Financial Advisors and Retirees' Risk-Taking

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Abstract

Using administrative data on more than 36,000 advised Canadian retirees, we show that advised retirees keep about two-thirds of their portfolios in equities well into old age—30 to 40 percentage points more than non-advised retirees, target-date funds, or common rules of thumb. These allocations reflect active choices rather than inertia, and they adjust gradually toward a new advisor's investment style following advisor switches. Equity shares rise with relationship tenure, and advisor influence is strongest among clients with low financial knowledge or risk tolerance, consistent with trust facilitating risk-taking. We rationalize these portfolios in a standard life-cycle model with moderate risk aversion, given retirees' modest financial wealth relative to their safe pension income. Modeling advisors as "money doctors" who correct clients' pessimistic beliefs about the equity premium, we find that, relative to a no-advice counterfactual, the welfare gains from higher risk-taking are of the same order of magnitude as the cost of advice.

Keywords: retirement; financial advisors; risk-taking

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Introduction

There is a worldwide shift from defined benefit (DB) to defined contribution (DC) retirement plans. While retirees in DB plans receive a lifetime annuity, retirees in DC plans must manage their own savings throughout retirement, deciding how much to withdraw each year and how much to keep invested in stocks and bonds. This is a complex problem: the answer depends on expected asset returns and risks, longevity, medical expenses, bequest motives, and other sources of income. At the same time, retirees experience cognitive decline, which makes them more likely to make suboptimal investment decisions (Korniotis and Kumar, 2011; Ameriks, Caplin, Lee, Shapiro, and Tonetti, 2023) and more vulnerable to financial fraud (DeLiema, Deevy, Lusardi, and Mitchell, 2018).

Many investors therefore turn to financial advisors as retirement approaches. Figure 1 shows that in the U.S. Survey of Consumer Finances, use of financial advisors peaks around age 65, when more than half of households with investable wealth rely on professional investment advice.[1] Whether financial advisors help or hurt retirees is far from obvious. Advice is costly and potentially conflicted: advised portfolios lag passive benchmarks (Foerster, Linnainmaa, Melzer, and Previtero, 2017) and deliver lower Sharpe ratios (Chalmers and Reuter, 2020), and advisors are often compensated through commissions. At the same time, advisors may add value beyond portfolio performance, for example by helping clients choose an appropriate asset allocation.

This paper studies how financial advisors shape retirees' portfolios, and why. Using administrative data on more than 36,000 advised Canadian retirees, we document that advised retirees keep about two-thirds of their portfolios in equities well into old age—30 to 40 percentage points more than non-advised retirees, target-date funds, or common rules of thumb. Advisors have a strong impact on portfolio allocations, while client characteristics have little explanatory power. Conflicts of interest are unlikely to explain this risk-taking, as

[1] Similarly, the 2019 Canadian Financial Capability Survey estimates that 51% of Canadians 65 or older use financial advice.

advisors hold similarly high equity shares in their own portfolios. Instead, advisors appear to act as money doctors who build trust (Gennaioli, Shleifer, and Vishny, 2015): equity shares rise with the length of the advice relationship, and advisors' influence is strongest for clients with low financial knowledge or risk tolerance. The observed portfolios are consistent with a standard life-cycle model with moderate risk aversion, given modest levels of financial wealth. Modeling advisors as money doctors who correct the pessimistic beliefs implied by non-advised portfolios, we find that the welfare gains from higher risk-taking are of the same order of magnitude as the cost of advice.

Our data come from two large Canadian financial advisory firms that advise just under C$20 billion in assets. We observe transaction-level records for all client accounts from 1999 to 2013, along with demographic information on investors and advisors. Our main sample consists of over 36,000 advised retirees aged 65 to 85. Two features of the data are particularly useful for studying retirees' asset allocation. First, we aggregate all of an investor's retirement and non-retirement accounts with the same advisor, which reduces the bias from analyzing retirement accounts in isolation. Second, we observe the personal portfolios of most advisors, which allows us to compare advisors' own investment choices with the advice they give to their clients.

We begin by estimating the age profile of the equity share of advised retirees. Because age, cohort, and time effects cannot be separately identified without additional restrictions (Ameriks and Zeldes, 2004), we follow Fagereng, Gottlieb, and Guiso (2017) and adopt the approach of Deaton and Paxson (1994). Advised retirees hold high equity shares well into old age: the equity share declines from about 75 percent at age 65 to 55 percent at age 85. These equity shares are 30 to 40 percentage points higher than those implied by the popular "100 − age" rule and the glide path of the largest Canadian target-date funds, as well as those of non-advised Canadian retirees, whose equity shares of 25 to 30 percent are in line with those documented in other countries (e.g., Fagereng et al., 2017).

These high equity shares reflect active portfolio choices rather than inertia. Retirees who turn over more than a quarter of their portfolio in a given year hold nearly the same equity shares as the full sample, and the equity share of new purchases similarly declines from about 70 percent at age 65 to 50 percent at age 85. Nor are our results driven by assets held outside of the advised accounts: when retirees receive large inflows into their advised accounts, they invest the new money much like their existing portfolio, and their equity share falls by only 2 percentage points on average.

We then ask what explains these high equity shares. Advised retirees in our sample are similar in wealth to the broader population of Canadian retirees with retirement savings. Moreover, investor characteristics explain little of the variation in risk-taking across retirees: gender, language, net worth, and self-reported risk tolerance and financial knowledge together account for only 16 percent of the variation in equity shares. In contrast, advisor identity matters much more, similar to the findings of Foerster et al. (2017) for younger investors. Adding advisor fixed effects raises the adjusted R^2 to 36 percent, and moving across the interquartile range of advisors corresponds to a 15-percentage-point difference in equity share.

This common variation among clients of the same advisor could reflect either advisors' influence or the matching of investors with advisors who share their preferences. Following Foerster et al. (2017), we distinguish between these explanations using investors who switch advisors. After a switch, retirees' equity shares gradually converge toward those of the new advisor's other clients, closing 28 percent of the gap between the new and the old advisor within two years. We find a similar gradual convergence for investors whose switch is involuntary because their advisor retires, dies, or leaves the industry, with no differential trends before the switch. This evidence indicates that advisors directly influence their clients' risk-taking and, together with the large gap between advised and non-advised portfolios, suggests that advice causes retirees to take substantially more risk.[2]

[2]Using a regulatory change implemented in a staggered fashion across Canada, Linnainmaa, Melzer, Previtero, and Foerster (2025) document a causal role of financial advisors on clients' stock market participation.

Why do advisors steer their clients toward equities? One explanation is conflicts of interest. Advisors are compensated through commissions and kickbacks, which can lead to misselling and misconduct (Egan, Matvos, and Seru, 2019; Egan, Ge, and Tang, 2022), and equity funds charge higher fees: in our data, a 10 percentage point higher equity share is associated with a 7 basis point higher annual fee. Alternatively, advisors may recommend high equity shares because they sincerely believe that these allocations benefit their clients. To distinguish between these explanations, we compare advisors' own portfolios with those of their clients. Advisors hold equity shares that are statistically indistinguishable from those of their own clients, even after they have stopped advising clients and no longer have any incentive to hold similar portfolios.

This evidence points to the money doctor view of Gennaioli et al. (2015) as the most plausible interpretation of high equity shares. In this view, investors delegate their portfolio decisions to advisors they trust, and this trust reduces their anxiety about investing in risky assets, allowing them to take more risk than they would on their own. We test two predictions of this view. First, if trust builds up over time, equity shares should rise with the length of the advice relationship. Indeed, retirees who have been advised for more than ten years hold about 7 percentage points more equity than those in their first year, and this increase does not come with higher fees. Second, advisors' influence should be strongest for clients who are least confident in making investment decisions on their own. Consistent with this prediction, the equity shares of clients with low self-reported financial knowledge, and especially of those with low risk tolerance, are more sensitive to those of their advisor's other clients: the sensitivity for the least risk-tolerant clients is twice as high as that for the most risk-tolerant clients.

Are these sincerely held beliefs justified, or are they misguided? Linnainmaa, Melzer, and Previtero (2021) show that advisors hold misguided beliefs about active management: like many retail investors, they trade frequently, chase returns, and prefer expensive, actively managed funds. To assess whether their beliefs about the appropriate level of equity exposure

can be rationalized as optimal or are similarly misguided, we turn to a standard life-cycle model of consumption and portfolio choice.

In the model, retired households have constant relative risk aversion preferences and a warm-glow bequest motive, face mortality risk, receive safe pension income, and pay investment fees calibrated to our data. We estimate risk aversion and the strength of the bequest motive by matching the age profiles of equity shares in advised portfolios and of financial wealth among Canadian retirees. With a moderate risk aversion of 4.2, the model closely reproduces the high and gradually declining equity shares of advised retirees. Because the typical retiree has modest financial wealth relative to safe pension income, which acts as a large bond holding, a high equity share of financial wealth is optimal given the historical equity premium. In contrast, matching the much lower equity shares of non-advised households requires implausibly high risk aversion or large background risks (see Gomes, 2020, for a survey). Thus, the portfolios of advised retirees can easily be rationalized by a standard model.

We capture the money doctor mechanism as a change in beliefs: advisors bring their clients' expectations closer to the true distribution of stock returns. We use the model to quantify the value of advice through this channel. In a counterfactual without advice, households hold pessimistic beliefs about stock returns, consistent with evidence that beliefs shape household portfolios (Ameriks, Kézdi, Lee, and Shapiro, 2020; Giglio, Maggiori, Stroebel, and Utkus, 2021; Meeuwis, Parker, Schoar, and Simester, 2022), and invest in low-cost funds without advisor compensation. We calibrate these beliefs to match the much lower equity shares of non-advised retirees, which requires a perceived equity premium of 2.4 percent, about 40 percent of the historical premium. Relative to this counterfactual, advice raises both the level and the volatility of retirees' consumption. We compute the additional welfare-equivalent annual investment fee that would make households indifferent between advice and no advice. Evaluated under the objective return distribution, the higher risk-taking induced by advice is worth 70 basis points per year. Evaluated under households' own pessimistic

beliefs, advice is worth 160 basis points per year, because it also eliminates their fear of low future wealth and consumption. In short, the belief channel alone can justify advisory fees of the same order of magnitude as the implied cost of advice in our data, 1.4 percent per year.

Our paper contributes to three strands of literature. First, we contribute to the literature on household portfolio choice over the life cycle and in retirement (see Gomes, 2020; Gomes, Haliassos, and Ramadorai, 2021, for reviews). Empirical studies document how equity shares vary with age (e.g., Ameriks and Zeldes, 2004; Fagereng et al., 2017; Parker, Schoar, Cole, and Simester, 2025), and a growing literature studies how retirees draw down their wealth (Poterba, Venti, and Wise, 2011; Brown, Poterba, and Richardson, 2017, 2022; French, Jones, and McGee, 2023). To match the modest equity shares observed in household data, life-cycle models typically require high risk aversion or substantial background risk (Fagereng et al., 2017; Catherine, 2022), although low equity shares may also reflect participation frictions (Choukhmane and de Silva, 2026). We show that advised retirees' portfolios look very different: they keep about two-thirds of their financial wealth in equities well into old age, an allocation that a standard life-cycle model rationalizes with moderate risk aversion. Given the prevalence of advice at older ages, our results highlight the importance of accounting for financial advisors when studying retirees' portfolio choices.

Second, we contribute to the literature on target-date funds and default investment options in retirement plans. Target-date funds, which automatically reduce equity exposure with age, have become a dominant investment vehicle since the Pension Protection Act of 2006 designated them as qualified default investment alternatives, a role reinforced by employees' tendency to stick with defaults (Madrian and Shea, 2001).[3] Recent studies have questioned whether their glide paths are optimal for retirees (Anarkulova, Cederburg, and O'Doherty, 2025). We show that advised retirees hold about 35 percentage points more equity than the glide path of the largest Canadian target-date funds, and our model sug-

[3]In 2021, the assets invested in those funds reached almost $6 trillion or about 22% of all the assets invested in U.S. mutual funds (Parker, Schoar, and Sun, 2023).

gests that this higher risk-taking can raise retirees' expected consumption and welfare. For retirees with substantial safe pension income, target-date glide paths may therefore be too conservative.

Third, we contribute to the literature on the costs and benefits of financial advice (e.g., Bergstresser, Chalmers, and Tufano, 2009; Hackethal, Haliassos, and Jappelli, 2012; Mullainathan, Noeth, and Schoar, 2012; von Gaudecker, 2015; Kim, Maurer, and Mitchell, 2016). Using data from the same Canadian advisory firms, Foerster et al. (2017) show that advisor fixed effects explain a large share of the variation in clients' portfolios, and Linnainmaa et al. (2021) show that advisors invest their own money much as they advise their clients, consistent with misguided beliefs about active management. We extend these studies in three ways. First, we study how advisors shape risk-taking in retirement, a stage of the life cycle that has received comparatively little attention in this literature. We distinguish advisor influence from cohort and time effects, portfolio inertia, outside wealth, and endogenous matching between clients and advisors. Second, we compare advised portfolios with the predictions of a standard life-cycle model. In contrast to advisors' views on active management, their views on the appropriate level of risk-taking can easily be rationalized by the model, which allows us to quantify the value of advice through this channel. Third, we provide evidence consistent with a trust mechanism, supporting the money doctor model of Gennaioli et al. (2015) and complementing evidence on the importance of trust in advisory relationships (Kostovetsky, 2016; Gurun, Stoffman, and Yonker, 2018, 2021; Germann, Mertes, Weber, and Loos, 2025). More broadly, our results complement evidence that advisors provide valuable non-alpha services such as financial planning (Previtero and Xing, 2025) and increase stock market participation (Linnainmaa et al., 2025).

1 Data

1.1 Survey Data from Canadian Financial Monitor

We start by documenting differences in portfolio allocations between advised and non-advised Canadian households in survey data. We use data from the Canadian Financial Monitor (CFM), a household survey administered by the market research firm Ipsos-Reid. The CFM collects detailed information on households' personal banking relationships, investment holdings, credit use, insurance products, and—crucially for our purposes—whether households rely on financial advice. The survey is conducted at a monthly frequency and consists of repeated cross-sections of approximately 1,000 households per month. We use data from January 1999, the inception of the survey, through December 2006. We apply the survey weights provided by the CFM to construct nationally representative estimates.

Our analysis focuses on Canadian households that hold an investment account. We therefore restrict the sample to households with a positive balance in an account other than checking or savings accounts. We further limit the sample to households with heads aged 25 to 85. We define retirees as households with a head aged 65 or older who reports being retired.

The CFM contains a series of yes-or-no questions that ask households whether they received free or paid advice on various aspects of their financial situation, including their retirement plan, overall financial plan, insurance, estate planning, and tax planning. We classify households as receiving paid investment advice if they report receiving paid advice on either their retirement plan or their overall financial plan. Households are classified as receiving free investment advice if they report receiving free advice on one of these two categories but no paid advice. Households that report neither free nor paid advice on their retirement plan or overall financial plan are classified as unadvised.

Table 1 reports summary statistics on asset allocations and financial characteristics by advice status, both for the full sample of investors and for the subsample of retirees. Portfolio

allocations differ markedly across advice groups. Among all investors, the average equity share is 57 percent for households receiving paid advice, compared to 36 percent for unadvised households. Differences are even more pronounced among retirees: retirees with paid advice hold, on average, 49 percent of their financial portfolios in equities, whereas unadvised retirees hold only 24 percent. Households receiving free advice exhibit only slightly higher equity exposure than unadvised households.

Two additional patterns are noteworthy. First, the equity shares of unadvised households are similar to those documented in prior studies of household portfolio choice in other countries (e.g., Gomes and Michaelides, 2005; Fagereng et al., 2017). Second, equity exposure among advised retirees is only modestly lower than that of advised investors overall, suggesting that higher equity allocations persist well into retirement among households receiving professional advice.

Taken together, these summary statistics suggest that financial advisors may exert a substantial influence on household portfolio risk-taking, including among retired households, which are the focus of our analysis. At the same time, the survey evidence has important limitations: the number of advised households is small, asset allocations are self-reported and subject to measurement error, and these correlations are silent about the underlying mechanisms. For these reasons, we next turn to detailed administrative data from financial advisors, which allow for a richer and more precise analysis of advised portfolios for retirees.

1.2 Administrative Data from Canadian Mutual Fund Dealers

For our main analysis, we use administrative data from two independent Canadian financial advisory firms, known as Mutual Fund Dealers (MFDs).[4] Non-bank advisory firms of this type are the main source of financial advice in Canada, accounting for C$390 billion, or 55 percent, of household assets under advice as of December 2011 (Canadian Securities Administrators, 2012). The two firms in our sample advise just under C$20 billion in assets,

[4]These two firms are the same as those studied by Linnainmaa et al. (2021).

roughly 5 percent of the MFD sector. Advisors at these firms are licensed to sell only mutual funds. The data contain monthly holdings and transactions of all client accounts from 1999 to 2013, along with client information from the last available "Know Your Client" forms, such as risk tolerance, financial knowledge, and net worth.

Throughout this paper, we focus on retirement investors. Canada's retirement income system rests on four components: i) universal public pensions (Old Age Security and the income-tested Guaranteed Income Supplement), ii) a mandatory earnings-related public pension plan (Canada Pension Plan), iii) employer-sponsored pension plans, which are largely defined benefit plans over our sample period, and iv) private retirement accounts, in which households make their own investment decisions. The main type of private retirement savings account is the Registered Retirement Savings Plan (RRSP). This tax-deferred account is subject to annual contribution limits and is similar to a traditional IRA in the United States. By the end of the year in which they turn 71, Canadians must convert their RRSP into a decumulation account, most commonly a Registered Retirement Income Fund (RRIF).[5] The conversion is not taxed, and RRIF assets continue to grow tax-deferred. Still, the holder must withdraw a minimum fraction of the account each year, taxed as ordinary income.[6] Because of these withdrawals, investors typically convert their RRSP only when they start to draw down their savings. We therefore use RRIF ownership to identify retirees.

Our main sample consists of investors aged 65 to 85 with a positive RRIF balance. We aggregate all of an investor's retirement and non-retirement accounts with the same advisor. The equity share is the value-weighted equity exposure of the funds held.[7] We also use the broader sample of all retirement investors, aged 25 to 85 with a positive RRSP or RRIF balance.

[5]The maximum conversion age was 69 from 1997 through 2006.

[6]Before age 71, the minimum withdrawal rate is $1/(90 - \text{age})$ of the account value. From age 71, it follows prescribed factors that rise from 7.38 percent at age 71 to 20 percent at age 94. These factors were lowered in 2015, after our sample period.

[7]As in Foerster et al. (2017), we assume that an all-equity fund invests 100 percent in equities, a balanced fund invests 50 percent in equities, and fixed-income and money market funds invest nothing in equities. We assign target-date funds the equity share of a standard glide path at the investor's age.

Table 2 summarizes the characteristics and end-of-year portfolios of the 36,034 advised retirees in our sample. The average retiree is 74 years old and has been with an advisor for six and a half years (measured from the first month in which the investor appears in our data). Advised portfolios are modest in size: the median retiree holds C$65,500 with the advisor, and 44 percent also hold a non-retirement account. The average equity share is 64 percent, compared with 73 percent for all retirement investors in our data (Appendix Table A.1). Clients pay for advice indirectly through fund expense ratios and through front- or back-end sales charges. The average total annual fee is 2.4 percent of assets. Nearly all retirees report low or moderate financial knowledge (96 percent), and most report moderate risk tolerance (57 percent).

Appendix Table A.2 summarizes the 2,377 advisors of these retirees. The median advisor is 50 years old and has 114 clients, five of whom are retirees. The advisors in our sample are independent franchisees rather than employees of the firm: they are not paid a salary, share their commissions with the firm, and are free to recommend any mutual fund rather than the products of a particular fund family (Linnainmaa et al., 2021). Like other Canadian advisors in our sample period, they do not have a fiduciary duty. Still, they must make recommendations that are suitable for their clients' investment goals and risk tolerance. Most advisors also hold personal accounts at their firm (76 percent of advisor-years), which we can relate to their clients' portfolios. The average equity share of advisors' own portfolios is 82 percent.

2 Empirical Analysis

2.1 Advised Retirees' Portfolio Allocations by Age

We start our analysis with the age profile of the equity share, a central object in both the theory and the practice of retirement investing. Life-cycle models prescribe that the share of financial wealth invested in stocks should depend on the relative size and riskiness of

human capital (Cocco, Gomes, and Maenhout, 2005). Industry practices and target-date funds translate this logic into glide paths that lower equity exposure with age. How do the portfolios of advised retirees compare with these theoretical and empirical benchmarks?

Patterns in raw data. We first plot the raw data on the equity shares of advised retirees in Figure 2.[8] Following Ameriks and Zeldes (2004), we present the same data from two angles. Figure 2a plots average equity shares by age for selected calendar years (the cross-sectional view), while Figure 2b follows selected birth cohorts as they age (the cohort view). Each plotted data point represents the average equity share of one cohort in a given year. Three main features stand out.

First and foremost, equity shares are high: between 60 and 70 percent across most ages and years, and never below 55 percent. These levels substantially exceed three natural benchmarks: common rules of thumb (such as "100 − age" or "110 − age"), the glide paths of typical target-date funds (TDFs),[9], and the equity shares of self-directed investors in household surveys and administrative data. Advised retirees in our sample thus maintain substantially higher equity exposures, even well into old age.

Second, equity shares decline with age, but the steepness of the decline depends on the angle from which the data are viewed. Within a given calendar year, the cross-sectional profiles are relatively flat: 65- and 85-year-olds differ by only a few percentage points. Following a cohort over time, the decline is steeper, on the order of one percentage point per year.

Third, the cross-sectional profiles shift down over time, by 10 to 15 percentage points between 2000 and 2012. In the cohort view, the same fact appears as earlier-born cohorts holding higher equity shares than later-born cohorts at the same age. The raw data cannot tell us whether this shift reflects calendar-time effects—broad market conditions, or institutional factors such as changes in advisor practices or in the menu of available investment

[8] Figure A.1 shows the corresponding plots for all advised retirement investors in our sample.

[9] Most target-date fund glide paths today allocate around 40 percent to equities for investors aged 70 or older. See, e.g., https://institutional.vanguard.com/investment/strategies/tdf-glide-path.html and https://www.plansponsor.com/in-depth/understanding-tdf-glide-paths/.

products—or cohort effects, such as differences in risk tolerance or investment experience as in Malmendier and Nagel (2011). Part of the variation is clearly tied to calendar time: equity shares rise across cohorts between 1999 and 2000 and drop by about 4 percentage points for every cohort in 2008. These fluctuations track the stock market and suggest that portfolios are not fully rebalanced in response to market returns. We discuss inertia in portfolio rebalancing in a later subsection.

Estimating the age profile. The contrast between the cross-sectional and cohort views illustrates a well-known identification problem: age, cohort, and time effects cannot be separately identified without additional restrictions (Ameriks and Zeldes, 2004). Because an investor's birth cohort is fully determined by the calendar year and her age, the three sets of effects are perfectly collinear, and a regression with complete sets of age, year, and cohort dummies cannot be estimated, regardless of sample size. The cross-sectional profiles measure the age effect only if there are no cohort effects, and the cohort profiles do so only if there are no time effects.

To identify the age profile of portfolio risk-taking, we follow Fagereng et al. (2017) and implement the approach of Deaton and Paxson (1994). We estimate

$$\theta_{i,t} = \alpha_{a(i,t)} + \kappa_{c(i)} + \lambda_t + \varepsilon_{i,t}, \tag{1}$$

where $\theta_{i,t}$ denotes investor i's equity share in year t, $c(i)$ is the investor's birth cohort, $a(i,t)$ is the investor's age in year t, and α_a, κ_c, and λ_t are full sets of age, birth cohort, and year dummies. We impose the restriction that the year effects sum to zero and are orthogonal to a linear trend. Under this restriction, the year effects capture cyclical fluctuations around the trend, and the cohort effects absorb any linear trend in equity shares. We further normalize the cohort dummies to sum to zero, so that the estimated age profile α_a reflects the average sample year and cohort.

Figure 3 presents the estimated age profile of equity shares for advised retirees, together with 95 percent confidence bands. Equity shares decline gradually and almost linearly with age, from about 75 percent at age 65 to about 55 percent at age 85, a slope of roughly one percentage point per year. This slope coincides with that of the popular "100 − age" rule, but the level is about 40 percentage points higher. Even at advanced ages, advised retirees maintain substantial equity exposure.

To benchmark these allocations, the figure also plots two comparison profiles. The first one is the corresponding Deaton–Paxson age profile for retirees without paid financial advice in the Canadian Financial Monitor (Section 1.1). Non-advised retirees hold markedly lower equity shares—between 25 and 30 percent throughout retirement, with no discernible age gradient. The level and shape of this profile are similar to the flat post-retirement risky share of about 30 percent that Fagereng et al. (2017) document for Norwegian households. The gap between advised and non-advised portfolios is large at all ages: about 50 percentage points at age 65, still about 20 percentage points at age 85, and roughly 40 percentage points on average. The second benchmark is the target glide path of Fidelity's ClearPath TDFs, the largest Canadian TDF family by assets, which lies about 35 percentage points below the profile of advised retirees at every age.

Appendix Figure A.2 presents age profiles under alternative identifying restrictions. The age gradient depends on whether the linear trend is attributed to the cohort effects or to the year effects: when the year effects absorb the trend, or when cohort effects are fully omitted, the profile is much flatter, at about 65 percent throughout retirement. The level of risk-taking, however, is similar across specifications, with equity shares averaging about 65 percent and remaining above 55 percent at all ages.

Inertia in portfolio rebalancing. One potential concern is that high equity shares in retirement reflect inertia rather than deliberate choices. Household portfolios are known to exhibit substantial inertia, with infrequent and partial rebalancing (Ameriks and Zeldes,

2004; Brunnermeier and Nagel, 2008; Calvet, Campbell, and Sodini, 2009; Meeuwis, 2022). As a consequence, realized portfolios may not reflect desired portfolios, and equity shares may remain high simply because allocations chosen earlier in life are left untouched. Portfolio turnover is indeed fairly low for the typical retiree but highly skewed. We measure turnover as one half times the sum of all purchases and redemptions over the year, relative to the portfolio value at the end of the previous year. The median retiree has an annual turnover of 8 percent, not much more than mandatory RRIF withdrawals alone would generate. In comparison, a quarter of retirees turn over more than 30 percent of their portfolios (Table 2).

To assess whether inertia drives our results, we re-estimate the age profile in equation (1) for investors who actively traded in the past year. We use two definitions of active trading: annual turnover above 5 percent (roughly two-thirds of investor-years) and above 25 percent (roughly one-third). Figure 4 shows that the age profiles of these active investors are nearly identical to the baseline profile. Even among investors who turn over more than a quarter of their portfolio in a given year, equity shares range from 75 percent at age 65 to 52 percent at age 85. As an alternative approach, Appendix Figure A.3 plots the age profiles of the equity share of annual purchases and redemptions separately for the main sample. These flows reflect active decisions by investors and their advisors. The equity share of purchases declines from about 70 percent at age 65 to about 50 percent at age 85, and the equity share of redemptions follows a similar path. Thus, the high equity shares of advised retirees cannot simply be explained by inertia in portfolio rebalancing.

Large portfolio inflows. Another potential concern is that we do not observe retirees' wealth held outside their advised accounts. If retirees held substantial safe assets elsewhere, the high equity shares in advised accounts would overstate the riskiness of their overall financial portfolios. To assess the importance of outside wealth, we examine how portfolios change when retirees have a large inflow into their advised accounts. We identify large inflows as months in which the net flow into non-retirement accounts exceeds C$10,000,

restricting attention to investors who already hold a non-retirement account and who have no other large flows in the surrounding twelve months. As a control group, we randomly draw investor-months without large flows, matched to the calendar-month distribution of the large inflow events.

Figure 5 shows no large changes in portfolio allocations following large inflows. The average total net inflow is C$48,000 (Figure 5a). In the month of the inflow, the average equity share of investors receiving an inflow drops by only 2 percentage points, from 65 to 63 percent, after which it moves in parallel with the equity share of the control group (Figure 5b). The new money itself is invested similarly to the existing portfolio. In the month of the inflow, the equity share of purchases is 58 percent, compared with 60 to 62 percent in the months before and after (Figure 5c). The difference-in-differences estimates in Appendix Figure A.4, which control for event and calendar-month fixed effects, confirm these patterns. Relative to the control group, the portfolio equity share of investors receiving an inflow falls by 2.1 percentage points in the month of the inflow and remains 1.7 percentage points lower after one year, while the equity share of purchases is 6.5 percentage points lower in the month of the inflow only. Overall, retirees invest new money into their advised accounts in much the same way as their existing advised wealth, which suggests that unobserved outside wealth is unlikely to substantially alter our conclusions about retirees' risk-taking.

2.2 Cross-Sectional Variation in Risk-Taking

Having established that equity shares of advised retirees are high on average and decline modestly with age, we next examine how portfolio allocations vary across clients with different characteristics and across advisors. We first estimate regressions of the form

$$\theta_{i,t} = b\, Z_{i,t} + \alpha_{a(i,t)} + \kappa_{c(i)} + \lambda_t + \varepsilon_{i,t}, \tag{2}$$

where $Z_{i,t}$ is a vector of investor characteristics, and α_a, κ_c, and λ_t are age, cohort, and year fixed effects as in equation (1).

Table 3 reports the results.[10] Column (1) includes gender, language, and net worth. Female retirees hold equity shares 2 percentage points lower than male retirees, French-speaking retirees 6 percentage points lower than other retirees, and retirees with net worth above C$300,000 2 percentage points higher than those with net worth between C$100,000 and C$200,000. The adjusted R^2 is only 0.05. Column (2) adds risk tolerance and financial knowledge from the "Know Your Client" form. Risk tolerance is a strong predictor of equity shares: relative to retirees with moderate risk tolerance, those with low or very low risk tolerance hold equity shares 21 to 25 percentage points lower, and those with high risk tolerance 9 percentage points higher. Retirees with low financial knowledge hold 4 percentage points less equity than those with moderate knowledge. Even so, the adjusted R^2 rises only to 0.16, in line with the limited explanatory power of client characteristics documented by Foerster et al. (2017).

Columns (3)–(5) capture the role of advisors in three ways. Column (3) adds advisor fixed effects:

$$\theta_{i,t} = b\, Z_{i,t} + \psi_{j(i,t)} + \alpha_{a(i,t)} + \kappa_{c(i)} + \lambda_t + \varepsilon_{i,t}, \tag{3}$$

where $j(i,t)$ denotes the advisor of investor i in year t. The adjusted R^2 rises from 0.16 to 0.36, so advisor identity explains more of the variation in equity shares than all investor characteristics combined. Column (4) replaces the advisor and year fixed effects with advisor $\times$ year fixed effects, which allow advisor effects to vary over time. The adjusted R^2 increases only slightly, to 0.39, indicating that advisor effects are largely persistent. Column (5) replaces the fixed effects with the leave-one-out average equity share of the advisor's other

[10] Appendix Table A.3 reports the corresponding regressions for all advised retirement investors in our sample.

clients,

$$\bar{\theta}_{-i,t} = \frac{1}{N_{j(i,t),t} - 1} \sum_{\substack{k \neq i \\ j(k,t)=j(i,t)}} \theta_{k,t}, \tag{4}$$

where $N_{j,t}$ is the number of clients of advisor j in year t. A 10 percentage point higher equity share among the advisor's other clients is associated with an 8.6 percentage point higher equity share of the investor. The leave-one-out measure ranges from 64 percent at the 25th percentile to 82 percent at the 75th percentile, so moving across the interquartile range of advisors corresponds to a 15 percentage point difference in equity share, comparable to the difference between retirees with low-to-moderate and high risk tolerance. With an adjusted R^2 of 0.31, this single variable captures most of the explanatory power of the advisor fixed effects.

Overall, these results mirror the findings of Foerster et al. (2017) for younger investors: equity shares vary far more across advisors than across observable client characteristics. This common variation among clients of the same advisor is consistent with advisors shaping their clients' risk-taking, but it may also reflect endogenous matching between investors and advisors. We examine this distinction next.

2.3 The Impact of Financial Advisors

To distinguish advisor influence from matching, we examine how investors' portfolios change when they switch advisors. If advisor effects only reflected investors' own preferences, an investor's equity share should not change when she moves to an advisor whose other clients take more or less risk. If advisors directly influence their clients' portfolios, her equity share should move toward that of the new advisor's clients.

We start with all switches in which an investor moves to a new advisor. For each switch s of investor i, we measure the difference in risk-taking between the new and the old advisor as

$$\Delta\bar{\theta}_s = \bar{\theta}_{-i}^{\text{new}} - \bar{\theta}_{-i}^{\text{old}}, \tag{5}$$

where $\bar{\theta}_{-i}^{\text{new}}$ and $\bar{\theta}_{-i}^{\text{old}}$ are the average equity shares of the new and old advisors' other clients over the twelve months before the switch. The new advisor's measure excludes clients who the old advisor previously served. We then estimate the event-study regression

$$\theta_{i,t} = \sum_{k \neq -2} \beta_k \, \mathbf{1}\{t - \tau_s = k\} \, \Delta\bar{\theta}_s + \eta_s + \lambda_t + \varepsilon_{i,t}, \tag{6}$$

where t indexes months, τ_s is the month of the switch, and η_s and λ_t are switch and calendar-month fixed effects. The coefficient β_k measures the pass-through of the difference in advisor risk-taking to the investor's equity share k months after the switch, relative to two months before the switch. A pass-through of one would mean that the investor fully adopts the "style" of the new advisor. We measure $\theta_{i,t}$ as the equity share of the investor's entire portfolio rather than of new investments only, because investors in our sample are in the decumulation phase. The pass-through therefore reflects both how any new money is invested and how the new advisor adjusts existing holdings over time.

Figure 6 presents the estimates. For retirees, the pass-through is close to zero before the switch, jumps to 0.10 in the first month after the switch, and continues to increase afterward, to 0.19 after one year and 0.28 after two years (Figure 6a). The results are similar for all retirement investors in our sample, including those who have not yet retired, with a pass-through of 0.13 in the month of the switch and 0.24 after two years (Figure 6b).

Voluntary switches may coincide with changes in investors' preferences. Following Foerster et al. (2017), we therefore also restrict attention to displaced investors, whose switch is caused by their advisor's retirement, death, or departure from the industry. We classify a switch as displacement if the old advisor, who had at least ten clients, stops advising all clients within six months, and the investor had been with the old advisor for at least one year. Because these involuntary switches are rare, the estimates for retirees are imprecise: the pass-through reaches 0.17 after two years, but it is not statistically significant (Figure 6c). To increase power, we again turn to the sample of all retirement investors (Figure 6d). The

point estimates are similar, but the standard errors are substantially smaller. There is no evidence of differential trends before the switch. In contrast to the sample of all switches, there is no immediate jump at the switch: the pass-through is 0.02 in the month of the switch and increases gradually to 0.11 after one year and 0.18 after two years. The gradual convergence of displaced investors toward the allocation of their new advisor's clients indicates that advisors have a substantial direct influence on their clients' risk-taking.

2.4 Advisors' Own Portfolios

The large advisor effects documented above invite two broad interpretations of high equity shares. First, advisors may recommend high equity shares because they sincerely view these allocations as appropriate. Alternatively, agency conflicts may lead them to recommend higher-commission equity funds over cheaper fixed-income funds, regardless of whether such allocations suit the client. To distinguish between these explanations, we follow Foerster et al. (2017) and Linnainmaa et al. (2021) and compare advisors' own portfolios with those of their clients.

We pool the portfolios of retired clients and of advisors who are in the retiree sample themselves, and estimate

$$\theta_{i,t} = \gamma\, \mathbf{1}\{i \in \mathcal{A}\} + b\, Z_{i,t} + \psi_{j(i,t)} + \alpha_{a(i,t)} + \kappa_{c(i)} + \lambda_t + \varepsilon_{i,t}, \tag{7}$$

where $\mathcal{A}$ denotes the set of advisors. For advisors' own portfolios, we set $j(i,t) = i$, so that with advisor fixed effects, γ measures the difference between advisors' own equity shares and those of their clients.

Table 4 reports the results. Without controls, advisors' own equity shares are 15 percentage points higher than those of retired clients (column 1). Controlling for investor characteristics reduces this difference to 6 percentage points (column 2). Once we add advisor fixed effects, the difference falls to 1.4 percentage points and is statistically insignificant

(column 3), and the results are similar with advisor × year fixed effects (column 4). The difference in column (2) thus reflects differences across advisors: relative to their own clients, advisors hold similar equity shares. Column (5) separates advisors' portfolios while they are still active from those after they have stopped advising clients. Even after they have left the business and no longer have incentives to hold similar portfolios as their clients, advisors' equity shares remain statistically indistinguishable from those of their former clients. Appendix Figure A.5 extends the comparison to investors of all ages. Advisors have weakly higher equity shares than their clients over the entire life cycle, but the differences are small, at no more than 4 percentage points in any age group below 80.

These findings parallel the evidence in Foerster et al. (2017) and Linnainmaa et al. (2021) that advisors invest their own wealth in the same way as they invest their clients' wealth. That advisors hold the same equity shares that they recommend, even after retiring, suggests that the high equity shares of advised retirees reflect advisors' sincerely held views rather than agency conflicts. This interpretation is consistent with the money doctor view, in which advice transmits advisors' own beliefs and attitudes toward risk.

2.5 Trust and Advisor Influence

Having shown that advisors appear to recommend allocations consistent with their own beliefs, we next ask *why* clients follow these recommendations. In the "money doctor" view of Gennaioli et al. (2015), trust lowers clients' perceived riskiness of investing, making them more willing to take the risk their advisor recommends.

Prior evidence shows that trust affects whether investors remain with advisors and how much money they entrust to them (Kostovetsky, 2016; Gurun et al., 2018, 2021), and recent experimental evidence shows that trust can increase delegated risk-taking (Germann et al., 2025). Our setting allows us to study how trust shapes portfolio risk-taking within ongoing advisor–client relationships in real-world accounts. We test two predictions. First, if trust builds over time, equity shares should increase with the length of the advice relationship.

Second, advisors' influence should be stronger for clients who are more likely to rely on their guidance, such as those with low financial knowledge or low risk tolerance.

We first relate equity shares to client tenure, measured as the number of years that the investor has been with any advisor. Columns (1)–(3) of Table 5 show that retirees with longer tenure hold more equity. Each additional year is associated with a 0.4 percentage point higher equity share (column 1), and 0.55 percentage points when we control for investor characteristics and advisor fixed effects (column 2). Relative to retirees with three to five years of tenure, those with less than one year hold 3.4 percentage points less equity, and those with more than ten years hold 3.2 percentage points more (column 3).

A potential concern is that advisors might use trust to extract higher fees. Columns (4)–(8) relate the total annual fee, which includes fund expense ratios and front- and back-end sales charges, to the equity share and to tenure. A higher equity share is indeed associated with higher fees: a 10 percentage point higher equity share is associated with a 7 to 8 basis point higher annual fee (columns 4 and 5). However, tenure itself is unrelated to fees (column 6), and conditional on the equity share, retirees with longer relationships pay slightly lower fees (columns 7 and 8). This evidence is inconsistent with a rent-extraction motive and supports the interpretation that advisors' influence reflects sincerely held beliefs rather than opportunistic behavior.

Second, we examine whether advisors' influence is stronger for clients who are likely to rely more on their advisor's guidance. We use financial knowledge, risk tolerance, gender, and language as proxies for clients' confidence in making investment decisions on their own. We interact the leave-one-out equity share of the advisor's other clients, $\bar{\theta}_{-i,t}$, with categories of each of these characteristics, and estimate the loading of the investor's equity share on $\bar{\theta}_{-i,t}$ separately for each category, controlling for investor characteristics and year fixed effects. Because the extreme categories of these characteristics are sparsely populated, we lack the statistical power to estimate these loadings for the subsample of retirees alone. We therefore

estimate these regressions for all retirement investors in our sample, noting our earlier finding that advisors' influence on their clients is quantitatively similar before and after retirement.

Figure 7 presents the results. Figure 7a shows that the loading is higher for clients with low financial knowledge (0.91) than for those with high financial knowledge (0.78). Advisors' influence is also largest for the most risk-averse clients: the loading is 1.56 for clients with very low risk tolerance and 1.14 for those with low risk tolerance, compared with 0.72 for those with high risk tolerance (Figure 7b). Loadings above one suggest that advisors pull their most cautious clients toward a common allocation. Because stated risk tolerance likely reflects clients' beliefs about stock returns as well as their preferences, this pattern is consistent with advisors raising the equity exposure of clients with the most pessimistic views, as in the money doctor view. Both differences between the extreme categories are statistically significant.

Taken together, these results provide additional support for the money doctor interpretation. Equity shares increase with the length of the advice relationship without rising fees, and advisors' influence is strongest for clients who are likely to rely most on their advisor's guidance.

3 Model

The empirical analysis presented above documents new evidence on the composition of retirees' advised portfolios. To rationalize these patterns, this section develops a life-cycle model that jointly accounts for retirees' risk-taking behavior and the evolution of financial wealth during retirement.

3.1 Household Preferences and Endowments

Following our empirical analysis, we focus on the retirement phase of the life cycle and model the consumption and portfolio choice decisions of retired households. Agents enter the model

in retirement at model age $t = 1$. Households face uncertainty over the duration of their remaining lifetime. Conditional on being alive at age t, the probability that the household survives to the next year is denoted by π_t. Households live for a maximum of T periods, so that $\pi_T = 0$.

Households maximize the expected sum of discounted utility over the remaining lifetime, given by

$$V_{i,1} = \mathbb{E}\left[\sum_{t=1}^{T} \beta^{t-1} \left(\prod_{k=1}^{t-1} \pi_k\right) U(C_{i,t}) + \sum_{t=2}^{T+1} \beta^{t-1} \left(\prod_{k=1}^{t-2} \pi_k\right) (1 - \pi_{t-1})\, q\, U(W_{i,t}/q)\right], \quad (8)$$

where β is the time discount factor, $C_{i,t}$ is the consumption of household i at age t, and $W_{i,t}$ is wealth (cash on hand) at the beginning of the period. We assume that household utility is of the CRRA form: $U(C) = C^{1-\gamma}/(1-\gamma)$, where γ is the coefficient of relative risk aversion. We allow the household to derive utility from bequests via a standard warm-glow motive; for simplicity, we assume that the bequest utility function is the same as the utility function U that applies to consumption while alive. The parameter q captures the strength of the bequest motive.

Households enter the model with initial financial wealth $X_{i,1}$. Throughout retirement, households also receive pension income Y_i. Canada's public pension system has two main components: the Canada Pension Plan (CPP) and the Old Age Security (OAS) program. Both programs entitle retirees to a pension benefit that is fixed in real terms. Most Canadian retirees with retirement savings also receive employer-sponsored pension benefits (Appendix Table A.4) through Registered Pension Plans (RPPs), predominantly in the form of Defined Benefit (DB) plans. Therefore, we assume that retirement income Y_i is constant over time.

3.2 Asset Allocation

Households can invest in two assets: a risk-free asset and a risky asset. The risk-free asset is a real bond that has a constant gross return R^b each period. The risky asset is a stock that

has gross return R_t^s, which is given by

$$\log R_t^s = \mu - \frac{1}{2}\sigma_\nu^2 + \nu_t, \quad \nu_t \sim N(0, \sigma_\nu^2). \tag{9}$$

As is common in the life-cycle literature, we assume that the household cannot borrow and cannot short the stock, so that it must hold nonnegative quantities of both assets.

In the baseline specification of our model, households delegate the management of their financial wealth to a financial advisor. We assume that when advised, households form rational beliefs over the distribution of asset returns. Investors pay proportional, per-period investment fees on their asset holdings, which capture both advisor compensation and underlying fund management expenses. Because equity funds typically charge higher fees than fixed-income funds, we allow the fee to differ across the two assets: investors pay a fee f^s on their stock holdings and a fee f^b on their bond holdings.

3.3 Household Optimization Problem

Households enter a period with cash on hand $W_{i,t}$, which is composed of financial wealth $X_{i,t}$ and pension income Y_i. Households (with their advisors) must decide how much to consume and how much to invest in stocks and in bonds. We let $\theta_{i,t}$ denote the share of the portfolio that is invested in stocks. The budget constraint can be written in terms of $\theta_{i,t}$ as

$$W_{i,t+1} = \underbrace{(W_{i,t} - C_{i,t})\{(1-\theta_{i,t})(R^b - f^b) + \theta_{i,t}(R_{t+1}^s - f^s)\}}_{X_{i,t+1}} + Y_i. \tag{10}$$

The borrowing and short-sale constraints imply that the portfolio share is restricted to

$$\theta_{i,t} \in [0, 1]. \tag{11}$$

The household maximizes (8) subject to (10) and (11). The household problem has control variables $\{C_{i,t}, \theta_{i,t}\}_{t=1}^T$ and state variables Y_i and $\{W_{i,t}\}_{t=1}^T$. In recursive form, the household

solves the optimization problem

$$V_t(W,Y) = \max_{C,\theta} \quad \frac{C^{1-\gamma}}{1-\gamma} + \beta\,\mathbb{E}\Big[\pi_t\,V_{t+1}(W',Y) + (1-\pi_t)\,q\,\frac{(W'/q)^{1-\gamma}}{1-\gamma}\Big] \tag{12}$$

$$\text{s.t.} \quad W' = (W-C)\{(1-\theta)(R^b - f^b) + \theta(R^{s\prime} - f^s)\} + Y \tag{13}$$

$$C \leq W \tag{14}$$

$$0 \leq \theta \leq 1. \tag{15}$$

Given our assumptions, the value function is homogeneous of degree $1-\gamma$ in cash on hand and pension income: $V_t(W,Y) = Y^{1-\gamma}\,V_t(W/Y,1)$. Thus, we can reduce the dimensionality of the state space by normalizing all variables by pension income, so that normalized cash on hand $w = W/Y$ is the only state variable.

3.4 Parameterization

The model is set at an annual frequency. We fix a subset of the parameters based on ex-ante information, summarized in Table 6. Agents enter the model in retirement at actual age 65 ($t = 1$). We assume that agents live until a maximum age of 100 years ($T = 36$) and use the mortality tables from Statistics Canada to parameterize the conditional survival probabilities π_t. Since the time discount factor and bequest motives are not separately identified from the decumulation phase alone, we fix $\beta = 0.96$ following Cocco et al. (2005) and Gomes and Michaelides (2005).

We set the real risk-free rate to 2%, which is also a standard value from the literature. For the distribution of stock returns, we use the estimates from Dimson, Marsh, and Staunton (2008), who report for Canada a historical equity premium relative to bonds of 5.67% and a volatility of 17.95%. We parameterize the portfolio management fees using two moments from our data. We set the difference $f^s - f^b = 0.69\%$ equal to the estimated slope of the total fee on the equity share (Table 5, column 7), and choose the level such that the model

matches the average fee of 2.35% at the average equity share of 64% among advised retirees (Table 2). This yields $f^s = 2.60\%$ and $f^b = 1.91\%$.

Finally, we pin down the joint distribution of initial financial wealth and pension income based on publicly available data on Canadian households' income and wealth. We assume that initial financial wealth at retirement and pension income are jointly lognormally distributed:

$$\log X_{i,1} \sim N(\log \mu_X - \sigma_X^2/2, \sigma_X^2) \tag{16}$$

$$\log Y_i \sim N(\log \mu_Y - \sigma_Y^2/2, \sigma_Y^2), \tag{17}$$

with correlation ρ_{XY} between the two variables. We discuss the parameterization of this joint distribution below.

3.5 Financial Wealth Profile

To compare the asset allocation predictions of a life-cycle model to empirical portfolio choices, it is important that the model matches wealth profiles in the data, since the relative weights of financial wealth and human capital are a crucial determinant of optimal risky shares in portfolio choice models.

We estimate the age profile of financial wealth using data from the Canadian Survey of Financial Security (SFS). Similar to the U.S. Survey of Consumer Finances (SCF), the SFS is a repeated cross-sectional survey that is conducted once every few years. We use data from the 1999, 2005, 2012, and 2016 samples of the SFS.[11] Crucially for our analysis, the data contain detailed information on both household balance sheets and income. Following our main empirical analysis, we restrict the sample to households that have positive total financial wealth, whose head is at least 65 years old (ages are top-coded at 80), and that

[11] We do not use data post 2016 since those years are less representative of our main sample period and the exact age of survey participants is no longer reported.

hold some money in a RRIF account. We use the CPI deflator to convert all nominal values to 2005 Canadian dollars.

Appendix Table A.4 reports summary statistics on wealth and pension income for retired households in the SFS, compared to corresponding values from the U.S. Survey of Consumer Finances (SCF). Median financial wealth among Canadian retirees with positive retirement assets is C$154 thousand, and median liquid retirement wealth is C$78 thousand. The latter is somewhat higher than the median retirement account balance of C$45 thousand among advised retirees in our data (Table 2). Hence, there is no indication of positive selection into financial advice along the wealth dimension—if anything, advised retirees appear slightly less wealthy than the broader population of retired Canadian households with positive liquid retirement wealth. Median total net worth is C$425 thousand, with home equity accounting for the large majority of non-financial wealth. At the median, wealth and income levels of Canadian retirees with retirement savings are very similar to those of U.S. retired investors, although the U.S. distribution exhibits a substantially larger right tail.

We estimate the age profile of financial wealth using the same identification strategy as in Section 2.1. Specifically, we disentangle age, year, and cohort effects following the methodology of Deaton and Paxson (1994), imposing the restriction that year effects are orthogonal to a linear time trend so that any long-run trends are absorbed by the cohort effects. To smooth the estimated profile by reducing sampling noise given the limited sample size, we approximate the relationship between financial wealth and age using a third-order polynomial rather than a full set of age dummies. We then compute the predicted values of financial wealth for each age. The resulting age profile, shown in Appendix Figure A.6, shows that average financial wealth increases modestly from C$230 thousand at age 65 to C$325 thousand at age 75 and remains roughly stable thereafter.

We use the same data to parameterize the joint distribution of initial financial wealth, $X_{i,1}$, and retirement income, Y_i, as defined in equations (16) and (17). We set the mean μ_X of $X_{i,1}$ equal to the estimated average financial wealth at age 65, and σ_X equal to

the cross-sectional standard deviation of log financial wealth among households aged 65–69. Similarly, we choose μ_Y and σ_Y to match the mean and cross-sectional dispersion of pension income among retired households. Finally, we calibrate ρ_{XY} by computing the cross-sectional correlation between $\log X_{i,1}$ and $\log Y_i$ for retired households below age 70. Appendix Figure A.7 illustrates this joint distribution for households aged 65–69. While financial wealth and pension income are positively correlated, the correlation is modest—0.14—indicating only a weak association between retirement wealth and pension income.

4 Model Estimation and Results

4.1 Parameter Estimates

We structurally estimate the remaining model parameters using the Simulated Method of Moments (SMM). Specifically, we choose the risk aversion parameter γ and the strength of the bequest motive q to match the empirical life-cycle profiles of portfolio equity shares and financial wealth in retirement. Formally, γ and q are the solution to the following minimization problem:

$$\min_{\gamma,q} \left(m(\gamma, q) - \bar{m}\right)' W \left(m(\gamma, q) - \bar{m}\right), \tag{18}$$

where $m(\gamma, q)$ denotes the model-simulated moments, $\bar{m}$ their empirical counterparts, and W the weighting matrix. The 36 targeted moments are the average equity share at each age from 65 to 85, estimated from advised portfolios (Section 2.1), and average financial wealth at each age from 65 to 79, estimated from the SFS (Section 3.5). We express all deviations in percent of the empirical moments and set W equal to the identity matrix. The identity matrix is a common choice, as the asymptotically optimal weighting matrix can perform poorly in small samples (Altonji and Segal, 1996). We compute standard errors from the asymptotic covariance matrix of the SMM estimator.

The identification of the model parameters from the empirical moments is straightforward and well established. Higher risk aversion γ lowers the optimal equity share, whereas a stronger bequest motive q leads households to preserve or even accumulate financial wealth during retirement rather than drawing it down to finance consumption. Hence, the equity share profile primarily identifies γ, and the financial wealth profile primarily identifies q.

Table 7 summarizes the estimation results. We estimate a risk aversion coefficient of $\gamma = 4.2$ and a bequest motive of $q = 10.4$, both fairly precisely estimated. Figure 8a compares the average equity share in the model with that observed in the data, while Figure 8b presents the corresponding profiles of financial wealth. The model reproduces the persistently high but gradually declining equity shares of advised retirees: the average equity share falls from 81% at age 65 to 52% at age 85 in the model, compared with 76% and 55% in the data. The model also closely matches the evolution of financial wealth, which rises from C$230 thousand at age 65 to about C$320 thousand at age 75 in both the model and the data.

4.2 Discussion

The main takeaway from our baseline estimates is that a standard life-cycle portfolio choice model jointly matches the saving and asset allocation decisions of advised retirees in our sample with a moderate level of risk aversion, $\gamma = 4.2$, which lies well within the range of values commonly considered plausible in the literature (e.g., $\gamma = 5$ in Gomes and Michaelides, 2005). The estimated bequest motive is also of a plausible magnitude. In our specification, the marginal utility of leaving a bequest W equals the marginal utility of consuming W/q. At the average ratio of wealth to pension income at death in the model, $W/Y = 12.5$, the estimate of $q = 10.4$ implies that the marginal utility of a bequest equals the marginal utility of consumption at 1.2 times annual pension income. This magnitude is similar to values in the literature; for example, the estimates of De Nardi, French, and Jones (2010) imply $q = 2360^{1/3.84} = 7.6$.

Importantly, our risk aversion estimate contrasts with those obtained by targeting standard household-level survey or administrative data covering the overall population, which exhibit much lower equity shares at older ages. To match those portfolios, the baseline life-cycle model requires very high degrees of risk aversion or implausibly large or highly countercyclical permanent income risk (see Gomes, 2020, for a survey). For instance, Fagereng et al. (2017) estimate $\gamma = 11$ using Norwegian administrative data and Catherine (2022) obtains $\gamma = 12$ in a frictionless benchmark model without cyclical income tail risk that is estimated from SCF data.

In addition to the level of risk aversion, two other features of the baseline model help explain the relatively high equity share it generates compared with models in the literature that are calibrated or estimated to match conditional equity shares in non-advised portfolios. First, the model features an equity Sharpe ratio directly taken from the data, which is higher than values typically used in the literature. Specifically, while many studies calibrate the annual equity premium to roughly 4% (with an equity return volatility around 18%, similar to our parameterization), we use an equity premium of 5.7%, consistent with historically realized returns in Canada. The resulting higher Sharpe ratio naturally increases the optimal equity share in the model.

Second, the model matches the empirically observed wealth accumulation profile, which features relatively low levels of financial wealth even around retirement. Median financial wealth starts around C$100 thousand at age 65, less than four times the typical pension income. Figure 9a illustrates the distribution of normalized cash on hand in the model, and Figure 9b plots the corresponding policy function for the optimal equity share as a function of normalized cash on hand. For a given age, the optimal equity share decreases with the level of financial wealth, holding pension income fixed. Figure 9c shows that for a typical retiree with normalized cash on hand between 5 and 10, consumption approximately equals pension income. Because a large share of retirees' remaining lifetime consumption is financed by pension income in the form of a safe annuity, households optimally invest

the residual component of their overall wealth—financial wealth—more aggressively in risky assets. Once we account for the composition of household balance sheets, the model-implied portfolio allocations closely align with the data.

Finally, it is worth noting that, by adopting a fairly standard life-cycle model, we have abstracted from some aspects of the saving and investment problem that are particularly relevant for retirees. While the model incorporates uncertainty over the remaining lifetime and a bequest motive—features that the literature has emphasized as key for understanding saving behavior at older ages (e.g., De Nardi et al., 2010; Horneff, Maurer, Mitchell, and Stamos, 2010; Ameriks, Caplin, Laufer, and Van Nieuwerburgh, 2011; Inkmann, Lopes, and Michaelides, 2011)—it abstracts from health and medical expenditure risk. Analogous to idiosyncratic labor income risk as the main source of background risk during the working life, health shocks represent an important form of idiosyncratic risk in retirement (Hubbard, Skinner, and Zeldes, 1994; Horneff, Maurer, Mitchell, and Stamos, 2009; De Nardi et al., 2010; Ameriks et al., 2011). For a careful treatment of the implications of health risks on retirees' portfolio choice, see Yogo (2016). Because background risks increase households' effective risk aversion, introducing additional sources of risk would lead to a lower estimate of γ to rationalize the same high equity shares observed in the data. Since a moderately lower estimate of risk aversion would still lie within the range of values typically considered reasonable, incorporating additional background risks is unlikely to alter our main conclusions.

4.3 Counterfactual: Reduced Risk-Taking

While our empirical findings are consistent with the predictions of a standard life-cycle model, the portfolio allocations of advised retirees differ strikingly from those of non-advised retirees, from conventional investment advice—such as the "100 − age" rule—and from the glide paths implemented by common target-date funds. To assess the quantitative implications of

these differences, we consider a counterfactual scenario in which households without financial advisors optimally choose substantially lower equity shares in retirement.

To rationalize why unadvised households may optimally hold substantially less risky portfolios, we build on the "money doctors" hypothesis of Gennaioli et al. (2015). The central idea is that financial advice primarily influences households by shaping their beliefs about the distribution of future asset returns. In the absence of professional advice, households may hold pessimistic expectations about equity returns, leading them to underinvest in risky assets. Financial advisors act as money doctors by correcting these distorted beliefs and aligning clients' expectations with the objective return distribution, which in turn induces higher equity exposure.

We operationalize this mechanism by modeling a belief distortion: in the no-advice counterfactual, households' subjective expectations of the equity premium are tilted downward relative to the true distribution. In contrast, when paired with an advisor—as in our baseline model—households hold rational beliefs about the equity premium. The difference in equity allocations between advised and unadvised portfolios can then be interpreted as the consequence of advisors bringing clients' expectations about equity returns closer to the objective distribution.

Formally, unadvised households perceive the expected equity return to be lower than the true mean, while maintaining the same perceived volatility. That is, their subjective return process is given by

$$\log R_t^s = \tilde{\mu} - \frac{1}{2}\sigma_\nu^2 + \nu_t, \quad \nu_t \sim N(0, \sigma_\nu^2), \tag{19}$$

where $\tilde{\mu} < \mu$ denotes the subjective average return under pessimistic beliefs. Besides holding pessimistic beliefs about future equity returns, households face the same economic environment as in the baseline model. Given distorted expectations, households solve a modified

dynamic optimization problem:

$$\tilde{V}_t(W,Y) = \max_{C,\theta} \quad \frac{C^{1-\gamma}}{1-\gamma} + \beta\,\tilde{\mathbb{E}}\Big[\pi_t\,\tilde{V}_{t+1}(W',Y) + (1-\pi_t)\,q\,\frac{(W'/q)^{1-\gamma}}{1-\gamma}\Big] \tag{20}$$

$$\text{s.t.} \quad (13), (14), (15), \tag{21}$$

with expectations $\tilde{\mathbb{E}}[\cdot]$ that are taken with respect to the subjective return distribution (19). We set the portfolio management fees in the no-advice counterfactual to $f^s = 1.1\%$ and $f^b = 0.6\%$, the average fees that self-directed Canadian investors pay on domestic equity and fixed-income mutual funds, as reported by Morningstar (Ahmed, Taxildaris, and Kaplan, 2015). These fees are similar to those of funds in our data that are sold through fee-based advisors, which do not include advisor compensation, and comparable to the 1.02% average expense ratio of Fidelity's ClearPath TDFs during our sample period (Foerster et al., 2017). All other parameters are held fixed at their baseline values.

We discipline the magnitude of the belief distortion, $\mu - \tilde{\mu}$, by calibrating it so that the average equity share of unadvised households in the model matches the empirically estimated age profile of equity shares for non-advised portfolios shown in Figure 3. The implied downward shift in expected returns corresponds to a perceived equity premium of $e^{\tilde{\mu}} - R^b = 2.4\%$, or approximately 40% of the objective equity premium. This reduction in expected returns generates a substantial decline in optimal equity exposures, consistent with the data, as shown in Figure 10a.[12]

The implications for consumption are shown in Figures 10b and 10c. Both the average level and the volatility of consumption, evaluated under the objective return distribution, are higher in the baseline (advised) economy than in the counterfactual without financial advice. Because advised households expect a higher equity premium, they optimally take on more financial risk and attain higher expected wealth and consumption paths, despite paying higher

[12] We obtain similar results if we instead take the TDF glide path as the counterfactual average age profile: the implied perceived equity premium is $e^{\tilde{\mu}} - R^b = 2.7\%$. TDFs were relatively new and not yet widely adopted during our sample period.

portfolio management fees (Figure 10b). Figure 10c reports the cross-sectional standard deviation of cumulative consumption growth—defined as consumption at each age relative to consumption at age 65. Not surprisingly, higher risk-taking among advised households also translates into greater variation in realized consumption outcomes over time.

4.4 Welfare-Equivalent Investment Fees

To quantify the economic value of financial advice in our setting, we use the counterfactual described in Section 4.3 and translate welfare differences between the advised baseline economy and the no-advice counterfactual into an equivalent annual portfolio management fee. Specifically, we ask what additional percentage fee households would be willing to pay on both equity and bond holdings when receiving advice to be as well off as in the counterfactual without advice. Because higher fees reduce lifetime utility, a larger welfare-equivalent fee implies greater welfare gains from financial advice.

We consider two distinct welfare concepts. In the first, objective evaluation, welfare is computed under the true data-generating process for returns. This perspective corresponds to a planner who knows the actual stochastic process for returns. In the second, subjective evaluation, welfare is computed using households' own (pessimistic) beliefs about returns in the no-advice counterfactual. This perspective takes the inferred households' views at face value, even if those views understate expected stock returns.

Figure 11 reports the resulting welfare-equivalent equity fees under both perspectives. In the no-advice counterfactual, households pay an annual fee of 1.1% on equity funds. When welfare is evaluated under the objective return distribution, the equity fee that would make households indifferent between no advice and advice is 1.8%. In other words, to offset the welfare gain from receiving advice—and thus from overcoming suboptimally conservative portfolio choices due to distorted beliefs—the incremental fee for advice would have to be 70 basis points per year.

The value of advice is even larger when welfare is evaluated using households' own subjective beliefs. Under this perspective, the equity fee for advised portfolios would have to rise to 2.7% to make households indifferent to paying 1.1% in the no-advice counterfactual. The reason is that, from households' subjective perspective, advice delivers two distinct benefits. First, it induces higher equity exposures, which raises expected lifetime utility when future outcomes are evaluated under the true return distribution. Second, it eliminates the pessimistic beliefs about future returns that cause households to fear lower future wealth and consumption, thereby directly increasing perceived welfare. In other words, advice improves both households' current decision-making and their expectations about future economic outcomes.

These results highlight two key points. First, the effect of advice on risk-taking behavior is quantitatively meaningful: inducing more risky investment by correcting distorted beliefs is enough to justify advisor fees of 70 basis points. Second, from households' own perspective, advice is even more valuable because it simultaneously alleviates pessimistic beliefs about future returns. Households would be indifferent between receiving advice and going without it if advisor fees were as high as 160 basis points. While our analysis abstracts from other potential sources of value added by financial advisors—such as help with financial planning or implementing tax-efficient strategies—it is worth noting that this advisor fee is in fact slightly larger than the implied cost of advice of 1.4% per year in our data.

Conclusion

More Americans are turning 65 than at any time in history, more than four million per year through 2027 (Fichtner, 2024). With the shift from defined benefit to defined contribution plans, many of these retirees must decide how to invest their savings throughout retirement, a complex problem at an age when cognitive abilities decline. Financial advisors can help retirees navigate these decisions. Do they?

To address this question, we study the portfolios of more than 36,000 advised Canadian retirees. Advised retirees keep about two-thirds of their portfolios in equities well into old age, 30 to 40 percentage points more than non-advised retirees, target-date funds, or common rules of thumb. Advisors have a strong impact on these allocations. Because advisors hold similarly high equity shares in their own portfolios, even after they stop advising clients, conflicts of interest are unlikely to explain this risk-taking. Instead, the evidence is consistent with advisors acting as money doctors whom their clients trust.

These high equity shares can easily be rationalized by a standard life-cycle model with moderate risk aversion, because retirees' financial wealth is modest relative to their safe pension income. Under a money doctor interpretation, in which advisors correct their clients' pessimistic beliefs about stock returns, the welfare gains from higher risk-taking are worth 70 to 160 basis points per year, of the same order of magnitude as the cost of advice.

Our findings have several broader implications. First, evaluations of financial advice typically focus on fees and risk-adjusted performance. Our results suggest that advisors' influence on the level of risk-taking is an important source of value, particularly for retirees. Second, for retirees with substantial safe pension income, the traditional glide paths of target-date funds may be too conservative. Third, the aging of the population may have consequences for aggregate financial markets (e.g., Poterba, 2001), and Parker et al. (2023) show that the growth of target-date funds has changed the dynamics of stock prices. The aggregate demand for equities as the population ages may therefore depend on the extent to which retirees invest through target-date funds or with financial advisors. Understanding these aggregate consequences is an important direction for future research.

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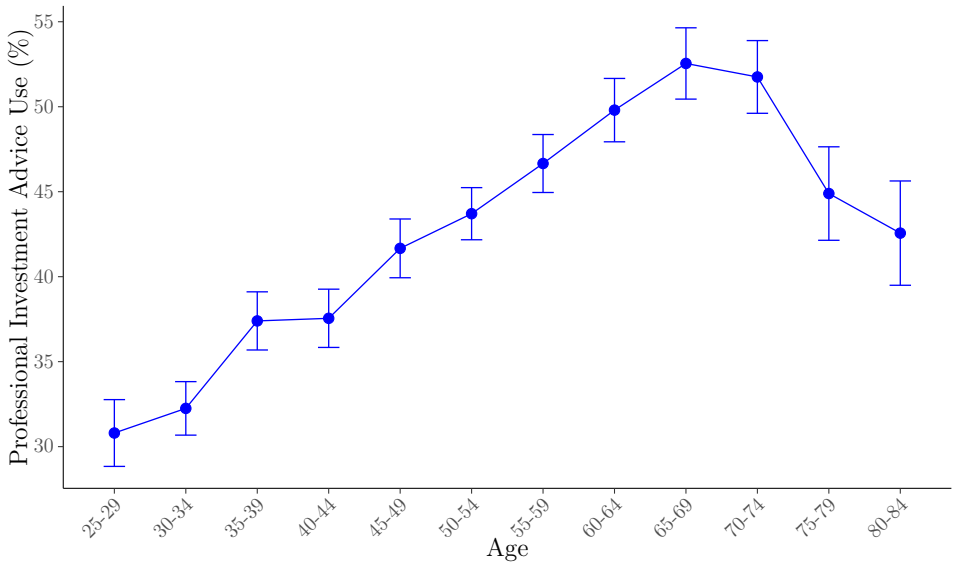
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Figures and Tables

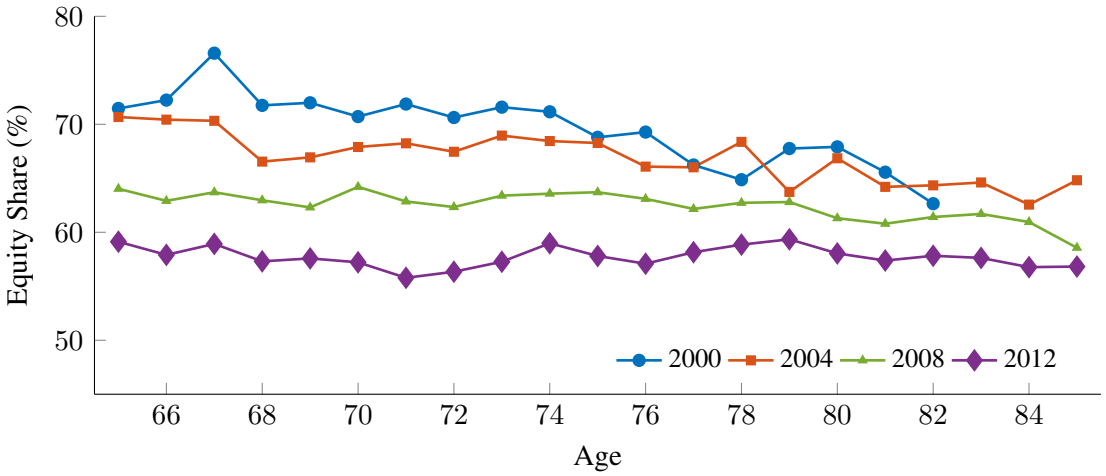
Figure 1: Usage of Financial Advice in the U.S. Survey of Consumer Finances



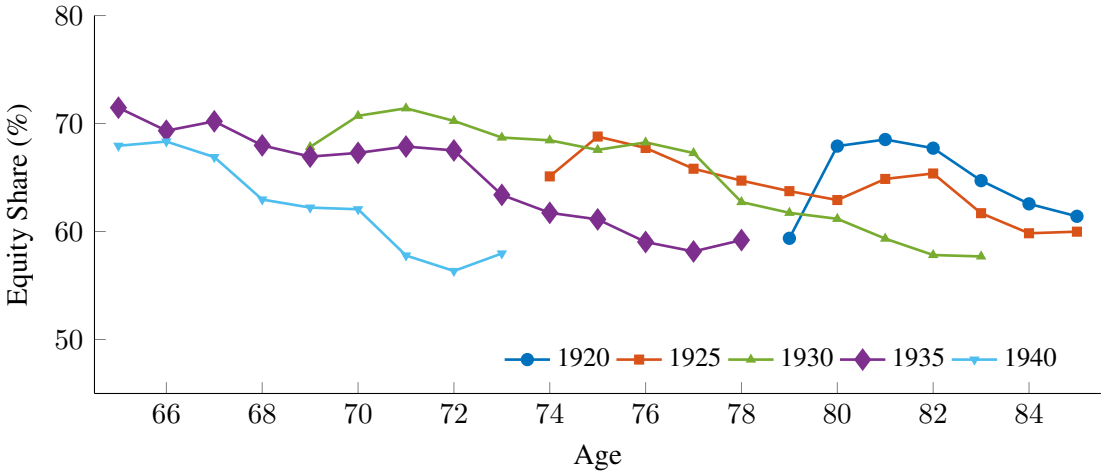
This figure plots the share of U.S. households using professional investment advice by age in the Survey of Consumer Finances (SCF), pooling the nine triennial waves from 1998 through 2022, along with 95% confidence bands. A household is classified as using professional investment advice if it reports a broker or financial planner among the sources of information it uses to make saving and investment decisions. Averages are computed over five-year age bins and weighted by the SCF sample weights. Standard errors are computed using the SCF replicate weights and account for the imputation variance across the five SCF implicates. The sample includes households with head aged 25–84 and positive investable wealth, defined as the sum of money market mutual funds, other mutual funds, stocks, bonds, certificates of deposit, liquid retirement wealth, and trusts.

Figure 2: Equity Share of Advised Retirees

(a) Cross-Sectional View

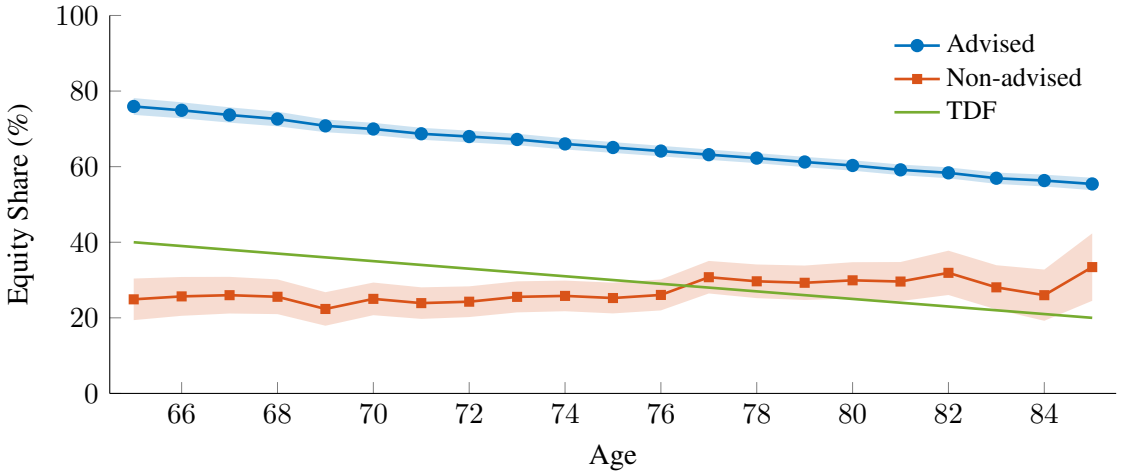


(b) Cohort View



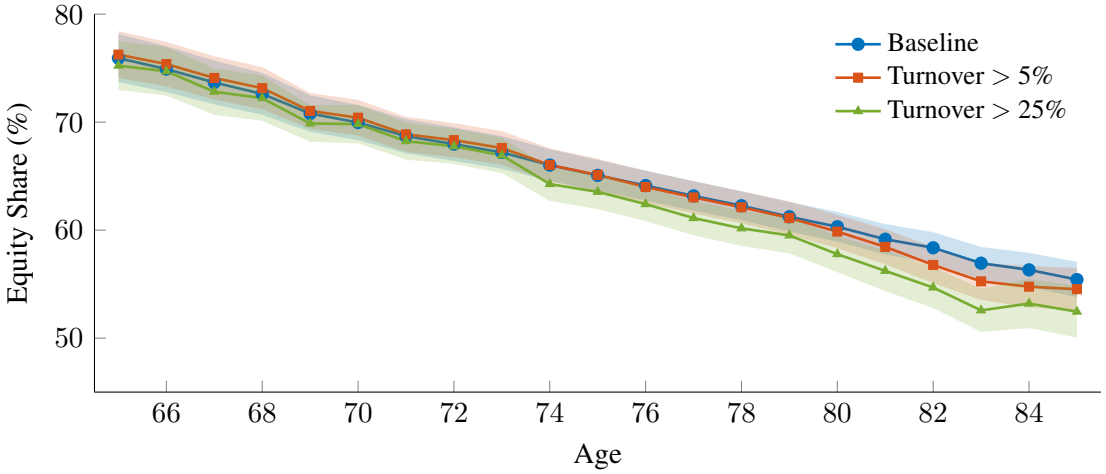
This figure plots the average equity share by age for advised retirees in our sample. The top panel presents average equity shares in four sample years. The bottom panel presents average equity shares for five birth cohorts. The equity share is the value-weighted equity exposure of all funds held across all of the investor's accounts. Equity shares are measured at the end of each year and averaged across investors with equal weights. Age-year and age-cohort cells with fewer than 25 investors are omitted. The sample includes investors aged 65–85 with a positive RRIF balance.

Figure 3: Age Profile of the Equity Share: Advised vs. Non-Advised Retirees



This figure plots the estimated age profile of the equity share of advised retirees in our sample, using the estimation methodology of Deaton and Paxson (1994), along with 95% confidence bands. For comparison, the figure also plots the estimated age profile of the equity share of retirees without paid financial advice in the Canadian Financial Monitor, using the same estimation approach, and the target equity share of Fidelity's ClearPath TDFs. Standard errors are clustered by advisor for advised retirees and by household for non-advised retirees.

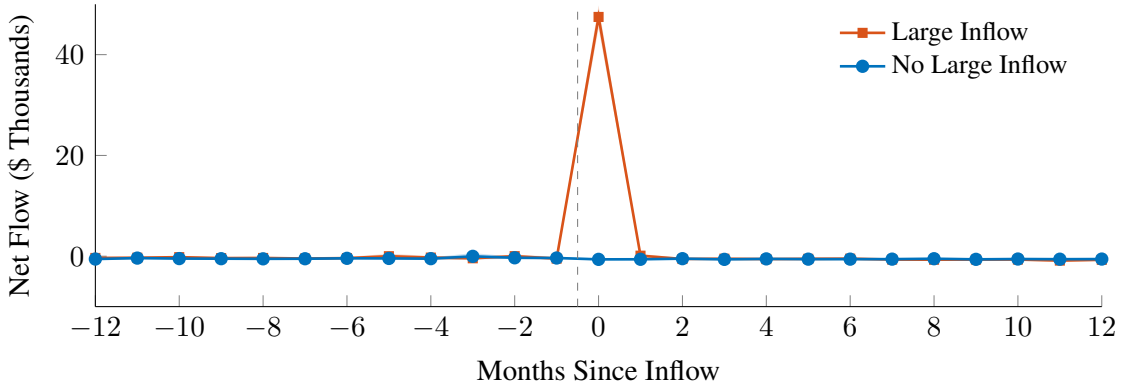
Figure 4: Age Profile of the Equity Share for Advised Retirees: Active Investors



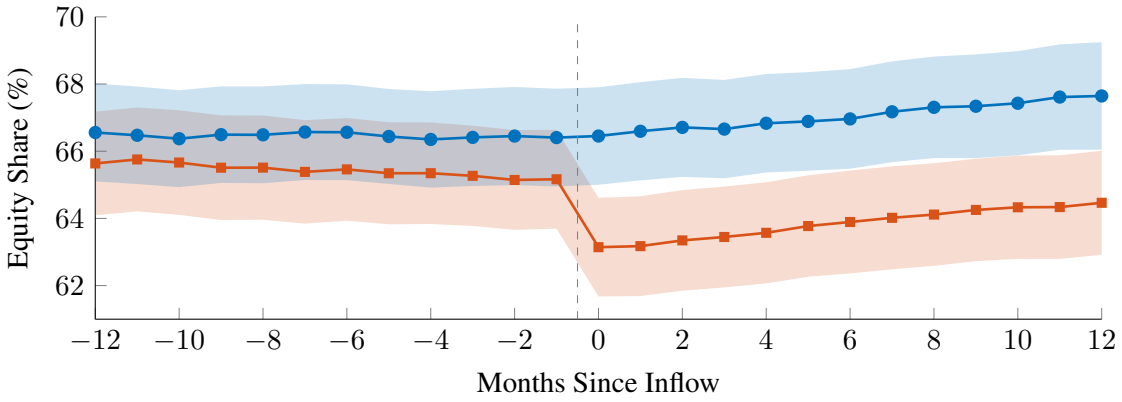
This figure plots the estimated age profile of the equity share of advised retirees, using the estimation methodology of Deaton and Paxson (1994), along with 95% confidence bands based on standard errors clustered by advisor. The baseline estimates are for the full sample of advised retirees. The other two profiles restrict the sample to investor-years with an annual portfolio turnover of more than 5 percent and more than 25 percent, respectively. Turnover is defined as one half of the sum of purchases and redemptions during the year, divided by the portfolio value at the end of the previous year.

Figure 5: Portfolio Changes Around Large Inflows

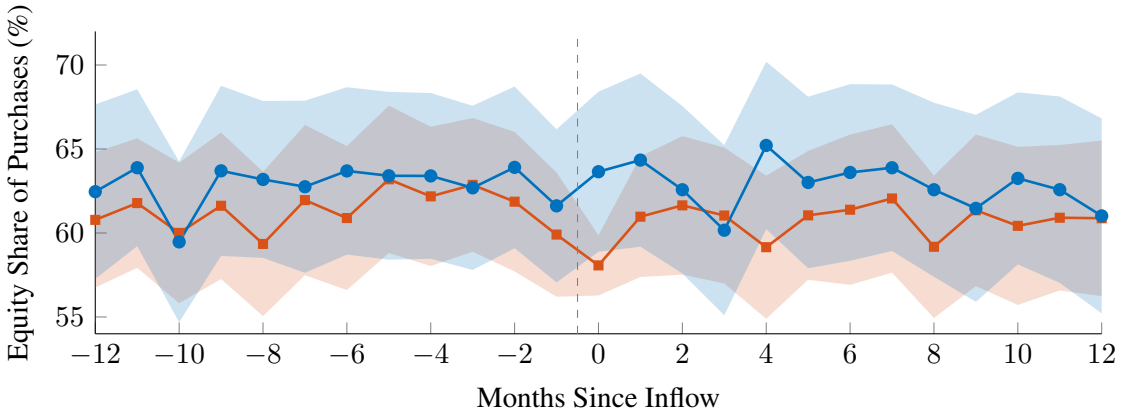
(a) Average Monthly Net Flow



(b) Average Portfolio Equity Share

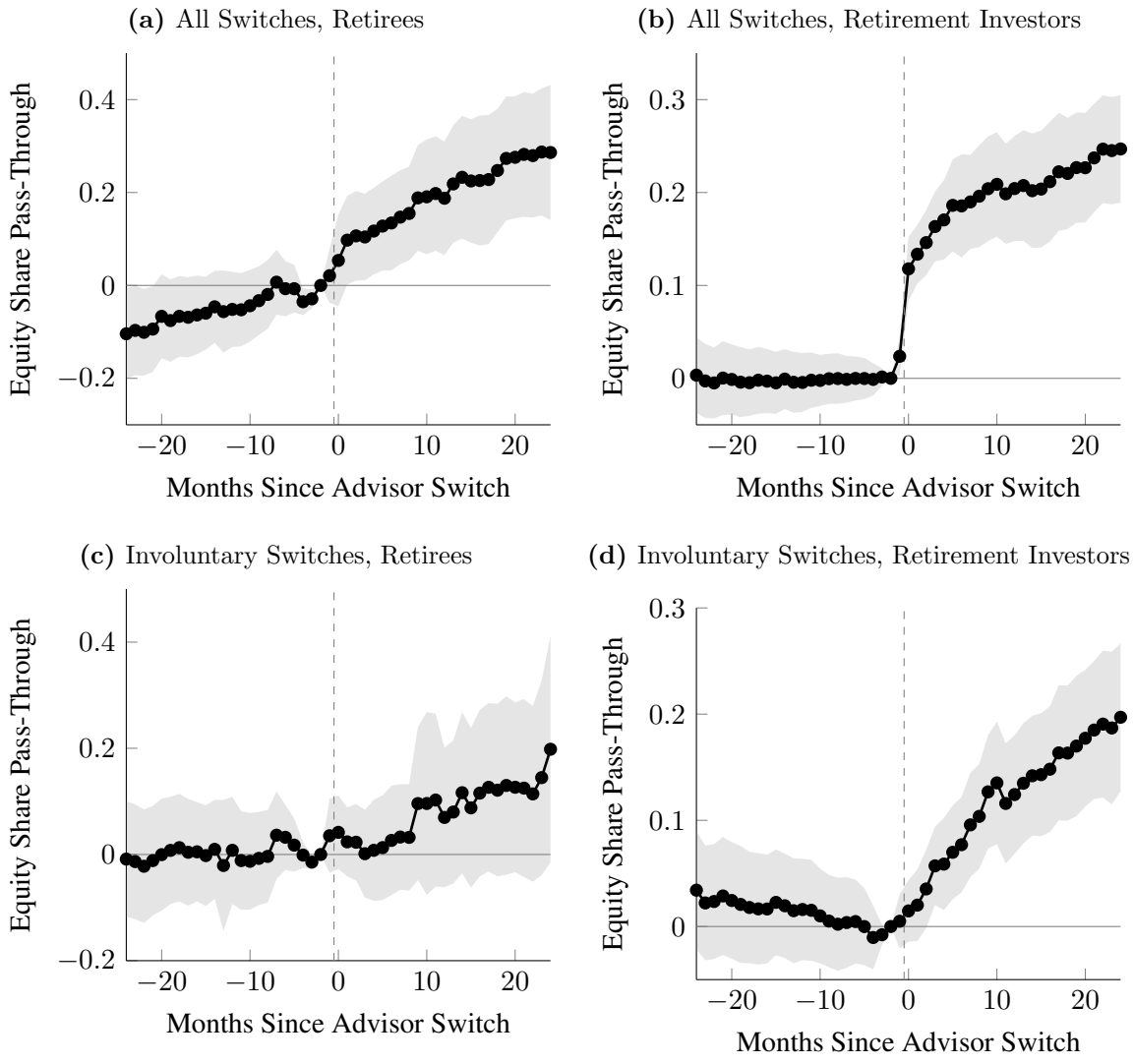


(c) Average Equity Share of Monthly Purchases



This figure plots average monthly outcomes of advised retirees in the twelve months before and after a large inflow, along with 95% confidence bands based on standard errors clustered by advisor. A large inflow is a month in which the net flow into the investor's non-retirement accounts exceeds C$10,000. Events are restricted to investors with a positive non-retirement balance in the previous month and no other large net flows within twelve months. The control group consists of randomly drawn investor-months without large flows.

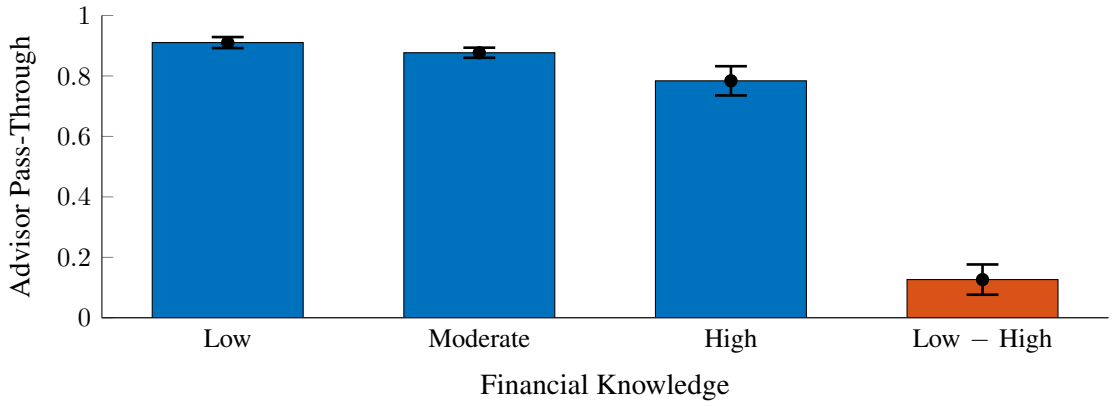
Figure 6: Portfolio Changes Around Advisor Switches



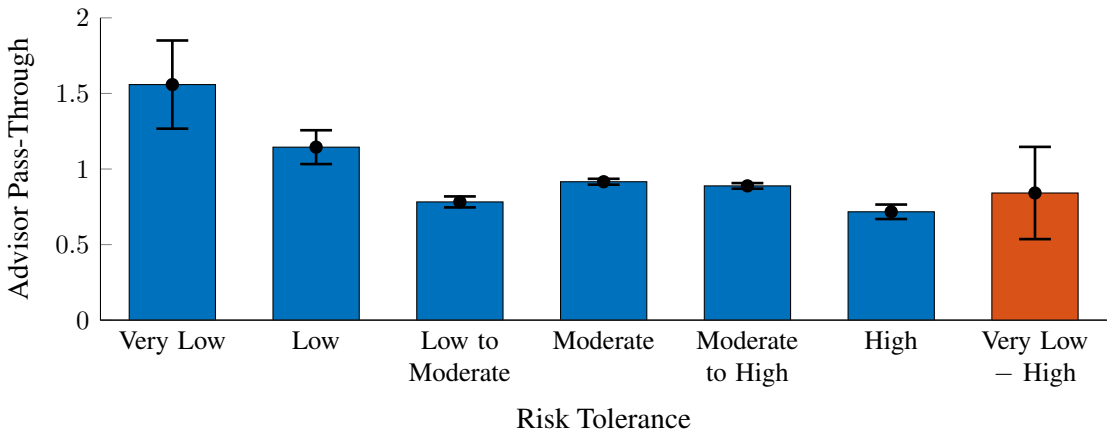
This figure plots event-study estimates of the pass-through of the difference in risk-taking between the new and the old advisor to the equity share of investors who switch advisors, along with 95% confidence bands based on standard errors clustered by old advisor. The difference in risk-taking is the difference between the average equity shares of the new and the old advisor's other clients over the twelve months before the switch, computed for advisors with at least five such clients. The estimates are the coefficients on the interactions of this difference with event-month indicators, from regressions that control for switch and calendar-month fixed effects. Two months before the switch is the omitted category. The left panels include investors who are retirees before the switch, and the right panels include all retirement investors. The top panels include all switches, and the bottom panels include only involuntary switches caused by the old advisor's departure.

Figure 7: Advisor Influence by Client Characteristics

(a) Financial Knowledge



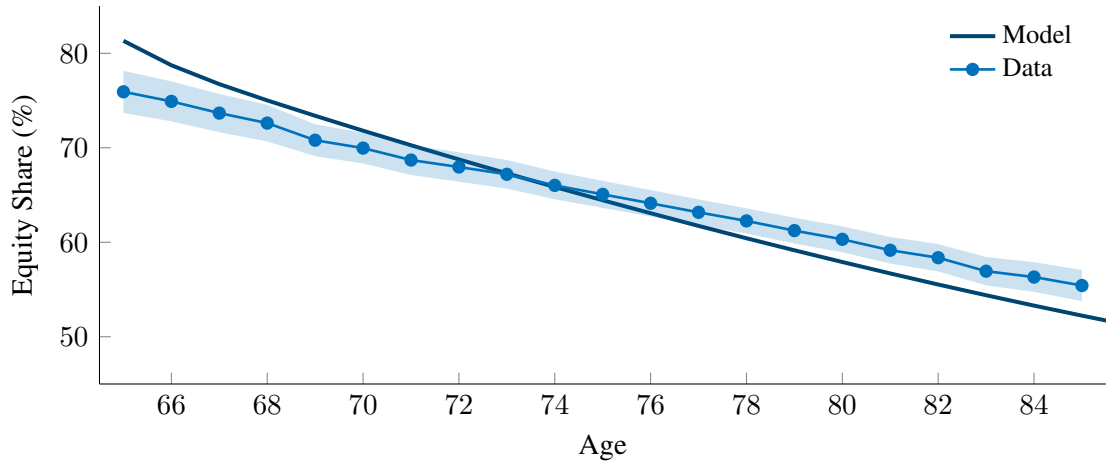
(b) Risk Tolerance



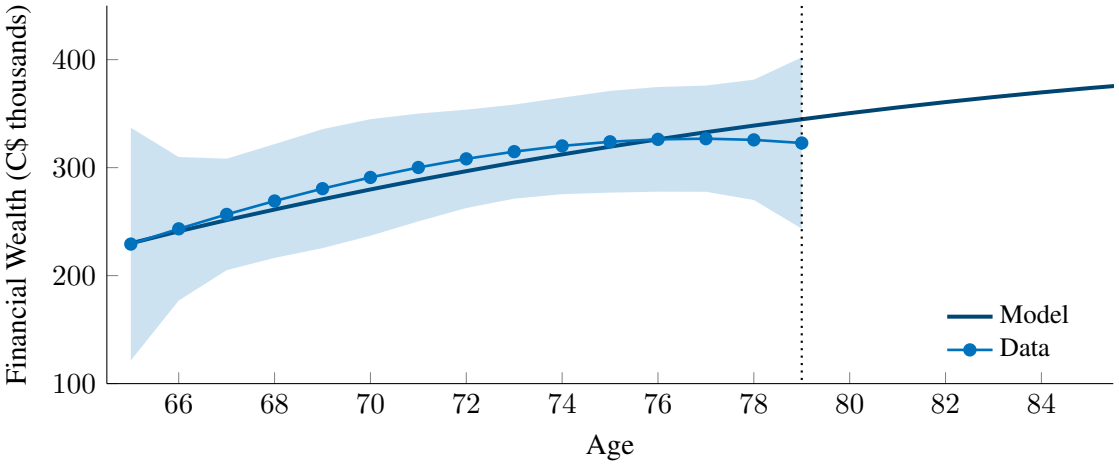
This figure plots the loading of investors' equity shares on the average equity share of their advisor's other clients by investor characteristics, with 95% confidence intervals based on standard errors clustered by advisor. The loadings in each panel are estimated jointly in a single regression, controlling for investor characteristics and year fixed effects. The sample includes all advised retirement investors.

Figure 8: Age Profiles in Model versus Data

(a) Average Equity Share



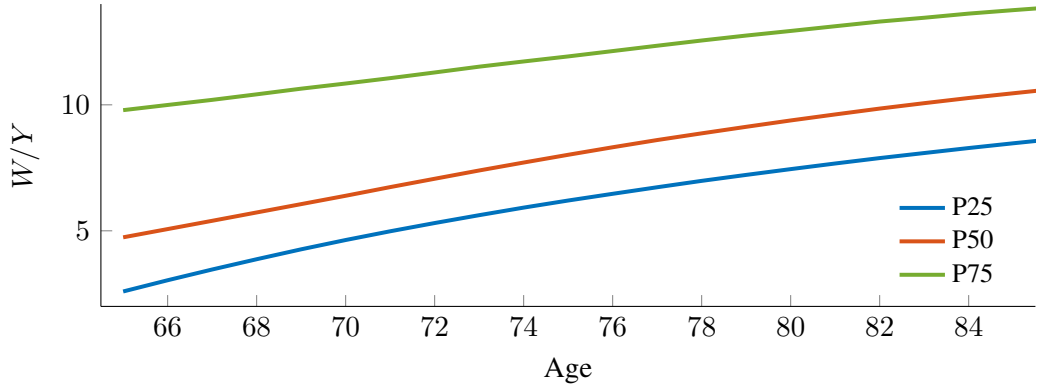
(b) Average Financial Wealth



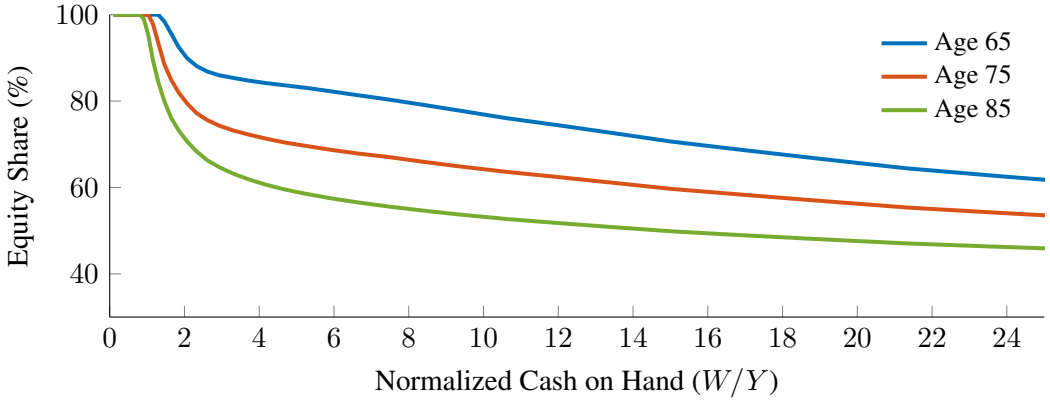
This figure compares the age profiles of the average equity share and average financial wealth in the model under the baseline parameter estimates with their empirical counterparts. The data series are the Deaton and Paxson (1994) estimates of the equity share by age in advised portfolios (Section 2.1) and of financial wealth by age from the Canadian Survey of Financial Security (Section 3.5), along with 95% confidence bands. Because ages are top-coded at 80 in the Survey of Financial Security, the financial wealth profile ends at age 79, indicated by the dotted vertical line. Financial wealth is in 2005 Canadian dollars.

Figure 9: Normalized Wealth Distribution and Policy Functions

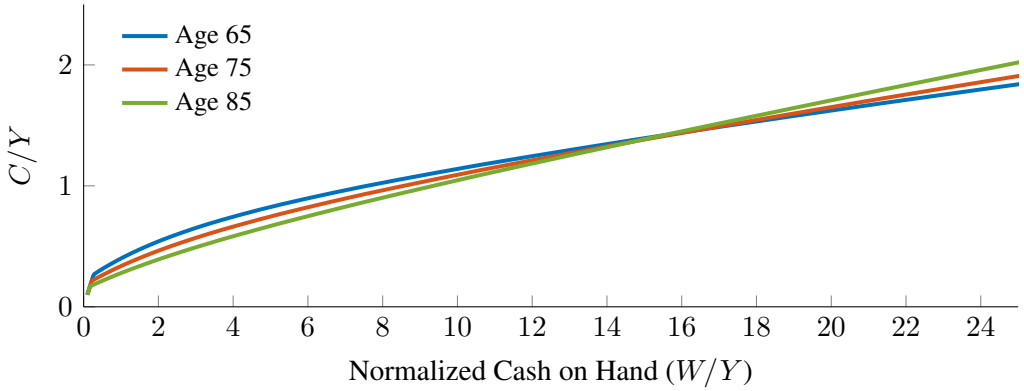
(a) Distribution of Normalized Cash on Hand (W/Y)



(b) Policy Function for Equity Share



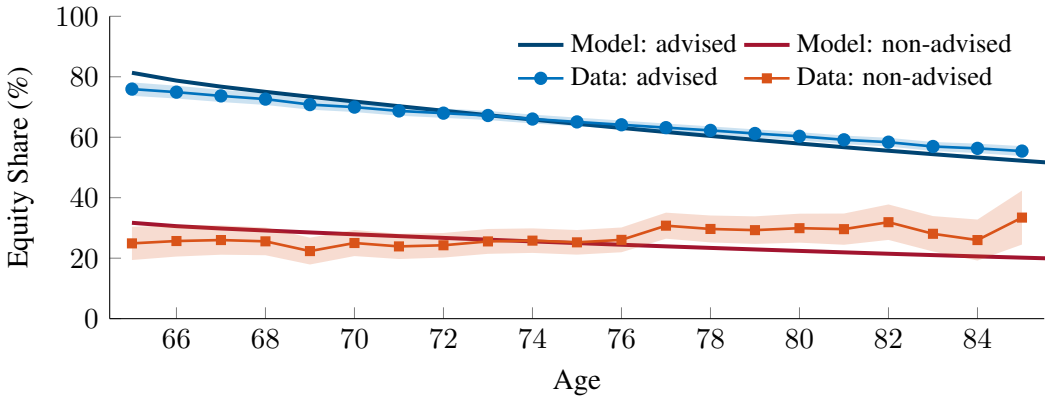
(c) Policy Function for Normalized Consumption (C/Y)



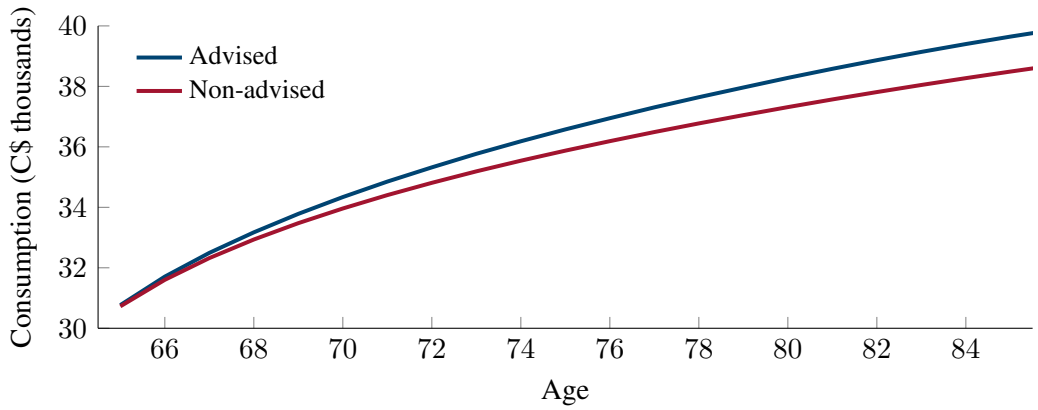
Panel (a) of this figure plots the 25th, 50th, and 75th percentiles of normalized cash on hand, W/Y, by age in the model under the baseline parameter estimates. Panels (b) and (c) show the policy functions for the optimal equity share and normalized consumption, respectively, as functions of normalized cash on hand at ages 65, 75, and 85.

Figure 10: Advised versus Non-Advised Portfolio Outcomes

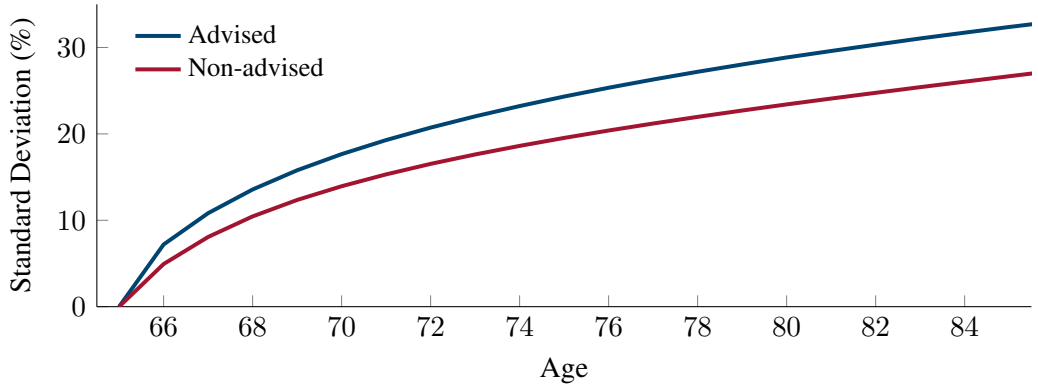
(a) Average Equity Share



(b) Average Consumption

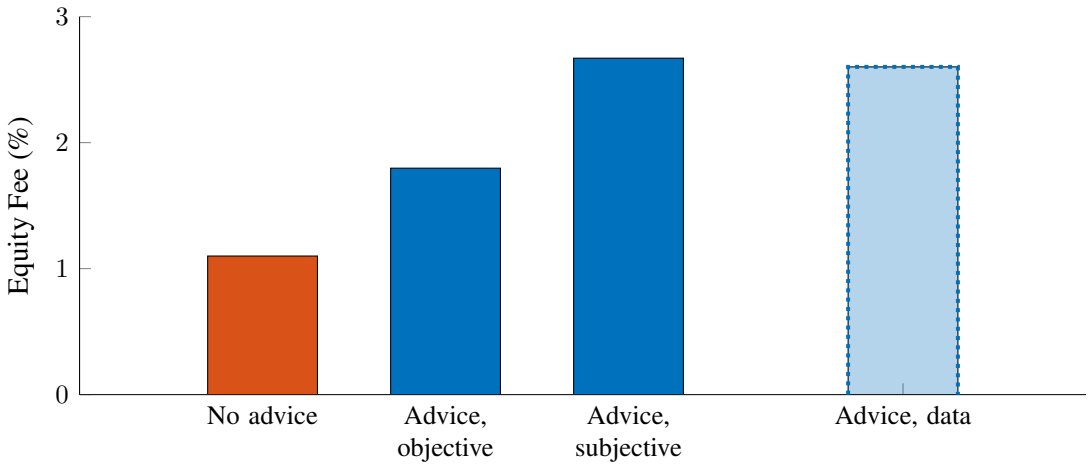


(c) Standard Deviation of Cumulative Consumption Growth



Panel (a) of this figure plots the average equity share by age in the baseline version of the model, estimated based on advised portfolios, and in the counterfactual version of the model with distorted beliefs and lower fees, estimated based on non-advised portfolios, together with their empirical counterparts and 95% confidence bands. Panels (b) and (c) report, respectively, average consumption in 2005 Canadian dollars and the cross-sectional standard deviation of cumulative log consumption growth relative to age 65, by age.

Figure 11: Welfare-Equivalent Investment Fees



This figure reports annual equity fees in percent of assets under management. "No advice" is the equity fee in the counterfactual version of the model in which households do not receive advice and invest in funds without advisor compensation. "Advice, objective" and "Advice, subjective" refer to the baseline model with advice, where a fee for advice is added to both the equity and the bond fee in the no-advice counterfactual and chosen so that welfare equals that in the no-advice counterfactual. Welfare is evaluated using the objective return distribution in the former case and households' subjective return beliefs in the latter. "Advice, data" is the equity fee of advised retirees in our sample, as used in the baseline model.

Table 1: Summary Statistics for Investors in Survey Data

	All households			Retirees		
Investment advice	None	Free	Paid	None	Free	Paid
Age	49.1	47.7	48.8	73.3	72.2	72.4
Retired (%)	18.4	13.2	13.7	100.0	100.0	100.0
Married (%)	59.2	61.7	66.3	47.4	51.2	54.3
Homeowner (%)	75.9	79.5	84.6	72.9	79.2	80.7
French speaking (%)	18.5	20.6	11.2	19.6	18.7	10.5
Education (%)						
High school or less	25.2	18.6	12.5	48.6	40.2	25.8
Some college	20.1	20.5	17.2	18.0	20.6	26.2
College	43.5	46.7	50.4	24.9	27.2	30.3
Graduate	11.2	14.2	19.9	8.6	12.1	17.7
Financial assets ($ thousands)	98.4	124.2	227.4	153.4	226.0	330.4
Portfolio shares (%)						
Equity	36.3	40.7	56.9	24.4	28.9	48.7
Fixed income	40.3	39.6	27.8	54.0	53.7	35.7
Cash	23.4	19.7	15.3	21.6	17.4	15.5
Holds asset type (%)						
Mutual funds	52.9	66.6	77.1	32.5	46.0	60.2
Stocks	29.1	30.9	49.8	27.2	33.9	57.8
Bonds	30.4	30.4	32.7	32.8	36.2	36.7
GICs	49.3	53.4	40.1	72.3	76.2	55.6
Checking/savings	98.6	98.8	99.2	97.3	96.0	99.1
Households	21,264	14,347	2,332	3,021	1,388	252
Observations	34,180	20,092	2,930	5,487	2,028	319

This table reports summary statistics from the Canadian Financial Monitor survey administered by Ipsos-Reid. The data are monthly from January 1999 through December 2006. Statistics are computed using survey sampling weights. The sample consists of households with head aged 25 to 85 and with wealth in an account other than checking or saving accounts. We also report summary statistics separately for retirees (head aged 65 or older and retired). Households are classified into three groups by advice usage: paid advice, free advice, and no advice. Paid advice includes households reporting paid advice on either their retirement plan or overall financial plan; free advice includes households reporting only free advice in at least one of these categories; households reporting neither are classified as unadvised.

Table 2: Summary Statistics for Advised Retirees

		Percentiles					
	Mean	10th	25th	50th	75th	90th	SD
Female (%)	52.7						
French speaking (%)	17.2						
Age	73.6	67	70	73	77	81	4.9
Client tenure (years)	6.6	1.2	3.2	6.3	9.8	12.5	4.0
Client–advisor tenure (years)	6.2	1.0	2.9	5.9	9.2	11.9	4.0
Number of plans	2.3	1	1	2	3	4	1.6
Number of funds	7.4	1	3	5	10	16	7.2
Account value ($ thousands)							
Total	119.9	10.8	26.9	65.5	147.1	283.7	171.4
Retirement	76.5	8.0	19.2	45.0	95.0	178.4	98.3
Non-retirement	43.3	0.0	0.0	0.0	34.7	128.0	121.2
Portfolio shares (%)							
Equity	63.6	37.8	50.0	61.9	81.5	100.0	23.9
Fixed income	33.0	0.0	15.0	34.6	50.0	54.1	22.4
Money market	3.4	0.0	0.0	0.0	0.0	4.3	14.4
Purchases (%)	24.1	0.0	0.0	0.8	26.6	73.6	54.6
Redemptions (%)	28.2	4.0	7.5	11.8	34.3	75.2	41.0
Turnover (%)	26.6	2.3	3.9	8.3	30.7	73.4	47.7
Total annual fee (%)	2.4	1.9	2.1	2.3	2.5	2.8	0.5
Has plan type (%)			Financial knowledge (%)				
Retirement income	100.0		Low				43.6
Retirement savings	6.9		Moderate				52.8
Non-retirement	44.2		High				3.6
Net worth (%)			Risk tolerance (%)				
<$100k	11.2		Very low				1.7
$100k–200k	12.2		Low				3.2
$200k–300k	51.8		Low to moderate				17.3
>$300k	24.8		Moderate				57.0
			Moderate to high				17.0
			High				3.8
Investors	36,034		Observations				206,900

This table reports summary statistics for advised retirees in our sample. Portfolios are measured at the end of each year. Client tenure and client–advisor tenure are the number of years since the client first appears in our data and with the current advisor, respectively. Purchases and redemptions are measured over the year, relative to the portfolio value at the end of the previous year, and turnover is one half of their sum. The total annual fee includes fund expense ratios and sales charges, net of rebates. Financial knowledge, net worth, and risk tolerance are from the clients' "Know Your Client" forms.

Table 3: Heterogeneity in Equity Shares: Investor Characteristics and Advisor Effects

	Equity share (%)				
	(1)	(2)	(3)	(4)	(5)
Female	-2.10***	-1.10***	-0.95***	-0.92***	-1.31***
	(0.27)	(0.28)	(0.23)	(0.23)	(0.23)
French speaking	-6.01***	-5.61***	-2.39	-2.64*	0.37
	(1.08)	(1.07)	(1.56)	(1.55)	(0.57)
Net worth					
<$100k	-0.59	0.02	-0.23	-0.18	-0.30
	(0.73)	(0.71)	(0.58)	(0.58)	(0.62)
$200k–300k	1.81***	0.62	0.39	0.15	0.68
	(0.60)	(0.54)	(0.44)	(0.44)	(0.46)
>$300k	2.29***	1.25*	1.09**	1.07**	1.83***
	(0.70)	(0.66)	(0.48)	(0.47)	(0.50)
Risk tolerance					
Very low		-20.95***	-19.49***	-21.23***	-19.22***
		(2.92)	(3.35)	(3.15)	(3.41)
Low		-25.22***	-21.63***	-22.04***	-21.72***
		(1.63)	(1.44)	(1.45)	(1.43)
Low to moderate		-12.70***	-10.34***	-10.10***	-8.73***
		(0.67)	(0.52)	(0.53)	(0.50)
Moderate to high		2.93***	2.98***	2.69***	1.83***
		(0.76)	(0.46)	(0.46)	(0.44)
High		9.21***	8.94***	8.51***	7.27***
		(1.42)	(0.90)	(0.89)	(0.95)
Financial knowledge					
Low		-3.67***	-2.75***	-2.74***	-2.20***
		(0.58)	(0.34)	(0.34)	(0.38)
High		1.32	2.16***	2.30***	1.66**
		(1.10)	(0.78)	(0.76)	(0.79)
Other clients' equity share (%)					0.86***
					(0.02)
Year FE	Yes	Yes	Yes	No	Yes
Age FE	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes
Advisor FE	No	No	Yes	No	No
Advisor × Year FE	No	No	No	Yes	No
Observations	155,967	134,462	134,336	130,709	134,227
Adjusted R^2	0.049	0.157	0.362	0.387	0.306

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

This table reports regressions of the equity share of advised retirees on investor characteristics and advisor effects. Portfolios are measured at the end of each year. The omitted categories are net worth of C$100k–200k, moderate risk tolerance, and moderate financial knowledge. Other clients' equity share is the average equity share of the advisor's other clients in the same year, computed for advisors with more than five clients. Standard errors, in parentheses, are clustered by advisor.

Table 4: Advisor versus Client Portfolio Allocations

	Equity share (%)				
	(1)	(2)	(3)	(4)	(5)
Advisor's own portfolio	14.65***	5.92***	1.37	2.61	
	(1.77)	(2.11)	(2.14)	(2.11)	
Advisor's own portfolio (active)					1.51
					(2.19)
Advisor's own portfolio (inactive)					0.46
					(3.68)
Controls	No	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	No	Yes
Age FE	No	Yes	Yes	Yes	Yes
Cohort FE	No	Yes	Yes	Yes	Yes
Advisor FE	No	No	Yes	No	Yes
Advisor × Year FE	No	No	No	Yes	No
Observations	180,885	119,803	119,748	116,981	119,748
Adjusted R^2	0.031	0.161	0.358	0.386	0.358

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

This table reports regressions of the equity share on an indicator for an advisor's own portfolio, pooling the portfolios of advised retirees and of their advisors who are in the retiree sample themselves. The sample of clients is restricted to clients of advisors whose own portfolios are observed. For advisors' own portfolios, the advisor fixed effect is that of the advisor. Column (5) separates advisors' own portfolios in years in which the advisor still has clients (active) from years after the advisor's last client (inactive). Controls are the investor characteristics in Table 3. Portfolios are measured at the end of each year. Standard errors, in parentheses, are clustered by advisor.

Table 5: Client Tenure, Equity Shares, and Fees

	Equity share (%)			Total fee (%)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tenure (years)	0.39***	0.55***				-0.00	-0.01***	
	(0.11)	(0.06)				(0.00)	(0.00)	
Tenure								
<1 year			-3.43***					0.02*
			(0.41)					(0.01)
1–3 years			-1.91***					0.01
			(0.26)					(0.01)
5–10 years			1.82***					-0.01
			(0.29)					(0.01)
>10 years			3.18***					-0.03***
			(0.47)					(0.01)
Equity share				0.75***	0.68***		0.69***	0.69***
				(0.02)	(0.02)		(0.02)	(0.02)
Controls	No	Yes	Yes	No	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	No	Yes	Yes	No	Yes	Yes	Yes	Yes
Cohort FE	No	Yes	Yes	No	Yes	Yes	Yes	Yes
Advisor FE	No	Yes	Yes	No	Yes	Yes	Yes	Yes
Observations	204,375	134,336	134,336	201,563	132,626	133,935	132,626	132,626
Adjusted R^2	0.031	0.365	0.365	0.143	0.325	0.256	0.326	0.326

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

This table reports regressions of the equity share (columns 1–3) and the total annual fee (columns 4–8) of advised retirees on client tenure and the equity share. Tenure is the number of years since the client first appears in our data, and the omitted tenure category is 3–5 years. In columns (4)–(8), the equity share is measured as a fraction. Controls are the investor characteristics in Table 3. Portfolios are measured at the end of each year. Standard errors, in parentheses, are clustered by advisor.

Table 6: Calibrated Parameters

	Symbol	Value	Source
Survival probabilities	π_t		Statistics Canada
Time discount factor	β	0.96	Cocco et al. (2005);
Risk-free rate (%)	$R^b - 1$	2.00	Gomes and Michaelides (2005)
Equity premium (%)	$e^{\mu} - R^b$	5.67	Dimson et al. (2008)
Equity return volatility (%)	σ_ν	17.95	
Fee on stocks (%)	f^s	2.60	Tables 2 and 5
Fee on bonds (%)	f^b	1.91	
Initial distribution			
Mean financial wealth (C$ thousands)	μ_X	229.2	
Dispersion of log financial wealth	σ_X	1.22	
Mean pension income (C$ thousands)	μ_Y	33.7	Survey of Financial Security
Dispersion of log pension income	σ_Y	0.54	
Correlation of log wealth and log income	ρ_{XY}	0.14	

This table reports the parameters of the model that are fixed based on ex-ante information.

Table 7: Estimation Results

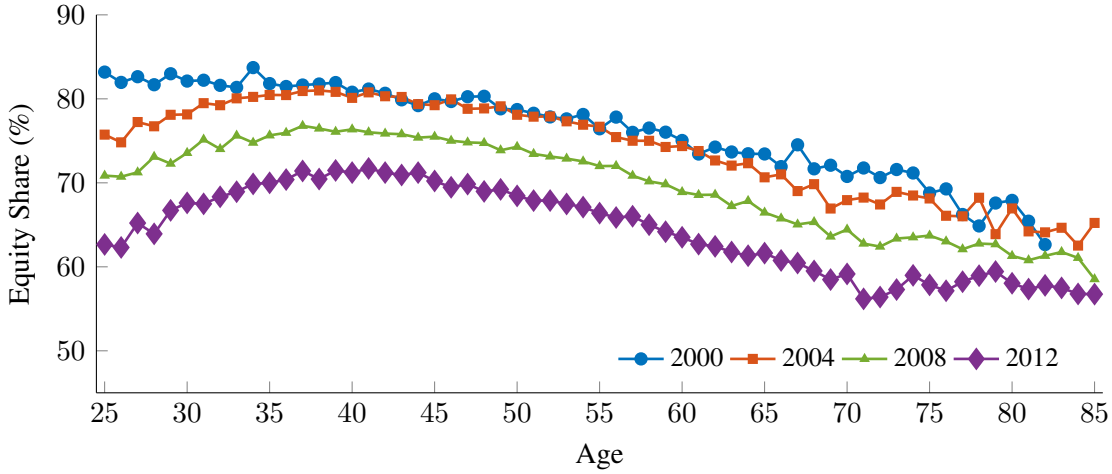
	Risk aversion (γ)	Bequest motive (q)	# moments	Objective
Estimate	4.2	10.4	36	0.045
(standard error)	(0.1)	(1.1)		

This table reports parameter estimates for the baseline model. The parameters are estimated by simulated method of moments (SMM) to match the empirical age profiles of equity shares and financial wealth. Standard errors of the estimates are reported in parentheses.

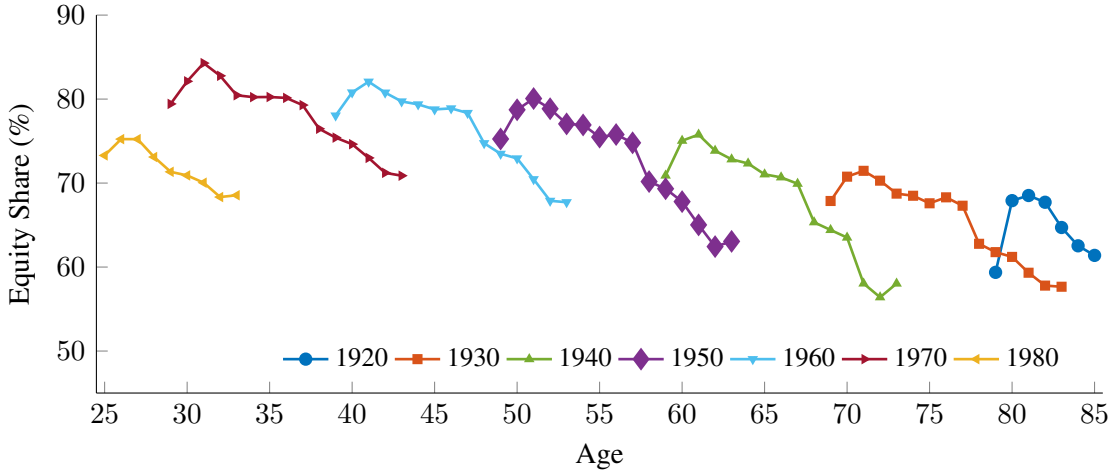
Appendix Figures and Tables

Figure A.1: Equity Share of All Advised Retirement Investors

(a) Cross-Sectional View

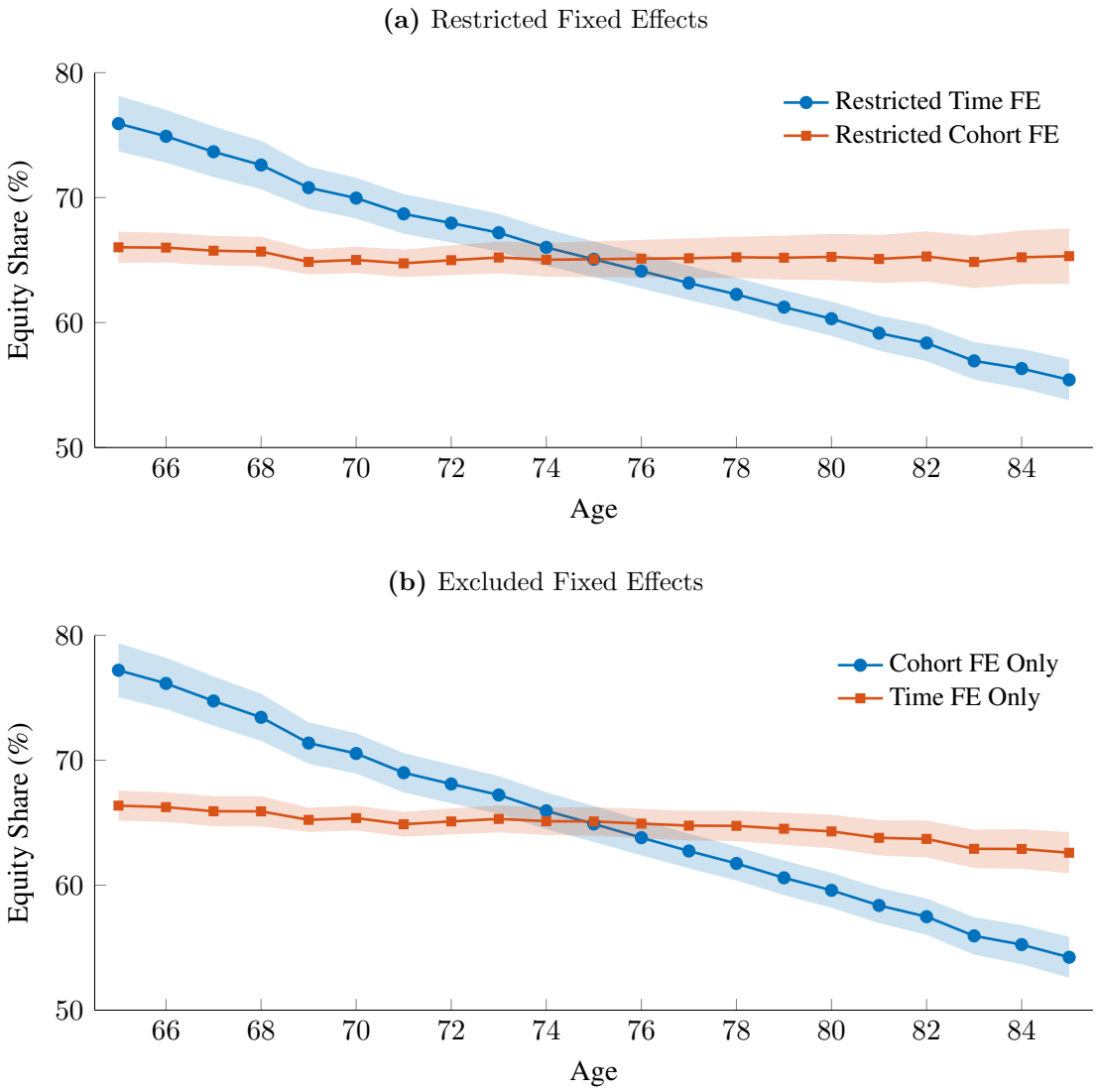


(b) Cohort View



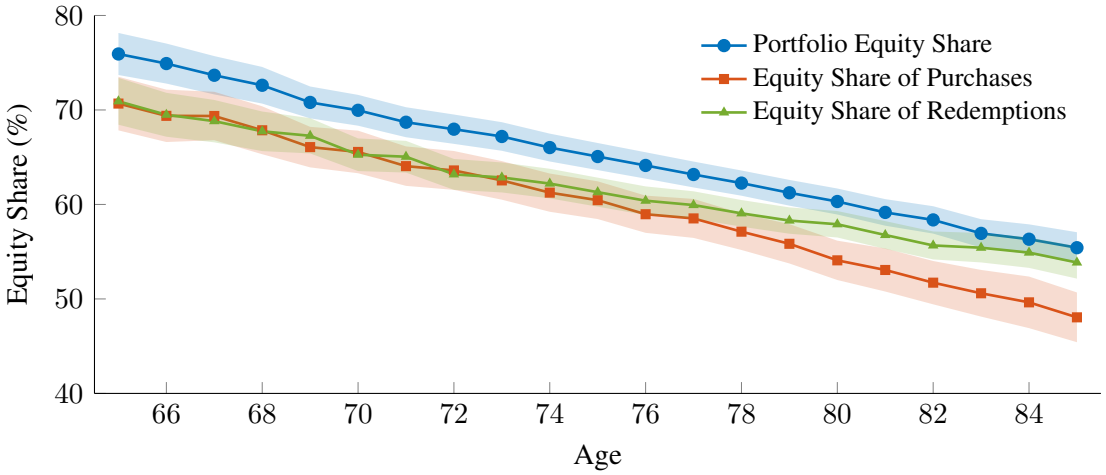
This figure plots the average equity share by age for all advised retirement investors in our sample. The top panel presents average equity shares in four sample years. The bottom panel presents average equity shares for seven birth cohorts. The equity share is the value-weighted equity exposure of all funds held across all of the investor's accounts. Equity shares are measured at the end of each year and averaged across investors with equal weights. Age-year and age-cohort cells with fewer than 25 investors are omitted. The sample includes investors aged 25–85 with a positive RRSP or RRIF balance.

Figure A.2: Age Profile of the Equity Share for Advised Retirees: Alternative Assumptions



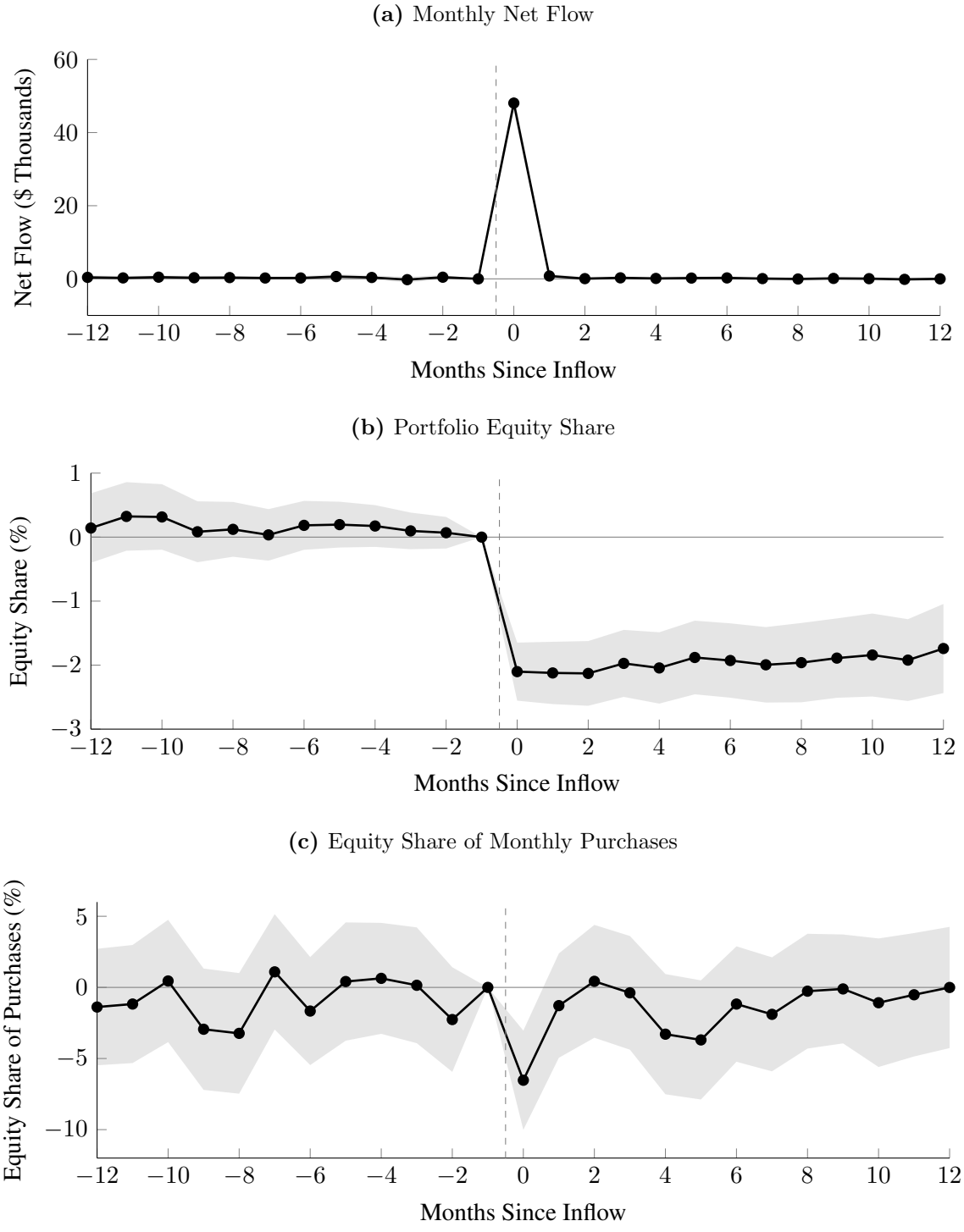
This figure plots the estimated age profile of the equity share of advised retirees under alternative identifying restrictions, along with 95% confidence bands based on standard errors clustered by advisor. The top panel compares the baseline restriction of Deaton and Paxson (1994), under which the year effects sum to zero and are orthogonal to a linear trend, with the alternative restriction under which the cohort effects are orthogonal to a linear trend instead. The bottom panel presents age profiles estimated with only cohort effects and with only year effects.

Figure A.3: Age Profile of the Equity Share for Advised Retirees: Purchases vs. Redemptions



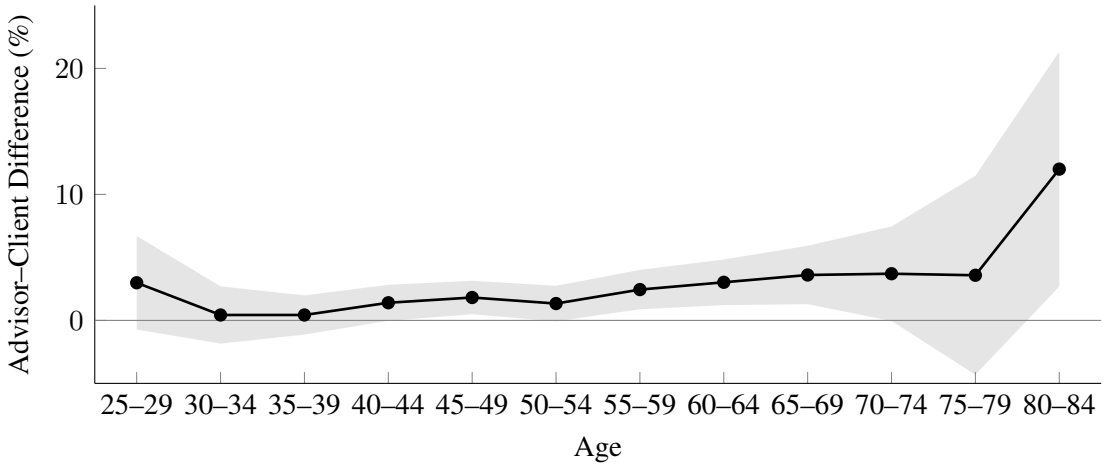
This figure plots the estimated age profiles of the portfolio equity share of advised retirees, the equity share of purchases, and the equity share of redemptions, using the estimation methodology of Deaton and Paxson (1994), along with 95% confidence bands based on standard errors clustered by advisor. The equity shares of purchases and redemptions are computed from all purchases and redemptions of an investor during the year, and are estimated for investor-years with positive purchases and redemptions, respectively.

Figure A.4: Portfolio Changes Around Large Inflows: Difference-in-Differences



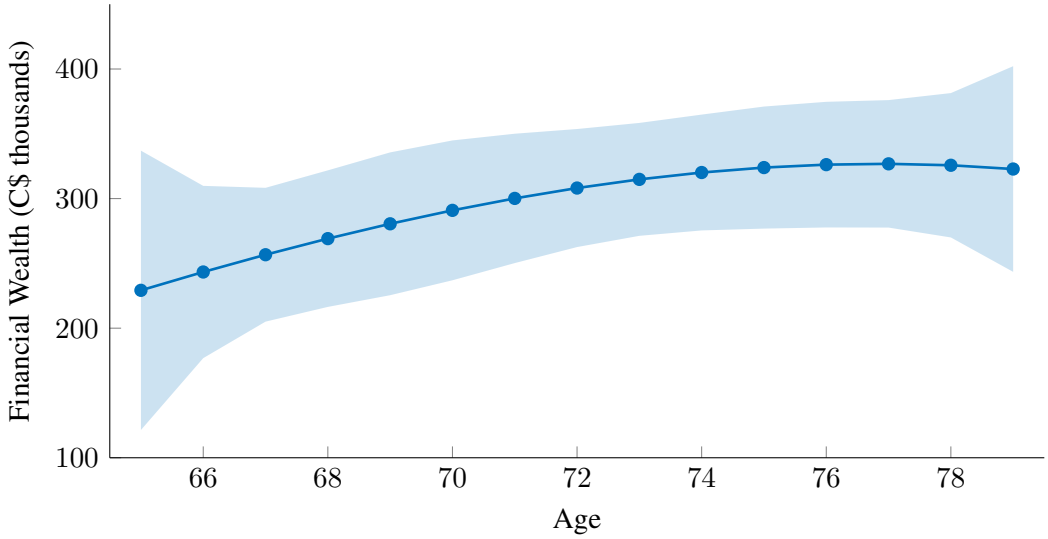
This figure plots difference-in-differences estimates of the change in outcomes of advised retirees around large inflows, relative to the control group, along with 95% confidence bands based on standard errors clustered by advisor. The estimates are the coefficients on the interactions of a large inflow indicator with event-month indicators, from regressions that control for event and calendar-month fixed effects. The month before the inflow is the omitted category. Large inflows and control events are defined as in Figure 5.

Figure A.5: Advisor versus Client Portfolio Allocations by Age



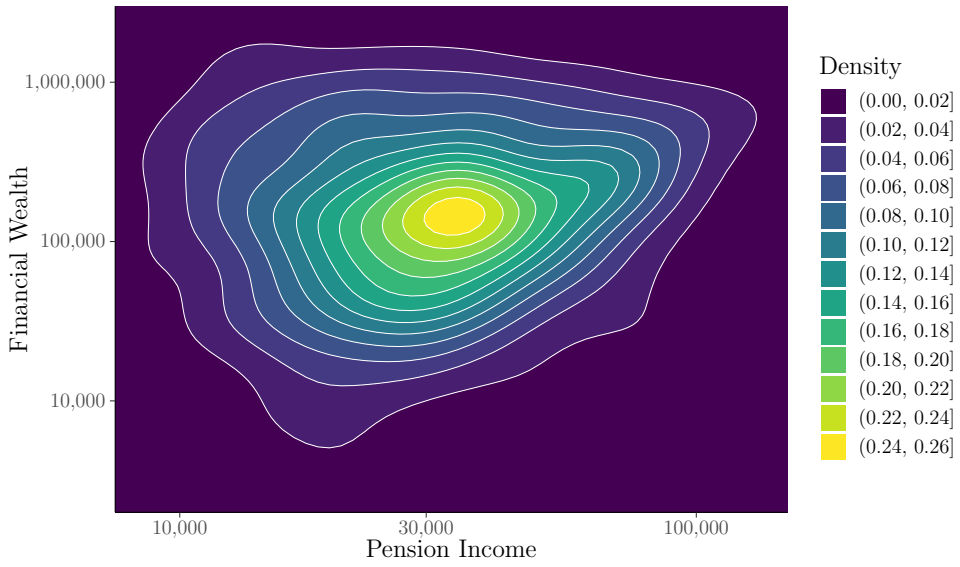
This figure plots the difference between the equity shares of advisors' own portfolios and those of their clients by five-year age group, along with 95% confidence bands based on standard errors clustered by advisor. The estimates are the coefficients on the interactions of an indicator for advisors' own portfolios with age-group indicators, from a regression that controls for investor characteristics and advisor, year, age, and cohort fixed effects, as in column (3) of Table 4. The sample includes all advised retirement investors and their advisors.

Figure A.6: Estimated Age Profile of Financial Wealth



This figure plots the estimated age profile of average financial wealth, in thousands of 2005 Canadian dollars, along with 95% confidence bands. The sample includes households in the 1999, 2005, 2012, and 2016 waves of the Canadian Survey of Financial Security (SFS) whose head is aged 65 or older, that have positive financial wealth, and that hold a RRIF. Ages are top-coded at 80. The profile is estimated using the methodology of Deaton and Paxson (1994) to separate age, cohort, and year effects, approximating the age profile with a third-order polynomial.

Figure A.7: Joint Distribution of Initial Financial Wealth and Pension Income



This figure plots the joint distribution of financial wealth and pension income, in 2005 Canadian dollars, for households aged 65–69 in the Canadian Survey of Financial Security (SFS). Both axes are on a log scale, and colors represent kernel-smoothed density levels of log financial wealth and log pension income.

Table A.1: Summary Statistics for All Advised Retirement Investors

		Percentiles					
	Mean	10th	25th	50th	75th	90th	SD
Female (%)	52.0						
French speaking (%)	22.0						
Age	49.5	34	40	49	58	66	12.4
Client tenure (years)	5.4	0.9	2.2	4.8	7.9	10.9	3.8
Client–advisor tenure (years)	5.1	0.8	1.9	4.4	7.8	10.8	3.7
Number of plans	2.2	1	1	2	3	4	1.6
Number of funds	7.0	1	2	5	9	15	6.9
Account value ($ thousands)							
Total	64.7	3.1	9.5	29.2	75.6	159.0	122.4
Retirement	47.9	2.6	7.8	23.4	59.4	119.8	77.6
Non-retirement	16.9	0.0	0.0	0.0	5.0	38.5	80.2
Portfolio shares (%)							
Equity	73.4	50.0	54.9	76.3	97.2	100.0	23.9
Fixed income	23.1	0.0	0.0	20.0	40.5	50.0	21.3
Money market	3.6	0.0	0.0	0.0	0.0	3.3	15.1
Purchases (%)	34.4	0.0	0.0	9.0	37.3	92.5	71.2
Redemptions (%)	22.2	0.0	0.0	3.6	25.3	69.9	45.8
Turnover (%)	29.4	0.0	0.0	8.6	32.9	79.2	59.4
Total annual fee (%)	2.4	2.0	2.3	2.4	2.6	2.8	0.5
Has plan type (%)		Financial knowledge (%)					
Retirement income	10.4	Low					38.7
Retirement savings	91.1	Moderate					55.4
Non-retirement	32.2	High					5.8
Net worth (%)		Risk tolerance (%)					
<$100k	22.8	Very low					1.8
$100k–200k	15.7	Low					1.7
$200k–300k	41.2	Low to moderate					10.0
>$300k	20.3	Moderate					51.5
		Moderate to high					23.8
		High					11.2
Investors	341,216	Observations					2,466,117

This table reports summary statistics for all advised retirement investors, defined as investors aged 25 to 85 with a positive RRSP or RRIF balance. Portfolios are measured at the end of each year. Client tenure and client–advisor tenure are the number of years since the client first appears in our data and with the current advisor, respectively. Purchases and redemptions are measured over the year, relative to the portfolio value at the end of the previous year, and turnover is one half of their sum. The total annual fee includes fund expense ratios and sales charges, net of rebates. Financial knowledge, net worth, and risk tolerance are from the clients' "Know Your Client" forms.

Table A.2: Summary Statistics for Financial Advisors

		Percentiles					
	Mean	10th	25th	50th	75th	90th	SD
Female (%)	19.0						
Age	49.9	37	43	50	57	63	10.2
Tenure (years)	7.1	1.9	3.9	6.9	10.5	12.9	4.1
Number of clients							
All	154.7	23	53	114	209	336	145.9
Retirees	10.9	1	2	5	13	28	15.6
Client assets ($ millions)							
All	9.6	0.8	2.2	5.5	12.6	23.4	17.2
Retirees	1.3	0.0	0.1	0.4	1.4	3.5	2.3
Equity share (%)							
Own portfolio	82.4	52.7	73.2	89.6	100.0	100.0	21.2
Clients' average (all)	73.0	56.6	64.8	73.9	82.1	88.6	12.7
Clients' average (retirees)	62.4	40.6	50.2	62.2	75.0	87.9	19.8
Advisors	2,377		Observations				18,870

This table reports summary statistics for the financial advisors of the advised retirees in our sample. Observations are advisor-years, measured at the end of each year, for advisors with at least one retiree client in that year. Tenure is the number of years since the advisor first appears in our data. The number of clients and client assets exclude the advisor's own accounts. The equity share of the advisor's own portfolio is available for 14,265 advisor-years in which the advisor holds a personal account at the firm. Clients' average equity shares are equal-weighted across the advisor's clients.

Table A.3: Heterogeneity in Equity Shares: All Retirement Investors

	Equity share (%)				
	(1)	(2)	(3)	(4)	(5)
Female	-2.35***	-1.42***	-1.51***	-1.52***	-1.74***
	(0.11)	(0.11)	(0.08)	(0.08)	(0.08)
French speaking	-6.61***	-5.97***	-1.64***	-1.67***	-0.36*
	(0.67)	(0.66)	(0.46)	(0.46)	(0.20)
Net worth					
<$100k	-1.32***	-0.91***	-0.79***	-0.76***	-1.04***
	(0.31)	(0.28)	(0.17)	(0.16)	(0.19)
$200k–300k	0.60**	-0.33	-0.07	-0.09	-0.18
	(0.24)	(0.22)	(0.12)	(0.12)	(0.13)
>$300k	0.06	-0.59**	0.24	0.23	0.24
	(0.30)	(0.29)	(0.15)	(0.15)	(0.16)
Risk tolerance					
Very low		-26.03***	-24.72***	-25.01***	-23.40***
		(2.67)	(2.22)	(2.12)	(2.21)
Low		-22.07***	-20.73***	-20.84***	-19.52***
		(0.99)	(0.79)	(0.76)	(0.81)
Low to moderate		-12.10***	-11.06***	-10.93***	-8.40***
		(0.50)	(0.39)	(0.39)	(0.35)
Moderate to high		2.44***	2.69***	2.57***	1.17***
		(0.42)	(0.19)	(0.19)	(0.16)
High		7.83***	8.28***	8.11***	5.41***
		(0.47)	(0.48)	(0.47)	(0.33)
Financial knowledge					
Low		-2.52***	-1.75***	-1.78***	-0.89***
		(0.35)	(0.14)	(0.14)	(0.14)
High		0.97**	2.03***	2.06***	1.56***
		(0.43)	(0.21)	(0.21)	(0.22)
Other clients' equity share (%)					0.88***
					(0.01)
Year FE	Yes	Yes	Yes	No	Yes
Age FE	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes
Advisor FE	No	No	Yes	No	No
Advisor × Year FE	No	No	No	Yes	No
Observations	1,900,458	1,642,061	1,641,902	1,639,629	1,636,399
Adjusted R^2	0.084	0.157	0.307	0.343	0.316

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

This table reports regressions of the equity share of all advised retirement investors in our sample on investor characteristics and advisor effects. Portfolios are measured at the end of each year. The omitted categories are net worth of C$100k–200k, moderate risk tolerance, and moderate financial knowledge. Other clients' equity share is the average equity share of the advisor's other clients in the same year, computed for advisors with more than five clients. Standard errors, in parentheses, are clustered by advisor.

Table A.4: Wealth and Pension Income in Canada vs. United States

	Canadian SFS				U.S. SCF			
	Mean	25th	50th	75th	Mean	25th	50th	75th
Financial wealth	298.6	65.4	154.2	342.7	719.0	74.4	206.8	577.5
Liquid retirement wealth	151.5	30.0	77.7	172.8	242.9	22.6	78.6	216.8
Non-retirement investments	81.2	0.0	0.0	35.0	357.6	0.0	7.8	156.4
Cash and cash-like assets	66.0	6.5	25.3	74.9	118.6	8.4	35.6	97.2
Home equity	279.6	97.9	200.0	333.3	403.7	95.0	184.5	383.7
Net worth	648.0	232.7	425.2	743.5	1,364.9	231.6	488.9	1,048.4
Pension income	33.7	20.0	28.3	42.6	42.3	20.7	32.2	52.6
Government transfers	19.3	14.4	19.0	24.0				
Private pension benefits	14.3	0.0	7.8	22.5				

This table reports summary statistics on financial wealth and retirement income for households aged 65 and older in the 1999–2016 waves of the Canadian Survey of Financial Security (SFS) and the 2001–2016 waves of the U.S. Survey of Consumer Finances (SCF). Financial wealth includes liquid retirement assets, non-retirement investments, and cash and cash-like assets. All amounts are in thousands of 2005 dollars (Canadian dollars for the SFS and U.S. dollars for the SCF). The sample is restricted to households with positive total financial wealth and positive liquid retirement wealth.