are between 2 and 3 percentage points (Bergstresser, Chalmers, and Tufano 2009; Foerster, Linnainmaa, Melzer, and Previtero 2017). Moreover, more equities increase portfolio risk, and so any risk-averse individual's certainty equivalent gain is less than 1.5%. Therefore, even if advisors help their clients to make better decisions—that is, that they would "underinvest" in equities in the absence of advice—the resulting benefit may not fully explain why households rely on financial advisors.

## 2 Financial advisors and the decision to participate in the stock market

In this section we use the Canadian Financial Monitor (CFM) survey of households to evaluate the impact of financial advisors on their clients' risk-taking. Ipsos-Reid, a survey and market research firm, designed the CFM survey and collected the data through monthly interviews of approximately 1,000 households per month between January 1999 and June 2013. In addition to providing a wealth of demographic information, each interview measures households' asset holdings, including checking and savings accounts, stocks, bonds and mutual funds (by asset class). Most importantly for our analysis, the survey collects also information on the use of financial advisors.

Table 1 displays descriptive statistics for Canadian households, stratified by use of a financial advisor. Advised households are on average younger (46.3 vs. 47.9), less likely to be retired (11.9% vs. 17.2%), and more likely to have either a college or graduate degree (54.1% vs. 41.9%). From a financial standpoint, advised household also have higher average incomes (CND $58,700 vs. 44,600), more financial assets (CND $91,700 vs. 46,200) and are more likely to own a home (72.9% vs. 63.1%). Last, households that use financial advisors invest more in equity (32.8% vs. 20.2% of financial assets) and fixed-income products (29.9% vs. 22.8%) and hold less in checking, savings and money market accounts (37.3% vs. 57.0%).

These summary statistics indicate that advised households shift their portfolio allocation away from cash to riskier equity and fixed-income assets. However, given the substantial differences in other characteristics such as income and wealth, it is unclear whether these differences arise due to client preferences or advisor input. Risk-taking in financial markets may depend on the same (unobserved) household characteristics that influence the demand for advice.

## 2.1 A regulatory shock to the financial advisory industry

We address this identification issue by using a regulatory change in the early 2000s that reduced the supply of financial advisors. Specifically, as of February 2001 mutual fund dealers and their agents, such as financial advisors, were required to register with the Mutual Fund Dealers Association of Canada (MFDA) and follow the rules and regulations of the MFDA. The introduction of this registration requirement meant that dealers who wished to remain in business were now subject to more stringent regulatory standards, including minimum capital levels as well as audit and financial reporting requirements. For the underlying advisors, the registration requirement also mandated securities training and established a basic standard of conduct.[2] The draft rules and bylaws were originally posted for comment on June 16, 2000. An overview of public comments given by dealers and advisors reveals particular concern about the compliance costs associated with financial reporting and capital costs created by the minimum capital standards (Overview of Public Comments on MFDA Application for Recognition and MFDA Response). These changes appeared to reduce the supply of advisors, and in that way constitute a shock to households' use of advisors that is unrelated to their demand for advisory services. Importantly, the regulatory change did not apply to dealers and advisors in the province of Quebec, allowing us to use Quebec residents as a comparison group that was not affected by the registration requirement.

[2]The standard of conduct is quite broad, prescribing that advisors "deal fairly, honestly and in good faith" with clients, "observe high standards of ethics" in their business transactions and not engage in conduct detrimental to the public interest (Canadian Securities Administrators 2012).

## 2.2 Empirical estimates of the effect of registration requirement

We assess the impact of the registration requirement through the following differences-in-differences model:

$$y_{ipt} = \alpha + \beta \text{Register}_p \times \text{Post}_t + \gamma \text{Register}_p + \delta \text{Post}_t + \boldsymbol{\theta} \boldsymbol{X}_{it} + \varepsilon_{ipt}, \tag{1}$$

in which subscripts $i$, $p$, and $t$ index households, provinces, and months between January 1999 and January 2004, respectively. The variable *Post* is an indicator that takes the value of one for dates after June 2000, when the registration requirement was announced and draft rules were published for comment. *Register* is an indicator variable that takes the value of one for households located in provinces that faced the registration requirement. The coefficient $\beta$ on the interaction of *Register* and *Post* measures the impact of the registration requirement over time. The vector $\boldsymbol{X}_{it}$ contains household-level controls for income, home ownership, education, age and retirement status.[3] In some versions of the model we include province and month fixed effects to control more flexibly for differences over time and across provinces. To estimate the model we use weighted least squares, incorporating survey weights from the CFM to provide regression estimates that reflect a nationally representative sample. We cluster the observations by province in calculating Huber-White standard errors.

First, we estimate the impact of the registration requirement on households' use of financial advisors. Table 2 Panel A reports the regression estimates from three models in which the dependent variable is an indicator for whether the household uses a financial advisor. The baseline probability

[3]Ipsos-Reid codes household income as a categorical variable, and we use indicator variables that represent these categories as controls. We control flexibly for the age of the head of household with indicator variables for 16 five-year age bins covering ages 20 to 100. We code education based on the maximum level of education of the head of household and spouse, and include indicators for each of four categories: high school diploma or less, some college, college degree, and graduate degree.

of using an advisor prior to the registration requirement is 39.7%. The estimates in the three models, which differ in terms of the inclusion of household controls and fixed effects, suggest that the registration requirement had a statistically and economically significant effect on the use of financial advisors. The point estimates place the marginal effect between −4.3 and −3.9, which translate into a proportional decrease of roughly 10%. In each case, the coefficient is statistically significant at the 1% level.[4] In the first model, which excludes household controls, the coefficient on the registration-requirement indicator is positive and significant at the 5% level. This estimate indicates that before the law change residents of Quebec are less likely to use advisors than their counterparts in other provinces. Differences in income and demographics, however, explain this disparity in its entirety; the coefficient on *Register* is very close to zero once we add household-level controls to the model. This evidence helps support our premise that, after controlling for observable differences, Quebec residents can serve as a baseline from which to measure the change in advisor usage. The substantial increase in $R^2$ induced by the inclusion of these controls shows that income, home ownership, education, age and retirement status substantially correlate with the demand for advisory services. The estimated coefficient on the *Post* indicator of −3.1 indicates a decline in the use of advisors across all provinces following June 2000. One possible explanation for this trend is the poor performance of Canadian stocks during that period (nearly a 20% decline).

Using the variation documented above, we estimate financial advisors' impact on households'

[4]Clustering with relatively few groups (Canada has ten provinces) provides noisy estimates of standard errors and may lead to overstating the statistical significance of regression coefficients. When we correct for this potential issue by using the wild cluster bootstrap procedure proposed by Cameron, Gelbach, and Miller (2008), we estimate similar, in fact slightly tighter, confidence intervals around the point estimate for $\beta$.

risk-taking in a two-stage least squares model:

$$\text{Use Advisor}_{ipt} = \alpha_1 + \beta_1 \text{Register}_p \times \text{Post}_t + \boldsymbol{\eta}_{1p} + \boldsymbol{\Psi}_{1t} + \boldsymbol{\theta}_1 \boldsymbol{X}_{it} + \varepsilon_{1ipt}, \quad (2)$$

$$y_{ipt} = \alpha_2 + \beta_2 \widehat{\text{Use Advisor}}_{ipt} + \boldsymbol{\eta}_{2p} + \boldsymbol{\Psi}_{2t} + \boldsymbol{\theta}_2 \boldsymbol{X}_{it} + \varepsilon_{2ipt}. \quad (3)$$

Each regression includes both household-level controls as well as province and month fixed effects. The first stage provides an estimate of each household's predicted probability of using an advisor ($\widehat{\text{Use Advisor}}_{ipt}$), allowing for variation due to the $\text{Register}_p \times \text{Post}_t$ instrumental variable. The second stage uses this predicted probability to provide an estimate of advisors' impact on risk-taking.

We report the estimates from this analysis in Panel B of Table 2. Financial advisors increase the proportion of risky assets in the portfolio by 30.2 percentage points. The effect of advisors on stock market participation largely accounts for this results: a household's likelihood of owning any risky assets (stocks and mutual funds) increases by 59.2 percentage points (SE = 15.5%) by having an advisor. Moreover, having a financial advisor reduces investments in checking, savings and money market accounts by 28.3 percentage points. In each case the IV estimate is larger than the OLS estimate, which suggests a downward bias in the OLS estimate. Individuals who are comfortable holding risky assets appear to be less likely to solicit an advisor's input.

In Table 2 Panel B we also explain variation in the share of risky assets *conditional* on participating in the stock market. With the percentage invested in risky assets as the dependent variable, the IV coefficient on the financial-advisor indicator variable is −12.2 percentage points and less than one standard error away from zero. These estimates suggest that having a financial advisor affects the participation decision but, conditional on being in the stock market, there is no systematic difference in the amounts of risk assumed by advised and unadvised households.

As a placebo test we additionally examine the correlation between household income and the use of an advisor. OLS analysis reveals that high-income households are significantly more likely to use financial advisors: the OLS coefficient in the regression of log income on Use Advisor$_{ipt}$ is economically large and statistically significant. Since there is no obvious channel through which financial advisors causally influence household earnings, this correlation likely stems from differences in demand for advisors. Indeed, once we instrument for the use of an advisor with the registration requirement, we find no significant relationship between log-income and households' use of financial advisors. This finding provides further comfort that the registration requirement leads to changes in the supply of advisors while leaving demand-side factors unchanged.

# 3 Evidence from micro-data on financial advisors, trust, and the decision to assume equity risk

## 3.1 Descriptive statistics

In Figure 1 we plot the returns on the Canadian stock market over our sample period. The thick line represents the value-weighted Canadian market portfolio. We take the return series from Ken French's website, and initialize it to 100 in December 1998. Our data begin in January 1999. Financial crisis hit the Canadian market much the same way as it hit the U.S. market. The drop toward the beginning of the financial crisis shows that the drop in equity values was economically sizable in Canada as well. The market fell from a pre-crisis peak of 306.79 points in May 2008 to

174.71 points in February 2009—a drop of 43%.[5]

Figure 1 also plots the changes in clients' average risky shares over our sample period. We compute risky shares both from portfolio holdings (thin line) and asset inflows (thick line). In computing risky shares, we exclude holdings other than money market, fixed income, balanced, and equity funds. We then classify equity funds as having 100% of equity risk, balanced funds as having 50% of equity risk, and both money-market and fixed-income funds as having no equity risk. The thin line is the value-weighted average risky share of the aggregate client portfolio. We include inflows into the same fund categories as listed above, and compute the value-weighted average risky share of all purchases each month. Because the flow-based measures of risky shares are noisier, Figure 1 plots six-month rolling averages. In June 2007, for example, we report the average risky share of the purchases between March 2007 and September 2007. We measure riskiness of inflows in addition to portfolios because portfolios may change slowly and because the risky shares of holdings respond to relative changes in the prices of equities and bonds.

After initially increasing during the tech boom around 2000, average risky shares drifted down over the rest of the period from 2001 through 2013. The proportion of assets invested in equities fell, in particular, after the onset of the financial crisis. This drop is visible both in the holdings- and purchases-based measures, and the decline is more pronounced for purchases. Risky shares thus did not decrease only because equity prices fell relative to bond prices; rather, the mixture of assets that clients put into the market during the crisis shifted towards fixed income funds and away from equity funds.

[5] In the U.S., over the same time period, the value-weighted market index fell by 47%. The decline in the U.S., however, had already started earlier; by May 2008, the market was already 13% below its peak in 2007.

### 3.2 Risky shares and the length of the relationship

Clients may differ in how much they trust their financial advisors. Differences in trust would in turn induce differences in the amounts of portfolio risk clients assume (Gennaioli, Shleifer, and Vishny 2015). We use the length of the advisor-client relationship as a proxy for trust; the experimental results off Glaeser, Laibson, Scheinkman, and Soutter (2000), for example, suggest that a client who has worked with his advisor longer likely trusts his advisor more.

In Figure 2 and Table 4 we examine how clients' risky shares change as a function of time spent with the current advisor. Our purpose here is to characterize the data and not to put forth a causal interpretation. We later use information on clients who work with multiple advisors to disentangle the effect of the length of the relationship with the current advisors from, for example, overall stock market experience.

Figure 2 assigns clients into five categories based on the fraction of the wealth they have in risky assets at the time they first match with an advisor, indicated by date 0 in the figure. Clients into the bottom category have initial risky shares between 0% and 20%; those in the top category have risky shares between 80% and 100%. We track clients over time for as long as they remain with the same advisor and measure changes in risky shares. We stop tracking a client when he exits the sample or switches advisors. If a client switches advisors, he re-enters the analysis again at date 0. We measure average risky shares by estimating a regression using advisor-client-quarter data with the change in the risky share since date 0 as the dependent variable. The explanatory variables are indicator variables that indicate the number of quarters the client has been with the current advisor. We also include year-quarter and advisor fixed effects to ensure that the estimates are not related to systematic changes in risky shares over the sample period and to subsume any advisor-level variation. In Figure 2 we plot, for each group, the average initial risky share plus the estimated slope coefficients on the time-spent-with-the-current-advisor indicator variables.

Figure 2 shows that, except for clients in the top category (whose initial risky shares are 80% or higher), average risky shares increase over time. In the middle quintile, for example, the average client starts with 50.7% of the assets invested in equities. In a year, this average has increased to 52.8%, and by year six, the average risky share in this category crosses 60%.

This figure illustrates that the changes in risky share are related to initial risky shares. This relation is, in part, driven by boundaries. A client starting close to a risky share of 0% cannot decrease the riskiness of his portfolio and so, if there are any changes at all, the average must drift up. Similarly, a client starting close to 100% invested in equities can only decrease the riskiness of his portfolio. The significant asymmetry between the top and bottom quintiles, however, suggests that the changes in risky shares over time in Figure 2 do not arise only from these boundaries. Risky shares increase in the length of the advisor-client relationship for each of the first four categories. Moreover, whereas the average risky share of the clients in bottom category increases by 50% over the first ten years, that of the clients in the top category falls by only 13%.

Table 4 represents estimates from a regression model that explains variation in risky shares with the length of the advisor-client relationship, year-month fixed effects, and with either client age or client fixed effects. In this analysis we assign each advisor's clients into deciles based on how long they have been with the advisor. We repeat this classification each month as advisors get new clients and lose old ones. Clients in the bottom decile are the advisor's newest clients; those in the top decile are the oldest. We only include advisors with at least ten clients, and we require that the difference in how long the oldest and latest clients have been with the advisor is at least a year.

We cluster standard errors in this regression by advisor.

The estimates in column 1 show that *within-advisor* differences in the length of the advisor-client relationship positively relate to risky shares. The estimate for the decile 10 indicator variable shows that the average client in the top decile invests 6.5% more in risky assets than the average client in the bottom decile; that is, if we sort each advisor's clients from the oldest recruit to the latest, the gap in these clients' risky shares is 6.5%.

In the second model we add client-age fixed effects. The difference between the top and the bottom categories is larger in this specification. The reason for this change is that the lifecycle pattern in risky share is the opposite from the effect of experience. As clients grow older, they eventually begin to scale back on their risky assets.[6] However, as clients remain longer with their advisors, they increase their holdings of risky assets. The estimate of the risky-share gap between the oldest and the newest client thus increases from 6.5% to 7.3% when we control for client age. The last column's regression replaces age fixed effects with client fixed effects to subsume any unobserved heterogeneity across clients. The model now holds fixed both the client (through fixed effects) and advisor (by sorting clients within advisor), and examines how risky shares increase as time passes. These estimates indicate that as a client remains with the same advisor, his willingness to assume equity risk increases as his "rank" relative to the advisor's other clients increases. In this model the difference in risky shares between the top and bottom deciles is 4.3%.

[6]See, for example, Ameriks and Zeldes (2004) and Foerster, Linnainmaa, Melzer, and Previtero (2017) for examinations of the age-risky share relation in the U.S. and Canada.

### 3.3 An econometric model of risky share with unobserved advisor-client heterogeneity

In this section we use an econometric model to disentangle the effects of advisor-specific experience and general stock market experience. An increase in the length of the advisor-client relationship correlates with the increase in the market experience; when a client gains an additional year of experience with his current advisor, he also gains one year of general market experience. Although the positive relation between the length of the relationship and risky share in Table 4 could reflect trust in the advisor, they could also emanate from clients' increased confidence in the stock market (Guiso, Sapienza, and Zingales 2008).

We let a client's risky share depend on the length of the client's relationship with the current advisor, the amount of time the client has been with *any* advisor, and an unobserved effect specific to the client $i$-advisor $a$ pair. We also include year-quarter effects to capture time-series variation in aggregate risky shares. We assume that client $i$'s risky share with advisor $a$ and time $t$ equals

$$s_{iat} = a_{ia} + a_t + f(\tau_{iat}) + g(\tau_{it}) + \epsilon_{iat}, \tag{4}$$

where $a_{ia}$ and $a_t$ are advisor-client and time fixed effects, $\tau_{iat}$ is the amount of time client $i$ has been with advisor $a$ by month $t$, $\tau_{it}$ is the amount of time client $i$ has been with any advisor by month $t$, $f(\cdot)$ and $g(\cdot)$ are functions of these experience variables, and $\epsilon_{iat}$ represents all effects not captured by the model. This representation lets the data disentangle the effects of advisor-specific and general stock market experience. If only advisor-specific experience matters, this effect is captured through $f(\tau_{iat}) > 0$ and $g(\tau_{it}) = 0$; if only general market experience matters, $f(\tau_{iat}) = 0$ and $g(\tau_{it}) > 0$ captures this effect. As described below, we need clients who work with multiple advisors during our 15-year sample periods to identify both $f(\tau_{iat})$ and $g(\tau_{it})$.

Taking the first difference of equation (5), the change in risky share then equals

$$\Delta s_{iat} = (a_t - a_{t-1}) + \Delta f(\tau_{iat}) + \Delta g(\tau_{it}) + \varepsilon_{iat}, \tag{5}$$

where $\varepsilon_{iat} = \epsilon_{iat} - \epsilon_{ia,t-1}$. By differencing, we remove all unobserved advisor-client heterogeneity. For example, each advisor-client pair may have a different starting value for risky share at $\tau_{iat} = 0$, but these differences in level are inconsequential when we measure within-advisor-client pair changes in risky shares.[7]

#### 3.3.1 Parametric specification for the time variables

We initially make two additional assumptions about $f(\cdot)$ and $g(\cdot)$ in equation (5). We first denote a client's initial risky share with the current advisor by $\overline{s_{ia}}$ and that with the first advisor by $\overline{s_i}$. We then assume that the change in the risky share is proportional to the "initial gap" between a 100% risky share and the initial risky share. The initial gap with the current advisor is $1 - \overline{s_{ia}}$; that with the first advisor is $1 - \overline{s_i}$. We then assume an exponential form for the relation between risky share and time:

$$\begin{aligned} f(\tau_{iat}) &= \delta(1 - \overline{s_{ia}})\left(1 - e^{-\tau_{iat}}\right), \text{ and} && (6) \\ g(\tau_{it}) &= \gamma(1 - \overline{s_i})\left(1 - e^{-\tau_{it}}\right). && (7) \end{aligned}$$

[7]Time fixed effects $a_t$ do not disappear; in this first difference, the indicator variable for the current period enters with a positive sign and that for the previous period enters with a negative sign. This representation of time fixed effects is similar to those that appear in geometric repeat-sales indices. See, for example, Shiller (1991, p. 112). In these models the purpose of the sort of model presented here is to estimate the values of the time fixed effects (which represent, e.g., the housing price index) when working with unevenly spaced panel data.

With this functional form, $f(0) = 0$ when $\tau_{iat} = 0$, and as $\tau_{iat}$ increases, $f(\tau_{iat})$ tends towards $\delta(1 - \overline{s_{ia}})$—that is, $\delta$ represents the amount by which the initial gap in risky share decreases for clients who have been with their advisors for a long time.

To illustrate the intuition behind this specification, suppose that a client's initial risky share with an advisor is 60%. If $\delta = 0.2$, equations (5) and (6) together indicate that the average risky share eventually increases from 60% to $60\% + 0.2 \times (1 - 0.6) = 68\%$. The functional form of $g(\tau_{it})$ is the same, except that we measure the initial gap in risky share as of the time the client started with his first advisor.

Combining equations (5), (6), and (7), the model we estimate is

$$\Delta s_{iat} = (a_t - a_{t-1}) - \delta(1 - \overline{s_{ia}})\left(e^{-\tau_{iat}} - e^{-\tau_{ia,t-1}}\right) - \gamma(1 - \overline{s_i})\left(e^{-\tau_{it}} - e^{-\tau_{i,t-1}}\right) + \varepsilon_{iat}. \quad (8)$$

The first column in Table 5 uses data on all advisor-client pairs, and includes in the model only the time spent with the current advisor by restricting $\gamma = 0$. We two-way cluster standard errors by year-quarter and advisor to allow changes in risky shares to be correlated both in the cross section and within an advisor.[8] The estimate $\hat{\delta} = 0.32$ is statistically highly significant, and it shows—consistent with Figure 2—that clients' risky shares, on average, increase in the length of the advisor-client relationship. This estimate suggests that, over time, clients' risky shares on average close one-third of the gap between a 100% risky share and the client's initial risky share.

In the other regressions, we restrict the sample to clients who enter our data after January 1999, which is when our data start. The benefit of imposing this restriction is that, in this sample, we know precisely how long a client has been with his or her current advisor and with other advisors

[8]See, for example, Petersen (2009) and Thompson (2011) for discussions of two-way clustering and their appropriateness.

prior to the current advisor, if any. That is, the length of the relationship variables are not left-truncated. The estimate of $\hat{\delta} = 0.31$ in this sample (regression 2) is similar to that in the full sample, $\hat{\delta} = 0.32$ (regression 1). Regression 3 shows that risky shares also increase in the time spent with any advisor.

In regression 4 we set up a horse race between the time spent with the current advisor and that spent with any advisor. Identification comes from clients who work with multiple advisors. If risky shares increase over time because of general market experience, time spent with any advisor should subsume the time spent with the current advisor. If, on the other hand, it is the time spent with the current advisor that matters, then the time spent with the current advisor should subsume the overall time variable. In this analysis, *why* a client switches advisors is irrelevant. Our null hypothesis is that trust in the advisor is unrelated to variation in risky shares. Under this null hypothesis, switches from one advisor to another may be related to the level of trust but unrelated, by extension, risky share.

The estimates in regression 4 suggest that both effects matter. The slope estimate for the time spent with the current advisor is 0.23 ($t$-value = 12.91); for the time spent with any advisor, it is 0.09 ($t$-value = 5.47). That is, clients assume more equity risk after having been longer in the stock market and, in particular, after having been longer with the current advisor. The estimates suggest that the time spent with the current advisor has over two times the effect of overall market experience. We note that when a client is with his first advisor, the total effect of experience is the sum of $\delta$ and $\gamma$—one more period spent with the current advisor is also one more period spent with any advisor. In regression 4, this sum is 0.32; this estimate is close to regression (2)'s estimate which does not disentangle the effects of the current advisor from the time spent with any advisor.

#### 3.3.2 Nonparametric specification for the time variables

Figure 3 represents estimates from a regression similar to that in regression (4) of Table 5 but without imposing functional forms for the time variables. We report estimates from a regression that adds indicator variables to represent changes over the first quarter, over the second quarter, and so forth:

$$\begin{aligned} \Delta s_{iat} &= (a_t - a_{t-1}) + (1 - \overline{s_{ia}})\,(\delta_1 \times 1_{\tau_{iat}=1} + \cdots + \delta_{40} \times 1_{\tau_{iat}=40}) \\ &\quad + (1 - \overline{s_i})\,(\gamma_1 \times 1_{\tau_{it}=1} + \cdots + \delta_{60} \times 1_{\tau_{it}=60}) + \varepsilon_{iat}. \end{aligned} \tag{9}$$

We estimate this regression using data up to ten years for each advisor-client pair. Because our entire data are 15 years in length, we include 60 quarter indicator variables to represent general market experience in Equation (9).

The thick line in Figure 3 represents coefficients associated with the time spent with the current advisor. The estimate over the first quarter, for example, is $\hat{\delta}_1 = 0.109$ with a $t$-value of 24.35. (Similar to Table 5, in this regression we two-way cluster standard errors by year-quarter and advisor.) Over the second quarter, this estimate is 0.054, and the estimates decline near-monotonically over time. This convex pattern is consistent with, for example, clients updating their beliefs as Bayesians; the first observation carries more information than the second observation, which in turn carries more information than the third observation, and so forth.

The estimates in Table 5 and Figure 3 indicate that clients' willingness to assume equity risk increases in the amount of time they have known their advisors. This effect is separate from the effect of general stock market experience. These effects are consistent with financial advisors alleviating their clients' anxiety about taking on financial risks (Gennaioli, Shleifer, and Vishny 2015). However, because the choice of remaining or staying with an advisor is endogenous, the estimates in Table 5 and Figure 3 are not measures of advisors' causal effect on clients' willingness to assume equity risk.

## 3.4 Trust, selling off risky assets, and the riskiness of assets bought

### 3.4.1 The length of the current advisor-client relationship

The results in Tables 4 and 5 suggest that trust facilitates risk taking. In this section we estimate models that measure how the length of the advisor-client relationship affects the performance-flow relationship. Our analyses resemble those in the mutual fund literature (e.g., Chevalier and Ellison (1997)) except that we predict variation in flows across clients. Each month and for every client we construct two measures that relate to clients' willingness to assume risk. The first is the probability of selling off risky assets. This measure takes the value of one if the value of the risky funds sold exceeds the value of the risky funds bought, and zero otherwise. The second is the riskiness of the assets bought. We compute this measure as the value of risky funds bought divided by the value of all fund purchases. If the client does not buy any funds, we treat this variable as missing. This measure is therefore conditional on the client making new investments, and allow us to investigate if past performance affects the intensive margin choice between safe and risky assets.

Panel A of Table 6 shows estimates from panel regressions that explain variation in flows with client performance over the prior quarter, the length of the advisor-client relationship, the interaction between performance and the length of the relationship, client age, and the interaction between performance and age. We also include month fixed effects; the estimates therefore measure the effects of cross-sectional variation in performance on flows, and how trust alters this performance-flow relationship. Because the performance-flow relationship may be nonlinear, and because the length of the advisor-client relationship may alter the shape of this relationship instead of just shifting the level, we rank clients into deciles by their performance and include in the model decile indicator variables. The other independent variables are defined as cross-sectional percentile ranks.

The estimates in Panel A indicate that clients are more likely to sell off risky assets after experiencing negative returns. Relative to the omitted variable (decile six), the estimated probability of selling off risky assets is 20 percentage points higher among the bottom-decile clients. Clients are also more likely to sell off risky assets after experiencing very high returns; the estimate for the top decile is 9 percentage points above the omitted category.

The length of the advisor-client relationship has no direct effect on the propensity of selling off risky assets. The relationship length, however, significantly interacts with performance. Because we code the length of the advisor-client relationship as a percentile rank, the relationship-performance interactions measure how much the performance-flow relationship changes when we move from clients who have just matched with a new advisor (a value of 0) to those who have been with their advisors the longest (a value of 1). In the bottom decile, the estimate of $-10$ percentage points ($t$-value $= -11.20$) indicates that the probability of selling off risky assets following very poor returns falls by half when we move from the shortest to the longest tenured advisor-client pairs. The estimate in the top decile is also significantly negative, indicating that clients who have been with their advisors the longest are also less likely to sell off risky assets following quarters of high returns. These results are consistent with advisors providing clients more comfort to take risk when recent returns have been more extreme and perhaps future returns are perceived to be riskier.

The second regression in Panel A of Table 6 shows that clients are significantly less willing to take risks after high returns. The estimate in the bottom decile is −8.4 percentage points ($t$-value = −4.12). The estimates in deciles seven to ten are positive, but statistically significant only in deciles eight and nine. Similar to the first regression, the tenure with the current advisor significantly alters the relationship between returns and the riskiness of assets bought. The estimate for decile one shows a 9.2 percentage point difference ($t$-value = 8.26) between the most recent and the oldest clients. That is, among clients who have been the longest with their advisors, poor performance has no effect on clients' willingness to assume risk. In decile ten, the estimate is 4.6 percentage points ($t$-value = 3.41).

In Figure 4 we plot the coefficients associated with the decile indicator variables, and the sums of these coefficients and those associated with the interactions between the decile indicator variables and the length of the advisor-client relationship. This figure shows that the length of the advisor-client relationship significantly alters the performance-flow relationship in the tails of the return distribution. When client performance is close to the cross-sectional average, the length of the relationship plays little or no role.

#### 3.4.2 Using client displacements to identify exogenous variation in the length of the advisor-client relationship

The decision to retain an advisor is endogenous. An omitted variable such as financial literacy could plausibly correlate both with the stickiness of the advisor-client relationship and the performance-flow sensitivity. The estimates in Panel A of Table 6 should therefore be interpreted with some caution.

We address this potential source of bias in Panel B by identifying plausibly exogenous variation in the length of the advisor-client relationship. We modify Panel A's analysis as follows. First, we keep in the sample only those clients who enter the data after its start in January 1999. By doing so, we ensure that we can observe each client's full history of advisors from the first to the current one. Second, we replace the length of the *current* advisor-client relationship with a measure of the total amount of time a client has been advised by any advisor; we call this variable "market experience." Third, we introduce an *involuntary displacement* indicator variable and its triple-interaction with performance deciles and market experience. A client experiences an involuntary displacement when he switches to a new advisor when his old advisor quits the industry, retires, or dies.

The economics of this specification are as follows. The model keeps track of how long the client has been with any advisor; because this measure is not specific to the current advisor-client pairing, a client may, at any point, be with his first advisor or with the tenth advisor. We do not condition directly on clients switching advisors because this choice is endogenous. Now, when the involuntary displacement indicator variable takes the value of one, it means that the client must have switched advisors at least once for an exogenous reason. The triple-interaction between this prior returns, market experience, and this indicator variable therefore measures, as before, the effect of the length of the advisor-client relationship on performance-flow sensitivity. The only difference with Panel A is that we use plausibly exogenous variation in the advisor-client relationship to identify this effect.

The estimates in Panel B are consistent with those in Panel A in terms of the performance-flow sensitivity in the domain of poor returns. The estimates from the first regression show that clients who have experienced a displacement are significantly more likely to sell off risky assets following poor returns. The second regression shows that displaced clients' willingness to assume risk is lower than average when they have experienced poor returns. In this regression, however, displacement has also a significantly *positive* effect on clients' willingness to assume risk. This finding is in contrast to the estimates in Panel A; those estimates indicate that the willingness to assume risk following high returns increases in the length of the advisor-client relationship.

The estimates in Table 6 constitute an explanation for the mechanism through which risky shares increase in the length of the client-advisor relationship (Tables 4 and 5). We find that clients who have been with their advisors for a long time are less likely to sell of risky assets following low returns. They also do not show any reduction in their willingness to direct their new purchases into risky assets after experiencing low returns.

### 3.5 Financial crisis, involuntary displacements, and the decision to remain invested in the market

Many investors both in the U.S. and Canada experienced significant losses on their equity portfolios during the 2007–2009 financial crisis as stock valuations fell sharply (see Figure 1). As the volatility of the market increased, investors would have a natural tendency to scale back on their risky investments unless they perceived a proportionate increase in expected returns (Cochrane 2011). The trust mechanism posited by Gennaioli, Shleifer, and Vishny (2015) would therefore have been important during the financial crisis. The more a client trusts his advisor at the time of the crisis, the less likely he is to reduce his holdings of risky assets.

In this section we use the 2007–2009 financial crisis as a negative shock to investors' portfolio values and examine cross-client variation in propensities to exit the stock market. We use *involuntary displacements*, which we define in Section 3.4, as an instrument for the length of the advisor-client relationship. The main outcome variable is an indicator variables that takes the value of one if the client survives in our data through the financial crisis. This survival variable is our proxy for the client's decision to remain invested in the stock market throughout the crisis. This proxy is imperfect; some clients who stop being advised may nevertheless keep their portfolios unchanged. However, the appropriate null hypothesis is that the length of the advisor-client relationship does not influence the decision to exit the stock market. Under this null any such imperfections in the dependent variable only add noise to our estimates.

Panel A of Table 7 shows estimates from a first-stage regression that explains variation in the length of the advisor-client relationship with the displacement indicator variable. The regressions in Panel A are cross-sectional regressions with one observation per client. The dependent variable is recorded at the start of the financial crisis in September 2007 (as documented in Figure 1). The displacement indicator variables takes the value of one if the client was forced to switch advisor before this date. The first regression in Panel A presents estimates from a univariate regression; the second regression includes indicator variables for categories that represent clients' pre-crisis assets and risky shares. We also include indicator variables for client-age categories. In both specifications displacement significantly reduces the length of the advisor-client relationship. In the model with the controls for assets, risky shares, and age, the displacement coefficient estimate is $-0.175$ with a standard error of 0.022.

Panel B shows the estimates from the second-stage regression that explains variation in survival through the financial crisis. The first two models are OLS regressions that use the length of the advisor-client relationship and the displacement indicator variable as the main explanatory variables. The third model is an IV regression that uses the displacement indicator variable, as in Panel A, as an instrument for the length of the advisor-client relationship. The reduced-form model in the second column shows that a displaced client is less likely to survive through the crisis; the estimated coefficient is $-0.026$ with a standard error of 0.008. In the IV specification, the coefficient on the length of the relationship variable is 0.148 (SE = 0.044). A client is less likely to survive through the financial crisis if he has been with his advisor for a shorter period of time—for an exogenous reason—before the beginning of the financial crisis.

Panel C estimates models similar to those presented in Panel B except that the dependent variable is now the change in risky share over the financial crisis. We only include clients who remain invested in the market both before the crisis in September 2007 and after the crisis in March 2009, and measure the changes in risky share between these two dates. In the first column's OLS model, the length of the relationship variable negatively correlates with the changes in risky share. That is, clients who plausibly trust their advisors more at the onset of the crisis lower their risky shares more during the crisis. We do not, however, find statistically reliable evidence of this effect in either the reduced-form model with the displacement variable or the IV specification.

A comparison of Panels B and C suggest that the length of time a client has been with his advisor matters for the decision to remain invested in the market. However, conditional on remaining invested in the market, additional "units" of trust do not influence a client's decision to assume more or less risk. This finding is consistent with our estimates from the Canadian Financial Monitor survey of Canadian households in Table 2 Panel B. Financial advisors appear to have a significant impact on the stock market participation decision but, conditional being in the market, they do not have a consistently positive effect on the amount of risk their clients assume.

# 4 Conclusions

The cost of financial advice appears to exceed the direct financial benefits of such advice. Advised investors' portfolios do not outperform unadvised investors' portfolios before fees (Bergstresser, Chalmers, and Tufano 2009) and, after fees, the average client underperforms passive benchmarks by 2% to 3% per year (Foerster, Linnainmaa, Melzer, and Previtero 2017). Either financial advisors provide some other indirect benefits or clients are unaware of the costs of financial advice.

In this paper we find evidence consistent with one indirect benefit. We show that having a financial advisor has a significantly positive impact on investors' willingness to assume equity risk. Using a regulatory shock to the supply of financial advisors in Canada, we first show that advised individuals are significantly more likely than their unadvised brethren to participate in the stock market. However, conditional on participating in the stock market those with and without financial advisors assume approximately equal amounts of risk. Advisors do not appear to have a meaningful role at the intensive margin.

Our analysis of micro-level data uses the length of the advisor-client relationship as a proxy for trust (Glaeser, Laibson, Scheinkman, and Soutter 2000). Clients who have known their advisors longer assume more equity risk; this effect is consistent with the model of Gennaioli, Shleifer, and Vishny (2015). In this model advisors offer their clients peace of mind, and clients are better off with than without advisors.

We show that trust matters where we would expect it to matter. Clients who have been with their advisors the longest are less likely to sell off their risky assets after experiencing poor returns, and also display more willingness to assume risk when buying new assets. We identify exogenous variation in the lengths of the advisor-client relationships by identifying cases in which clients are forced to switch advisors as their old advisor quits the industry, retires, or dies. Similar to the estimates that use the length of the current client-advisor relationship, we find that displaced clients display significantly reduced appetite for risk after experiencing poor returns.

We also use this exogenous variation in trust to explain cross-client variation in the probability of surviving through the financial crisis. We find that clients who trust their advisors less at the onset of the crisis—because they were involuntarily displaced—are less likely to come out of the crisis invested in the market. Similar to our evidence from the survey data, we find that advisors do not have an incremental effect on the amount of risk clients assume once we condition on survival.

Our results suggest that financial advice benefits clients by increasing stock market participation. The economic magnitude of this benefit alone, however, does not appear to be sufficient to offset the total costs of financial advice. Financial advisors must therefore benefit their clients in some other ways, or clients have yet to realize how much they pay for their advice.

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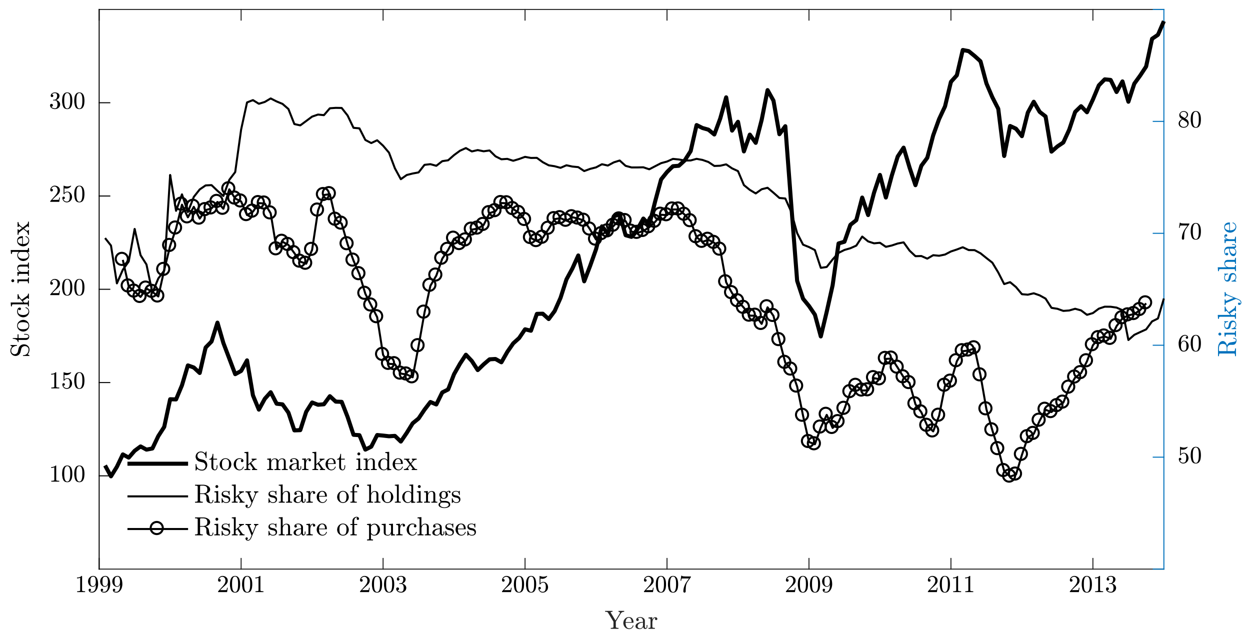


Figure 1: **Canadian stock market index and the risky share of client holdings and purchases, 1999–2013.** The thick line is the value-weighted Canadian stock market index, and the other two lines represent value-weighted average risky shares of clients' holdings and purchases. Risky shares are computed from holdings and purchases of money market, fixed income, balanced, and equity funds. Fund types are identified using Univeris, Morningstar, and Fundata information. The risky share of equity funds is set to 100%; that of balance funds is 50%; and those of money market and fixed income funds are 0%. The risky share of holdings is as of the month indicated on the $x$-axis. The risky share of purchases is the rolling average over a seven-month window around the month indicated on the $x$-axis. In June 2007, for example, it is the value-weighted average risky share of the purchases made between March 2007 and September 2007.

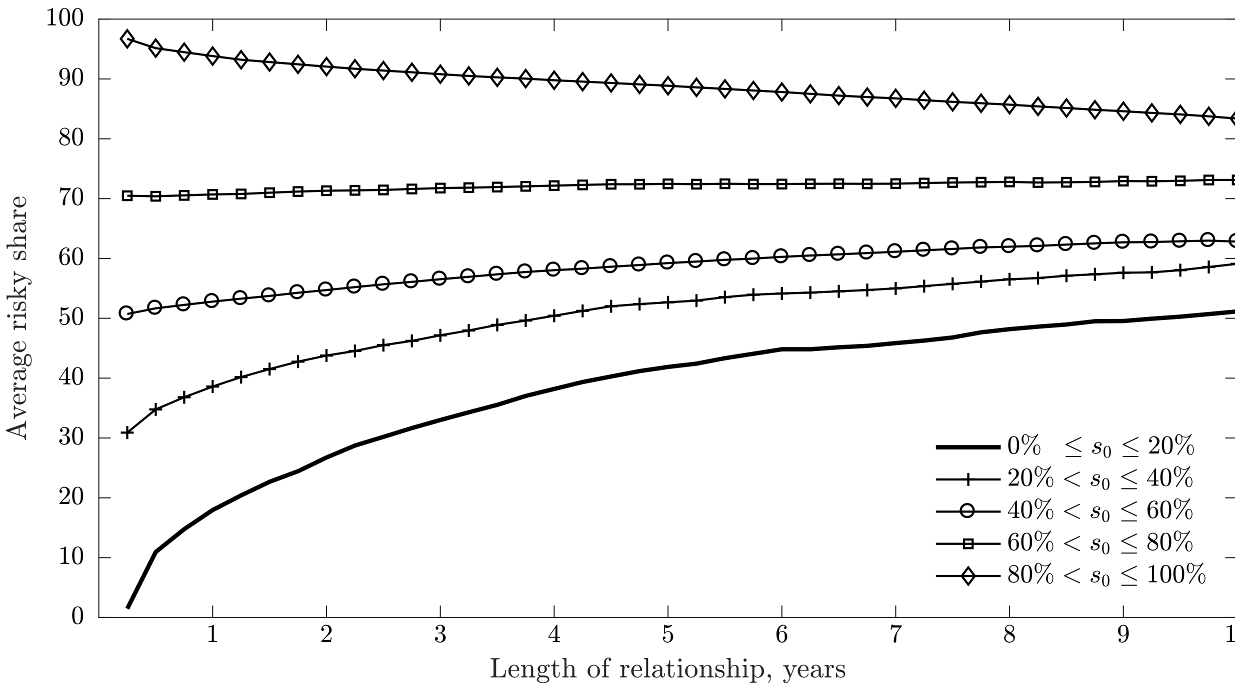


Figure 2: **Average risky share conditional on initial risky share and the length of the relationship.** We assign all client-advisor pairs into five categories based on the client's risky share at the time the client first becomes the advisor's client. In the bottom category, clients' initial risky shares are between 0% and 20%; in the top category, they are between 80% and 100%. Using quarterly advisor-client data, we estimate regressions with the change in the risky share from date 0 as the dependent variable, $s_{iat} - \overline{s_{ia}}$, where $s_{iat}$ is the client $i$'s risky share with advisor $a$ at time $t$ and $\overline{s_{ia}}$ is the client's initial risky share with the advisor. The regressors are indicator variables for the number of quarters the client has been with the advisor, year-quarter fixed effects, and advisor fixed effects. This figure plots, as a function of the length of the advisor-client relationship, the average initial risky share plus the slope estimate of the relationship-quarter indicator variable. These estimates represent average risky shares of clients conditional on their initial risky shares, controlling for year-quarter and advisor fixed effects.

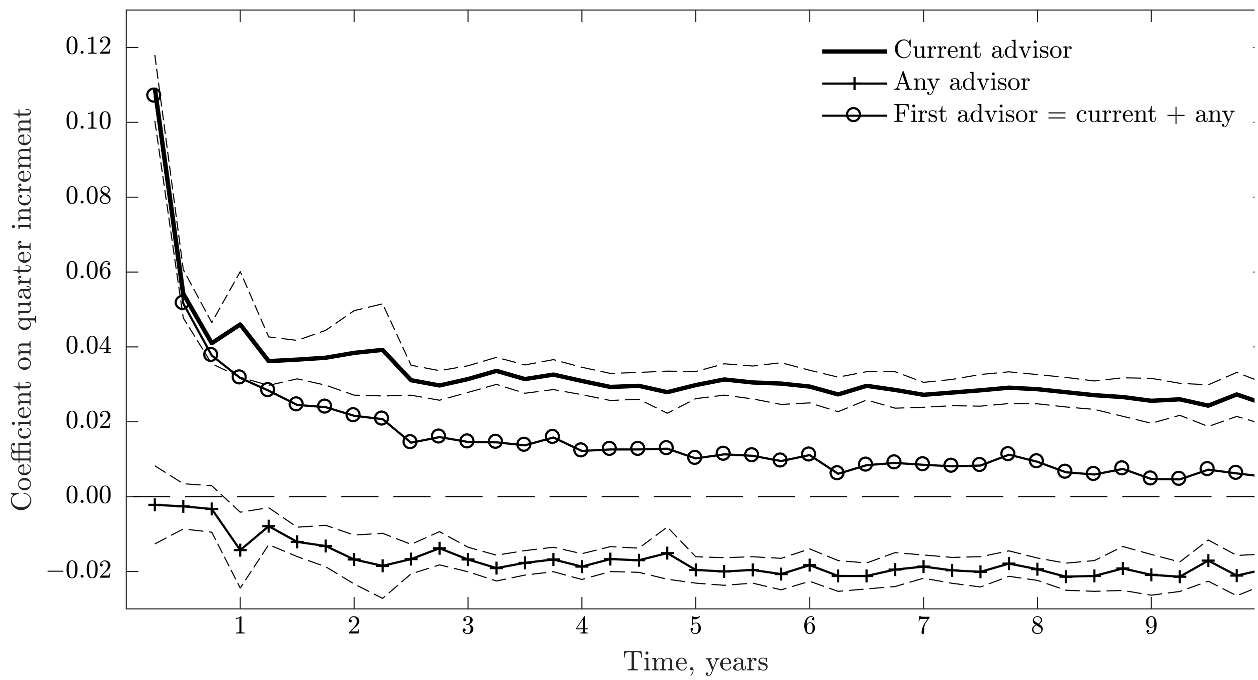


Figure 3: **Changes in risky share over time within advisor-client pair.** We estimate a model that explains quarterly changes in risky shares within advisor-client risky shares with two time variables: time spent with the current advisor and time spent with any advisor. The indicator variables represent the number of quarters a client has been with the current advisor or with any advisor. The coefficients plotted in this figure represent the changes in risky shares as a proportion of the gap between 100% and the time 0 risky share either with the current advisor (thick line) or any advisor (thin line with vertical marks). A coefficient of 0.02 in quarter $t$ would indicate that if an investor initially invests 30% in risky assets, the increase in the risky share from quarter $t-1$ to quarter $t$ is $0.02 \times 30\% = 0.6\%$. The sum of the two coefficients represent the change in risky share when the client remains with his first advisor.

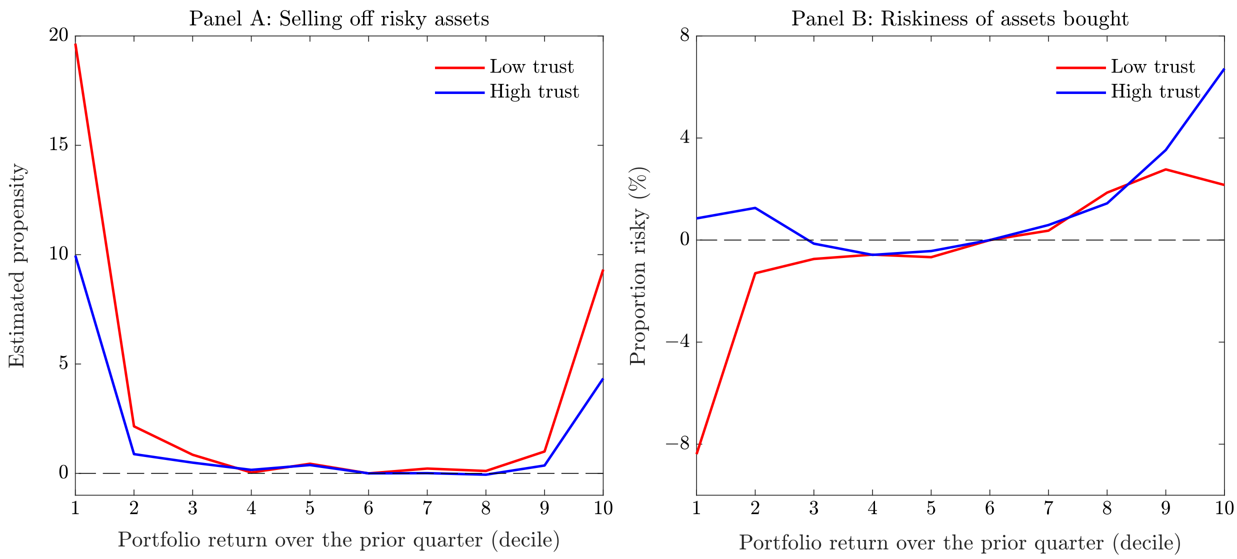


Figure 4: **Trust, selling off risky assets, and the riskiness of assets bought.** This figure plots coefficient estimates from the models reported in Panel A of Table 6. These models explain cross-sectional variation in clients' propensity to sell of risky assets (Panel A) and the riskiness of assets bought (Panel B). The explanatory variables include decile indicator variables for client performance over the prior quarter, the length of the current advisor-client relationship, the interaction between performance and the relationship, client age, and the interaction between client age and performance. The red lines are the coefficients associated with the decile indicator variables; these estimates represent the performance-flow relationship among clients who have been with their current advisors the shortest amount of time. The blue lines are the sum of these same coefficients and those associated with the interaction between the decile indicator variables and the advisor-client relationship; these estimates represent the performance-flow relationship among clients who have been with their current advisors the longest. Decile 6 is the omitted category in Table 6's regressions; the estimates are relative to the behavior of clients in this decile.

Table 1: Descriptive statistics from survey data

This table reports summary statistics from the Canadian Financial Monitor survey of Canadian households conducted by Ipsos-Reid. Age is that of the head of household. Education is the maximum level of education of the head of household and spouse. The indicator Retired takes the value of one if the head of household is retired.

| | Advised (N=24,904) | | | Unadvised (N=37,779) | | |
|---|---|---|---|---|---|---|
| | Mean | SD | Median | Mean | SD | Median |
| Age | 46.3 | 14.6 | 45.0 | 47.9 | 16.1 | 45.0 |
| Income ($C Thousands) | 58.7 | 35.5 | 50.0 | 44.6 | 32.8 | 40.0 |
| Financial assets ($C Thousands) | 91.7 | 185.4 | 29.5 | 46.2 | 122.4 | 6.6 |
| Asset allocation | | | | | | |
| % cash | 37.3 | 38.6 | 18.0 | 57.0 | 42.3 | 60.0 |
| % fixed income | 29.9 | 32.3 | 19.2 | 22.8 | 32.5 | 0.0 |
| % equity | 32.8 | 35.3 | 20.5 | 20.2 | 22.3 | 0.0 |
| Education | | | | | | |
| HS or less (%) | 22.8 | 42.0 | 0.0 | 36.2 | 48.0 | 0.0 |
| Some college (%) | 23.0 | 42.1 | 0.0 | 22.0 | 41.4 | 0.0 |
| College (%) | 41.2 | 49.2 | 0.0 | 33.9 | 47.3 | 0.0 |
| Graduate degree (%) | 12.9 | 33.6 | 0.0 | 8.0 | 27.1 | 0.0 |
| Homeowner (%) | 72.9 | 44.4 | 100.0 | 63.1 | 48.3 | 100.0 |
| Retired (%) | 11.9 | 32.4 | 0.0 | 17.2 | 37.8 | 0.0 |

Table 2: The effect of financial advisors on households' savings and investment behavior

Mutual fund dealers and their agents, financial advisors, were required to register with the Mutual Fund Dealers Association of Canada (MFDA) as of February 2001 to continue operating. This registration requirement, which forced dealers to follow the rules and regulations of the MFDA, did not apply to the province of Quebec. This table uses Ipsos-Reid household survey data on investors' use of financial advisors and asset allocation and savings decisions along with a differences-in-differences model to examine financial advisors' impact on these outcomes. Panel A uses monthly data from January 1999 through January 2004 and estimates the effect of the registration requirement on the households' likelihood of using financial advisor. Household-level controls consist of control variables for income, education, age, and retirement status. Panel B measures the effect of financial advisors on household log-income, percent invested in risky assets and cash, the probability of participating in the stock market, and percent invested in risky assets conditional on stock market participation. The Log(Income) regression in Panel B excludes income controls from the set of household-level controls. Robust standard errors, clustered at the household level, are reported in parentheses.

Panel A: The effect of the registration requirement on the use of a financial advisor

| | Dependent variable (mean): Use Advisor (0.38) | | |
|---|---|---|---|
| Regressor | (1) | (2) | (3) |
| Register × Post | −0.039*** | −0.042*** | −0.043*** |
| | (0.007) | (0.009) | (0.009) |
| Register | 0.020** | −0.004 | |
| | (0.007) | (0.006) | |
| Post | −0.030*** | −0.031*** | |
| | (0.000) | (0.002) | |
| Observations | 62,683 | 62,683 | 62,683 |
| $R^2$ | 0.003 | 0.063 | 0.068 |
| Household-level controls? | N | Y | Y |
| Province and month FEs? | N | N | Y |

* significant at 10%; ** significant at 5%; *** significant at 1%

Panel B: The effect of the registration requirement on financial choices

| Dependent variable | Sample | The Effect of Financial Advisors OLS | IV | $N$ | $R^2$ | HH-level controls? | Province and month FEs? |
|---|---|---|---|---|---|---|---|
| Log(Income) | All | 0.206*** | 0.050 | 62,683 | 0.361 | Y | Y |
| | | (0.012) | (0.203) | | | | |
| Percent Risky Assets | All | 0.069*** | 0.302*** | 59,033 | 0.076 | Y | Y |
| | | (0.008) | (0.095) | | | | |
| Percent Cash | All | −0.130*** | −0.283*** | 60,374 | 0.171 | Y | Y |
| | | (0.002) | (0.110) | | | | |
| Stock Market Participation | All | 0.135*** | 0.592*** | 59,033 | 0.036 | Y | Y |
| | | (0.008) | (0.155) | | | | |
| Percent Risky Assets conditional on participation | All | −0.015* | −0.122 | 29,674 | 0.030 | Y | Y |
| | | (0.008) | (0.188) | | | | |

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 3: Descriptive statistics from micro-level data

This table reports summary statistics for investors (Panel A), advisors (Panel B), and accounts (Panel C) in a database on Canadian financial advisors and their clients. "Investor known since" is the number of years an investor has been the client of his or her current advisor. "Investor set-up since" is the number of years an investor has been the client of any advisor. Both of these durations are computed as of year-end 2010. Advisors collect information on their clients' financial knowledge, net worth, and salary using "Know Your Client" surveys. The different license types, counts of which are reported in Panel B are rights to sell mutual funds, segregated funds, labor funds, and principal protected notes. All advisors in the sample have the license to sell mutual funds.

Panel A: Investors

| | | Percentiles | | | | | |
|---|---|---|---|---|---|---|---|
| Variable | Mean | 10th | 25th | 50th | 75th | 90th | SD |
| Female | 0.50 | | | | | | |
| Age | 49.95 | 32 | 40 | 49 | 59 | 68 | 14.01 |
| Investor known since | 4.73 | 0 | 1 | 3 | 6 | 12 | 5.92 |
| Investor set-up since | 3.18 | 0 | 1 | 3 | 5 | 7 | 3.14 |
| Number of accounts | 2.04 | 1 | 1 | 1 | 2 | 4 | 1.85 |
| Number of investments | 7.99 | 1 | 2 | 4 | 10 | 19 | 10.00 |
| Account value, $K | 57.84 | 1.69 | 6.07 | 20.98 | 62.75 | 142.07 | 399.78 |
| Expense ratio, % | 2.43 | 1.8 | 2.3 | 2.4 | 2.6 | 2.8 | 0.57 |
| Expense ratio, $ | 1574.89 | 55 | 197.2 | 664 | 1843.5 | 3917.9 | 3372.94 |

| | | | | | |
|---|---|---|---|---|---|
| Financial knowledge | None | Very low | Low | Moderate | High |
| | 1.4% | 7.2% | 40.5% | 45.3% | 5.6% |
| Net worth | Under $50k | $50-100k | $100-200k | Over $200k | |
| | 19.9% | 11.2% | 16.6% | 52.2% | |
| Salary | Under $30k | $30-60k | $60-100k | Over $100k | |
| | 27.0% | 31.2% | 31.4% | 10.4% | |

Panel B: Financial Advisors

| Variable | Mean | Percentile | | | | | SD |
|---|---|---|---|---|---|---|---|
| | | 10th | 25th | 50th | 75th | 90th | |
| Age | 50.09 | 36 | 43 | 50 | 57 | 63 | 10.38 |
| Tenure | 3.19 | 0 | 1 | 2 | 5 | 8 | 2.85 |
| Number of clients | 73.92 | 1 | 3 | 18 | 82 | 206 | 164.50 |
| Number of accounts | 151.15 | 2 | 5 | 29 | 139 | 414 | 371.18 |
| Number of investments | 129.39 | 3 | 11 | 50 | 165 | 368 | 192.46 |
| Number of licenses | 1.81 | 1 | 1 | 2 | 2 | 3 | 0.70 |
| Account value, $K | 3853.03 | 39.66 | 204.03 | 876.19 | 3474.42 | 10300.00 | 12000.0 |
| Expense ratio, % | 2.39 | 2.1 | 2.3 | 2.4 | 2.6 | 2.7 | 0.38 |

Panel C: Accounts

| | | |
|---|---|---|
| Account type | Open | 20% |
| ($N$ = 1,530,115) | Retirement saving plans | 65% |
| | Retirement income funds | 6% |
| | Education savings plans | 4% |
| | Tax-free | 4% |
| Account status | Active | 44% |
| ($N$ = 1,530,115) | Inactive | 31% |
| | Closed | 25% |
| Investment horizon | $<$ 1 year | 22% |
| ($N$ = 1,162,890) | 1 to 3 years | 63% |
| | 4 to 5 years | 8% |
| | 6 to 10 years | 4% |
| | $>$ 10 years | 3% |

Table 4: Risky share and within-advisor variation in the length of the advisor-client relationship

We sort each advisor's clients into deciles each month based on the length of the advisor-client relationship. Clients in decile 1 are the advisor's newest clients; those in decile 10 are the oldest. The sample includes advisor-months with at least ten clients, and requires that the difference in how long the oldest and latest clients have been with the advisor is at least a year. We estimate a regression with a client's risky share as the dependent variable and indicator variables for these deciles as the explanatory variables. The second regression adds age fixed effects. The third regression replaces age fixed effects with client fixed effects. We cluster standard errors by advisor.

| | Model | | | | | |
|---|---|---|---|---|---|---|
| Explanatory | (1) | | (2) | | (3) | |
| variable | Coeff. | $t$-value | Coeff. | $t$-value | Coeff. | $t$-value |
| Within-advisor length of relationship decile | | | | | | |
| Lowest | . | . | . | . | . | . |
| 2 | 0.024 | 17.70 | 0.025 | 18.19 | 0.018 | 22.91 |
| 3 | 0.038 | 20.43 | 0.039 | 21.09 | 0.027 | 22.97 |
| 4 | 0.047 | 20.19 | 0.049 | 21.12 | 0.033 | 23.44 |
| 5 | 0.052 | 20.13 | 0.055 | 21.45 | 0.038 | 22.79 |
| 6 | 0.057 | 16.39 | 0.062 | 17.89 | 0.041 | 20.08 |
| 7 | 0.060 | 15.76 | 0.066 | 17.17 | 0.041 | 17.27 |
| 8 | 0.054 | 17.17 | 0.060 | 19.07 | 0.043 | 15.37 |
| 9 | 0.054 | 14.71 | 0.061 | 16.55 | 0.043 | 12.88 |
| Highest | 0.065 | 18.41 | 0.073 | 21.48 | 0.043 | 10.94 |
| Age | | | | | | |
| Under 30 | | | . | . | | |
| 30–34 | | | 0.012 | 4.05 | | |
| 35–39 | | | 0.019 | 5.15 | | |
| 40–44 | | | 0.012 | 3.26 | | |
| 45–49 | | | 0.002 | 0.38 | | |
| 50–54 | | | −0.013 | −3.19 | | |
| 55–59 | | | −0.032 | −7.51 | | |
| 60–64 | | | −0.052 | −11.43 | | |
| 65–69 | | | −0.067 | −13.37 | | |
| 70–74 | | | −0.063 | −11.01 | | |
| 75 or over | | | −0.035 | −5.60 | | |
| Year-month FEs | Yes | | Yes | | Yes | |
| Client FEs | No | | No | | Yes | |
| $N$ | 28,233,715 | | 28,233,715 | | 28,233,715 | |
| Adjusted $R^2$ | 4.09% | | 5.09% | | 75.06% | |

Table 5: Risky share, client-advisor relationship, and overall market experience

We estimate a model that explains quarterly changes in risky shares within advisor-client risky shares with two time variables: time spent with the current advisor and time spent with any advisor. The regression slopes measure the amount of additional risk that clients assume as their experience increases from zero to infinity. A coefficient of 0.5 would indicate that if an investor initially invests 30% in risky assets, the proportion invested in risky assets converges to $30\% + 0.5 \times (100\% - 30\%) = 65\%$ as the time spent with the current advisor or any advisor increases without a bound. We cluster standard errors by both year-quarter and advisor.

| | Sample | | | |
|---|---|---|---|---|
| | All advisor-client pairs | Clients who enter after the start of the sample | | |
| Explanatory variable | (1) | (2) | (3) | (4) |
| Time with current advisor | 0.324 | 0.308 | | 0.232 |
| | (10.51) | (14.41) | | (12.91) |
| Time with any advisor | | | 0.290 | 0.086 |
| | | | (14.52) | (5.47) |
| Year-quarter FEs | Yes | Yes | Yes | Yes |
| $N$ | 8,693,383 | 7,794,894 | 7,790,320 | 7,785,742 |
| Adjusted $R^2$ | 2.20% | 1.95% | 1.83% | 1.97% |

Table 6: Trust, selling off risky assets, and the riskiness of assets bought

This table reports estimates from regressions that explain cross-sectional variation in clients' propensity to sell off risky assets and the riskiness of the assets they purchase. The data consist of client $i$-month $t$ pairs. The dependent variable in the first model takes the value of one if the market value of the risky funds sold in month $t$ exceeds the market value of the risky funds purchased in month $t$ and zero otherwise. The dependent variable in the second model is the market value of risky funds purchased divided by the market value of all funds purchased; an observation is set missing if the client makes no purchases. The independent variables in Panel A are the client's performance over the prior quarter, the length of the advisor-client relationship, the interaction between performance and length, client age, and the interaction between performance and age. These variables are defined as follows. We assign clients into deciles based on their month-$t$ performance relative to others and include indicator variables for the deciles (we omit the indicator variable for decile 6); the length of the current advisor-client relationship is the cross-sectional percentile rank of the number of months a client has been with the current advisor; client age is the cross-sectional percentile rank of a client's age; and return, when interacted with age, is the cross-sectional percentile rank of a client's return over the prior quarter. Panel B replaces advisor-client relationship with a measure of how long a client has been with any advisor (labeled as "market experience"); this variable is the cross-sectional percentile rank of the number of months. Involuntary displacement is an indicator variable that takes the value of one if any of the client's former advisors retired, quit the industry, or died, forcing the client to find a new advisor. The regressions also include month fixed effects, and we cluster standard errors by month. We begin the sample in January 2000, one year after the start of the data. Panel B includes only clients who enter the data after January 1999 so that we observe each client's full history of advisors back to the beginning.

Panel A: Performance and the length of the current advisor-client relationship

| Explanatory variable | Dependent variable: Sell off risky assets EST | Sell off risky assets $t$-value | Riskiness of assets bought EST | Riskiness of assets bought $t$-value |
|---|---|---|---|---|
| Return decile | | | | |
| 1 (low) | 0.197 | 11.94 | −0.084 | −4.12 |
| 2 | 0.022 | 3.88 | −0.013 | −1.20 |
| 3 | 0.009 | 1.88 | −0.007 | −0.89 |
| 4 | 0.000 | 0.13 | −0.006 | −1.00 |
| 5 | 0.004 | 1.38 | −0.007 | −1.55 |
| 6 | . | . | . | . |
| 7 | 0.002 | 0.53 | 0.004 | 0.77 |
| 8 | 0.001 | 0.28 | 0.019 | 2.70 |
| 9 | 0.010 | 1.84 | 0.028 | 2.56 |
| 10 (high) | 0.093 | 6.52 | 0.022 | 1.11 |
| Advisor-client relationship | 0.001 | 0.38 | 0.057 | 16.84 |
| Return decile × Relationship | | | | |
| 1 (low) | −0.097 | −11.20 | 0.092 | 8.26 |
| 2 | −0.013 | −3.26 | 0.026 | 4.59 |
| 3 | −0.004 | −1.11 | 0.006 | 1.23 |
| 4 | 0.001 | 0.41 | 0.000 | −0.01 |
| 5 | −0.001 | −0.27 | 0.002 | 0.63 |
| 6 | . | . | . | . |
| 7 | −0.002 | −0.76 | 0.002 | 0.52 |
| 8 | −0.002 | −0.57 | −0.004 | −0.85 |
| 9 | −0.006 | −1.72 | 0.008 | 1.06 |
| 10 (high) | −0.050 | −6.08 | 0.046 | 3.41 |
| Client age | 0.043 | 17.48 | −0.125 | −30.87 |
| Client age × Return | −0.013 | −3.15 | 0.025 | 3.57 |
| Month FEs | Yes | | Yes | |
| $N$ | | 26,932,097 | | 8,373,678 |
| Adjusted $R^2$ | | 4.7% | | 4.2% |

Panel B: Performance, the amount of market experience, and involuntary client displacement

| Explanatory variable | Sell off risky assets | | | | Riskiness of assets bought | | | |
|---|---|---|---|---|---|---|---|---|
| | EST | $t$-value | EST | $t$-value | EST | $t$-value | EST | $t$-value |
| Return decile | | | | | | | | |
| 1 (low) | 0.206 | 12.72 | 0.205 | 12.70 | −0.084 | −4.29 | −0.083 | −4.32 |
| 2 | 0.023 | 4.06 | 0.023 | 4.05 | −0.013 | −1.32 | −0.013 | −1.32 |
| 3 | 0.009 | 2.04 | 0.009 | 2.03 | −0.008 | −1.04 | −0.008 | −1.04 |
| 4 | 0.002 | 0.53 | 0.002 | 0.52 | −0.007 | −1.19 | −0.007 | −1.19 |
| 5 | 0.006 | 1.76 | 0.006 | 1.74 | −0.007 | −1.57 | −0.007 | −1.55 |
| 6 | . | . | . | . | . | . | . | . |
| 7 | 0.004 | 0.89 | 0.004 | 0.87 | 0.002 | 0.32 | 0.002 | 0.34 |
| 8 | 0.004 | 0.88 | 0.004 | 0.87 | 0.015 | 2.20 | 0.015 | 2.20 |
| 9 | 0.013 | 2.53 | 0.013 | 2.51 | 0.022 | 2.07 | 0.022 | 2.08 |
| 10 (high) | 0.106 | 7.27 | 0.106 | 7.27 | 0.012 | 0.60 | 0.012 | 0.62 |
| Market experience | −0.007 | −4.30 | −0.008 | −4.27 | 0.067 | 18.30 | 0.068 | 18.41 |
| Ret. × Market experience | | | | | | | | |
| 1 (low) | −0.114 | −11.77 | −0.116 | −11.68 | 0.089 | 8.46 | 0.090 | 8.43 |
| 2 | −0.020 | −5.23 | −0.020 | −5.21 | 0.032 | 5.99 | 0.032 | 6.01 |
| 3 | −0.010 | −3.04 | −0.010 | −3.02 | 0.014 | 2.80 | 0.014 | 2.80 |
| 4 | −0.005 | −1.80 | −0.005 | −1.83 | 0.006 | 1.33 | 0.006 | 1.35 |
| 5 | −0.005 | −2.29 | −0.005 | −2.37 | 0.004 | 0.97 | 0.004 | 1.02 |
| 6 | . | . | . | . | . | . | . | . |
| 7 | −0.004 | −1.37 | −0.004 | −1.43 | 0.006 | 1.28 | 0.006 | 1.33 |
| 8 | −0.005 | −1.58 | −0.005 | −1.62 | 0.004 | 0.79 | 0.004 | 0.85 |
| 9 | −0.010 | −2.83 | −0.010 | −2.89 | 0.016 | 2.27 | 0.015 | 2.37 |
| 10 (high) | −0.070 | −7.60 | −0.070 | −7.63 | 0.058 | 4.01 | 0.056 | 4.11 |
| Involuntary displacement | | | 0.007 | 0.66 | | | −0.024 | −1.46 |
| Ret. × Exp. × Displacement | | | | | | | | |
| 1 (low) | | | 0.117 | 4.52 | | | −0.107 | −2.52 |
| 2 | | | 0.016 | 1.07 | | | −0.027 | −0.87 |
| 3 | | | 0.005 | 0.34 | | | −0.011 | −0.45 |
| 4 | | | −0.009 | −0.91 | | | 0.005 | 0.23 |
| 5 | | | −0.016 | −1.59 | | | 0.019 | 1.11 |
| 6 | | | | | | | | |
| 7 | | | −0.016 | −1.59 | | | 0.018 | 1.31 |
| 8 | | | −0.008 | −0.64 | | | 0.020 | 0.89 |
| 9 | | | −0.007 | −0.50 | | | 0.040 | 1.57 |
| 10 (high) | | | −0.006 | −0.44 | | | 0.106 | 5.22 |
| Client age | 0.040 | 16.95 | 0.040 | 16.95 | −0.117 | −27.44 | −0.117 | −27.42 |
| Client age × Return | −0.013 | −3.16 | −0.013 | −3.17 | 0.020 | 3.09 | 0.020 | 3.11 |
| Month FEs | Yes | | Yes | | Yes | | Yes | |
| $N$ | | 23,827,014 | | 23,827,014 | | 6,979,018 | | 6,979,018 |
| Adjusted $R^2$ | | 5.0% | | 5.0% | | 3.5% | | 3.6% |

Dependent variable: Sell off risky assets; Riskiness of assets bought.

Table 7: Financial crisis, client-advisor relationship, and the decision to remain invested in the market

This table reports estimates from three models that examine clients' investment decisions during the 2007–2009 financial crisis. All models are cross-sectional regressions with a client as the unit of observation. Panel A estimates regressions that explain the length of the client-advisor relationship with a displacement indicator variable. The displacement indicator variable takes the value of one if the client has to switch advisors before the crisis due to the old advisor retiring, quitting the advisory industry, or dying. We date the start of the crisis in Canada in September 2007 based on Figure 1. The regressions include indicator variables for clients' pre-crisis assets and risky shares along with client age fixed effects. Panel B reports estimates from OLS and IV regressions in which dependent variable takes the value of one if the client remains in the sample through the financial crisis, and zero otherwise. This variable is a measure of the client's decision to remain invested in the stock market. The IV regression instruments for the length of the client-advisor relationship using the displacement indicator variable. Panel A's regression is this IV regression's first-stage. Panel C includes clients to remain with an advisor through the financial crisis and explains changes in risky share between September 2007 (the start of the crisis) and March 2009 (the end of the crisis). The IV regression against uses the displacement indicator variable as an instrument for the client-advisor relationship.

Panel A: Explaining the length of the client-advisor relationship with displacement

| | Regression | | | |
|---|---|---|---|---|
| | (1) | | (2) | |
| Regressor | Coeff. | SE | Coeff. | SE |
| Intercept | 3.814 | 0.002 | 3.061 | 0.013 |
| Displacement | −0.165 | 0.023 | −0.175 | 0.022 |
| Client assets | | | | |
| Quintile 1 | | | . | . |
| Quintile 2 | | | 0.141 | 0.006 |
| Quintile 3 | | | 0.173 | 0.006 |
| Quintile 4 | | | 0.158 | 0.007 |
| Quintile 5 | | | 0.199 | 0.007 |
| Pre-crisis risky share | | | | |
| $0\% \leq s_0 \leq 20\%$ | | | . | . |
| $20\% \leq s_0 \leq 40\%$ | | | −0.022 | 0.019 |
| $40\% \leq s_0 \leq 60\%$ | | | −0.035 | 0.012 |
| $60\% \leq s_0 \leq 80\%$ | | | 0.128 | 0.012 |
| $80\% \leq s_0 \leq 100\%$ | | | 0.168 | 0.012 |
| Age | | | | |
| Under 30 | | | . | . |
| 30–34 | | | 0.315 | 0.010 |
| 35–39 | | | 0.450 | 0.010 |
| 40–44 | | | 0.531 | 0.009 |
| 45–49 | | | 0.578 | 0.009 |
| 50–54 | | | 0.581 | 0.010 |
| 55–59 | | | 0.589 | 0.010 |
| 60–64 | | | 0.640 | 0.010 |
| 65–69 | | | 0.687 | 0.012 |
| 70–74 | | | 0.755 | 0.017 |
| 75 or over | | | 0.571 | 0.012 |
| $N$ | 220,621 | | 220,621 | |
| Adjusted $R^2$ | 0.02% | | 5.40% | |

Panel B: Explaining survival through the financial crisis

| | Regression | | | | | |
|---|---|---|---|---|---|---|
| | OLS | | OLS | | IV | |
| Regressor | Coeff. | SE | Coeff. | SE | Coeff. | SE |
| Intercept | 0.790 | 0.005 | 0.830 | 0.005 | 0.377 | 0.136 |
| Length of the relationship | 0.009 | 0.001 | | | 0.148 | 0.044 |
| Displacement | | | −0.026 | 0.008 | | |
| Client assets | | | | | | |
| Quintile 1 | | | | | | |
| Quintile 2 | 0.028 | 0.002 | 0.033 | 0.002 | 0.012 | 0.007 |
| Quintile 3 | 0.042 | 0.002 | 0.051 | 0.002 | 0.025 | 0.008 |
| Quintile 4 | 0.052 | 0.002 | 0.063 | 0.002 | 0.040 | 0.007 |
| Quintile 5 | 0.055 | 0.002 | 0.074 | 0.002 | 0.044 | 0.009 |
| Pre-crisis risky share | | | | | | |
| $0\% \leq s_0 \leq 20\%$ | | | | | | |
| $20\% \leq s_0 \leq 40\%$ | 0.028 | 0.007 | 0.029 | 0.007 | 0.032 | 0.007 |
| $40\% \leq s_0 \leq 60\%$ | 0.044 | 0.005 | 0.040 | 0.005 | 0.046 | 0.004 |
| $60\% \leq s_0 \leq 80\%$ | 0.059 | 0.005 | 0.053 | 0.005 | 0.034 | 0.007 |
| $80\% \leq s_0 \leq 100\%$ | 0.039 | 0.005 | 0.033 | 0.005 | 0.008 | 0.008 |
| Age | | | | | | |
| Under 30 | | | | | | |
| 30–34 | | | 0.014 | 0.003 | −0.032 | 0.014 |
| 35–39 | | | 0.009 | 0.003 | −0.058 | 0.020 |
| 40–44 | | | 0.007 | 0.003 | −0.071 | 0.024 |
| 45–49 | | | 0.002 | 0.003 | −0.083 | 0.026 |
| 50–54 | | | −0.007 | 0.003 | −0.093 | 0.026 |
| 55–59 | | | −0.018 | 0.003 | −0.105 | 0.026 |
| 60–64 | | | −0.029 | 0.004 | −0.124 | 0.029 |
| 65–69 | | | −0.044 | 0.004 | −0.145 | 0.031 |
| 70–74 | | | −0.024 | 0.006 | −0.136 | 0.034 |
| 75 or over | | | −0.069 | 0.004 | −0.154 | 0.026 |
| $N$ | 220,621 | | 220,621 | | 220,621 | |
| Adjusted $R^2$ | 1.39% | | 1.26% | | | |

Panel C: Explaining pre-to-post crisis changes in risky share

| | Regression | | | | | |
|---|---|---|---|---|---|---|
| | OLS | | OLS | | IV | |
| Regressor | Coeff. | SE | Coeff. | SE | Coeff. | SE |
| Intercept | 0.402 | 0.008 | 0.417 | 0.008 | 0.532 | 0.134 |
| Length of the relationship | −0.007 | 0.001 | | | −0.038 | 0.045 |
| Displacement | | | 0.008 | 0.010 | | |
| Client assets | | | | | | |
| Quintile 1 | | | | | | |
| Quintile 2 | −0.002 | 0.003 | 0.005 | 0.003 | 0.011 | 0.008 |
| Quintile 3 | −0.005 | 0.003 | 0.009 | 0.003 | 0.018 | 0.011 |
| Quintile 4 | −0.004 | 0.003 | 0.016 | 0.003 | 0.025 | 0.010 |
| Quintile 5 | −0.009 | 0.003 | 0.020 | 0.003 | 0.030 | 0.012 |
| Pre-crisis risky share | | | | | | |
| $0\% \leq s_0 \leq 20\%$ | | | | | | |
| $20\% \leq s_0 \leq 40\%$ | −0.225 | 0.010 | −0.225 | 0.010 | −0.225 | 0.009 |
| $40\% \leq s_0 \leq 60\%$ | −0.373 | 0.007 | −0.377 | 0.007 | −0.376 | 0.006 |
| $60\% \leq s_0 \leq 80\%$ | −0.476 | 0.007 | −0.485 | 0.007 | −0.479 | 0.009 |
| $80\% \leq s_0 \leq 100\%$ | −0.598 | 0.007 | −0.610 | 0.007 | −0.602 | 0.010 |
| Age | | | | | | |
| Under 30 | | | | | | |
| 30–34 | | | −0.005 | 0.004 | 0.007 | 0.015 |
| 35–39 | | | −0.017 | 0.004 | 0.001 | 0.021 |
| 40–44 | | | −0.035 | 0.004 | −0.014 | 0.025 |
| 45–49 | | | −0.051 | 0.004 | −0.028 | 0.027 |
| 50–54 | | | −0.061 | 0.004 | −0.038 | 0.027 |
| 55–59 | | | −0.078 | 0.004 | −0.054 | 0.028 |
| 60–64 | | | −0.088 | 0.004 | −0.062 | 0.030 |
| 65–69 | | | −0.097 | 0.005 | −0.070 | 0.032 |
| 70–74 | | | −0.081 | 0.007 | −0.051 | 0.035 |
| 75 or over | | | −0.086 | 0.005 | −0.065 | 0.026 |
| $N$ | 125,716 | | 125,716 | | 125,716 | |
| Adjusted $R^2$ | 15.94% | | 16.71% | | | |