The Misguided Beliefs of Financial Advisors*

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Abstract

A common view of retail finance is that conflicts of interest contribute to the high cost of advice. Using detailed data on financial advisors and their clients, however, we show that most advisors invest personally just as they advise their clients. Advisors trade frequently, chase returns, prefer expensive, actively managed funds, and underdiversify. Advisors' net returns of −3% per year are similar to their clients' net returns. Advisors do not strategically hold expensive portfolios only to convince clients to do the same; they continue to do so after they leave the industry.

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1 Introduction

Individual investors throughout the world rely on financial advisors to guide their investment decisions. According to the 2013 Survey of Consumer Finances, nearly 40 million American households received advice from a financial planner or securities broker. A common criticism of the financial advisory industry is that conflicts of interest compromise the quality, and raise the cost, of advice. Many advisors require no direct payment from clients but instead draw commissions on the mutual funds they sell. Advisors may therefore be tempted to recommend products that maximize commissions instead of serving the interests of their clients. Academic studies have shown suggestive evidence that sales commissions distort portfolios.[1] Policymakers in Australia, the United Kingdom, and the United States, in turn, have either banned commissions or mandated that advisors act as fiduciaries, placing clients' interests ahead of their own.[2]

In this paper we find support for an alternative explanation of costly and low-quality advice with starkly different policy implications. Advisors are willing to hold the investments they recommend—indeed, they invest very similarly to clients—but they have misguided beliefs. They recommend frequent trading and expensive, actively managed products because they believe active management, even after commissions, dominates passive management. Whether investing on behalf of clients or themselves, advisors deliver net returns substantially below passive benchmarks. Eliminating conflicts of interest may therefore reduce the cost of advice by less than policymakers hope.

[1] See, for example, Bergstresser, Chalmers, and Tufano (2009), Mullainathan, Nöth, and Schoar (2012), Christoffersen, Evans, and Musto (2013), Anagol, Cole, and Sarkar (2016), and Egan (2016).

[2] In 2012, the Australian government implemented the Future of Financial Advice Reform, which banned conflicted compensation arrangements, including commissions. In 2013, the Financial Conduct Authority in the United Kingdom banned commissions. In 2016, the United States Department of Labor finalized a rule to impose fiduciary duty in retirement accounts.

Our analysis uses data provided by two large Canadian financial institutions. Advisors within these firms provide advice on asset allocation and serve as mutual fund dealers, recommending the purchase or sale of unaffiliated mutual funds. These advisors are not subject to fiduciary duty under Canadian law (Canadian Securities Administrators 2012). The data include comprehensive trading and portfolio information on more than 4,000 advisors and almost 500,000 clients between 1999 and 2013. Our data also include the personal trading and account information of the vast majority of advisors themselves. This unique feature proves fruitful for our analysis. The advisor's own trades reveal his beliefs and preferences, which allow us to test whether client trades that are criticized as self-serving may instead emanate from misguided beliefs.

We begin by characterizing the trading patterns of clients and advisors. We focus on trading behaviors that may hurt risk-adjusted performance: high turnover, preference for funds with active management or high expense ratios, return chasing, and underdiversification.[3] Both clients and advisors exhibit trading patterns previously documented for self-directed investors. For example, they purchase funds with better-than-average historical returns and they overwhelmingly favor expensive, actively managed funds. This similarity suggests that advisors do not dramatically alter their recommendations when acting as agents rather than principals.

An analysis of fees and investment returns likewise shows little evidence that advisors recommend worse performing funds than they hold themselves. The average expense ratios of mutual funds in advisors' and clients' portfolios are nearly the same, at 2.43% and 2.36%. Advisors earn commissions on their personal purchases, but even after adjusting for these rebates, the performance

[3]Barber and Odean (2000) find that active trading—which can result from return chasing, for example—significantly hurts individual investors' performance. French (2008) computes that the average investor would have improved his performance by 67 basis points per year between 1980 and 2006 by switching to a passive market portfolio. Carhart (1997) shows that expenses reduce performance at least one-for-one and that returns decrease with fund turnover. Calvet, Campbell, and Sodini (2007) and Goetzmann and Kumar (2008) find that underdiversification leads to large welfare losses for some households.

difference between advisors and clients is close to zero. Depending on the model, this difference ranges from −5 to +21 basis points per year. Clients and advisors both earn annual net alphas of −3%.

We trace differences in advisors' recommendations to their own beliefs and preferences. We first show that the common variation among an advisor's clients, as measured through advisor fixed effects, dominates variation explained by observable client traits such as age, income, risk tolerance, and financial knowledge. We also estimate a model with client fixed effects to address the possibility that the advisor effects capture shared, but unobservable, preferences among co-clients. We study client dislocations—events in which clients have to switch advisors when the old advisor dies or retires—to verify that advisors causally affect client behavior. The client fixed effects also prove important in explaining portfolio choices, but they do not meaningfully crowd out the advisor effects. We then show that an advisor's own trading behavior strongly predicts the behavior common among his clients. For example, an advisor who encourages his clients to chase returns typically also chases returns himself. The correlation in trading behavior between an advisor and his clients is always statistically significant and ranges from 0.14 to 0.29.

We show that the similarity between advisors and clients is not limited to the specific trading behaviors we examine. We use detailed transaction data—the timing of trades and the specific funds purchased—to illustrate advisors' impact on client trading. Client purchases coincide frequently with their own advisor's purchases but rarely with those of other advisors. The similarity in trading behaviors is therefore a by-product of trade-level coordination. Although clients' and advisors' trades rarely deviate from each other, we show that these differences are systematic. When an

advisor deviates from his clients, he favors funds with even stronger prior performance, higher expense ratios, and more idiosyncratic risk.

Collectively, our results suggest that advisors' own beliefs and preferences drive their recommendations. We examine and rule out an alternative explanation, namely that advisors invest in expensive funds only to convince their clients to do the same. If anything, advisors invest even more similarly to clients when the cost is highest, that is, when their personal portfolios are large. Advisors' trading behavior also remains mostly unchanged after they leave the industry. They continue to chase returns and invest in expensive, actively managed funds. In fact, there is no systematic change in advisors' trading behavior from the time before they enter the industry to the time they exit. Finally, if advisors were "window dressing," their personal portfolios should perform no worse than those of their clients. However, the average advisor would earn higher returns if he copied his clients' portfolios.

We conclude by showing that differences in advisors' beliefs predict substantial differences in clients' investment performance. We sort advisors into deciles based on the gross performance of their personal portfolios and compare their clients' performance. Clients advised by bottom-decile advisors earn 1.6 percentage point lower returns than clients advised by top-decile advisors. The fees display the same pattern. Advisors who hold portfolios in the top fee decile recommend portfolios that are 26 basis points more expensive than those recommended by advisors at the other end of the distribution. Idiosyncratic portfolio risk likewise increases by half when the advisor is in the top decile of idiosyncratic risk rather than the bottom decile. Together, these patterns in gross returns, fees, and risk indicate that differences in advisors' beliefs cause substantial variation in risk-adjusted portfolio returns.

Our analysis makes substantial contributions beyond those of Foerster, Linnainmaa, Melzer, and Previtero (2017), a companion paper that measures advisors' influence on client equity allocations using similar data and methods. Foerster et al. (2017) show that clients and advisors take similar amounts of portfolio risk and that clients underperform passive benchmarks. The important difference between this study and its companion is that one cannot make inferences about advisors' motivations from this similarity alone. For example, an advisor's risky share could match that of his clients even when he invests only in low-cost index funds while putting his clients into actively managed funds with high commissions. This study investigates advisors' motivations in three ways. First, we analyze a variety of trading behaviors, such as churning and favoring high-cost funds, that are suspected to arise from advisors' self-serving behavior. Second, we show that advisors' own portfolios underperform passive benchmarks by just as much as client portfolios. Third, we compare advisors' trading behavior when they advise clients to their behavior before and after they advise clients. This analysis rules out the possibility that advisors strategically invest in high-cost funds only to convince their clients to do the same. The evidence we provide in this paper therefore significantly informs the debate about whether high-cost advice stems from conflicts of interest and identifies misguided beliefs as an alternative explanation.

We contribute to the broader literature on financial advice by highlighting the importance of advisors' beliefs. Mullainathan, Nöth, and Schoar (2012) show that advisors fail to override client biases toward return chasing and active management. We confirm their findings and document a specific reason—mistaken beliefs—as to why advisors fail to de-bias their clients. While advisors do not adjust their personal portfolios to manipulate clients, their choice to hold similar portfolios may engender trust and facilitate client risk-taking (Gennaioli, Shleifer, and Vishny 2015). Our analysis

also relates to studies of advisor misconduct (Egan, Matvos, and Seru 2017a; Egan, Matvos, and Seru 2017b), conflicts of interest (Bergstresser, Chalmers, and Tufano 2009; Christoffersen, Evans, and Musto 2013; Anagol, Cole, and Sarkar 2016; and Egan 2016), and the investment performance of advised accounts (Chalmers and Reuter 2015; Hackethal, Inderst, and Meyer 2012; and Hoechle, Ruenzi, Schaub, and Schmid 2015).

Other studies have used product purchases by sales agents or "experts" to examine the roles of incentives and beliefs in principal-agent arrangements. Cheng, Raina, and Xiong (2014) find that mid-level managers in securitized finance personally invested in real estate during the mid-2000s housing boom. Dvorak (2015) shows that consultants typically design similar 401(k) plans for clients as they offer to their own employees. Levitt and Syverson (2008), on the other hand, find that real estate agents leave their own homes on the market for longer and sell them at higher prices than their clients' homes. Finally, Bronnenberg, Dubé, Gentzkow, and Shapiro (2015) show that pharmacists and chefs are less likely to buy nationally branded items than lower-priced, private-label alternatives. By contrast, the experts in our setting do not tilt their purchases toward lower-cost alternatives.

2 Data

We use administrative data on client investments and advisory relationships provided by two Canadian Mutual Fund Dealers (MFDs). Non-bank financial advisors of this type are the main source of financial advice in Canada—they account for $390 billion (55%) of household assets under advice as

of December 2011 (Canadian Securities Administrators 2012). The two firms in our sample advise just under $20 billion of assets, so they represent roughly 5% of the MFD sector.[4]

Advisors within these firms are licensed to sell mutual funds and precluded from selling individual securities and derivatives. They make recommendations and execute trades on clients' behalf but cannot engage in discretionary trading.[5] They do not provide captive distribution for particular mutual fund families. Rather, they are free to recommend all mutual funds. As discussed below, the breadth in their clients' holdings reflects this freedom.

Both dealers provided the detailed history of transactions and demographic information on clients and advisors. They also provided unique identifiers that link advisors to their personal investment portfolios, if held at their own firm. While these portfolios are visible to us, they would only be visible to clients if voluntarily disclosed by the advisor.

Out of 4,407 advisors, 3,276 maintain a personal portfolio at their firm. The advisors who do not are usually just starting out. For example, among the 680 advisors who never attract more than five clients—and often disappear quickly—only 44% have a personal portfolio at the firm. But among the 2,123 advisors who go on to advise more than 50 clients, 91% have a personal portfolio at the firm.[6]

We supplement these administrative data with returns, fees, and net asset values from Fundata, Morningstar, and Univeris.

[4]These firms are among those studied by Foerster et al. (2017). Two of the firms in that study did not provide the identifiers necessary for matching advisors to their personal portfolios and for comparing client and advisor behavior. We exclude these two dealers throughout this study.

[5]Under Canadian securities legislation, advisors do not have fiduciary duty. Instead, they face a weaker legal mandate to "deal fairly, honestly and in good faith with their clients" and to make recommendations suitable to clients' investment goals and risk tolerance (Canadian Securities Administrators 2012).

[6]Table A1 in the Appendix presents an analysis of advisor survival as a function of the number of clients. The estimates show that advisors with more than 100 clients have an annual survival rate of 98.9%. This survival rate decreases almost monotonically as the number of clients falls, and reaches 81.2% among advisors with at most five clients.

2.1 Advisors and their clients

Table 1 provides key summary statistics for clients and financial advisors. The sample includes all individual accounts held at one of the two dealers between January 1999 and December 2013. We study the 3,276 advisors with personal portfolio information and the 488,263 clients who are active at some point during the 14-year sample period. The total amount of assets under advice as of June 2012 is $18.9 billion.

Men and women are equally represented among clients. Their ages range from 32 years old at the bottom decile to 67 years old at the top decile. The average client has 1.7 plans, or sub-accounts, invested in 3.5 mutual funds. The distribution of client assets is right-skewed: while the median client has CND 23,500 in assets, the average account size is CND 55,300. Advisors differ from their clients. Nearly three-quarters of the advisors are men, and the average advisor's account value is CND 112,100, which is twice the value of the average client's account.

The second panel shows the distribution of account types. The majority of investors—85% of clients and 86% of advisors—have retirement plans, which receive favorable tax treatment comparable to IRA and 401(k) plans in the U.S. The next most common account type is the unrestricted general-purpose plan, which is held by 28% of clients and 44% of advisors. In some of our analyses, we separate retirement and general accounts because of differences in tax treatment.

Financial advisors collect information on clients' risk tolerance, financial knowledge, salary, and net worth through "Know Your Client" forms at the start of the advisor-client relationship. They also report this information for themselves. Advisors report higher risk tolerance, net worth, and salary than their clients. Most advisors report "high" financial knowledge although, perhaps surprisingly, a handful of advisors report "low" financial knowledge, which corresponds to a person

who has "some investing experience but does not follow financial markets and does not understand the basic characteristics of various types of investments."

The third panel summarizes the overlap in fund purchases between clients and advisors. We exclude purchases made under automatic savings plans and focus on the remaining, "discretionary" purchases. We divide the client purchases into three mutually exclusive groups: funds purchased by the client and advisor in the same month; funds purchased by the client and held by the advisor; and funds purchased only by the client. Of the 8.1 million client purchases, more than one-quarter are held or purchased by the advisor in the same month. For the advisors, the overlap is even more striking. Only 20% of purchases are unique to the advisor; the remaining 80% of funds are either purchased contemporaneously or held by clients.

2.2 Investment options, fund types, and fees

The clients in the data invest in 3,023 mutual funds. In the Morningstar data, a total of 3,764 mutual funds were available to Canadian investors at some point during the 1999–2013 sample period. Most mutual funds are offered with different load structures. The most common structures are front-end load, back-end load, low load, and no load. All options are available to clients, but it is the advisor who decides the fund type in consultation with the client. These vehicles differ in how costly they are to the investor, how (and when) they compensate the advisor, and how they restrict the investor's behavior. We provide an overview of fund fees and commissions below, along with more detailed discussion in Appendix A.

In measuring investment performance we calculate returns net of all fees and rebates. The fees include recurring management expense charges assessed in proportion to the investment value and deducted daily by the mutual fund company. The fees also include front-end and back-end

load payments assessed upon purchase or sale. The rebates are transaction charges reimbursed by the mutual fund or financial advisor. In their own trading, advisors face the same restrictions and fees as non-advisors do. For example, if the advisor sells a back-end load fund too early, he incurs the same charge as clients. Advisors do, however, benefit from serving as their own agents. They receive sales commissions on their purchases and recurring "trailing" commissions on their holdings. When measuring advisors' net investment performance, we account for all fees net of such commissions earned on their personal investments.[7]

3 Trading behaviors and investment performance of clients and advisors

3.1 Trading behaviors

We compare investors and advisors using four trading behaviors—return chasing, preference for actively managed funds, turnover, and underdiversification—and two measures of portfolio cost. Table 2 reports summary statistics calculated from all trades and holdings in general-purpose and retirement accounts. We use portfolio holdings to measure turnover and underdiversification, and portfolio purchases to measure the remaining behaviors.

Both clients and advisors purchase funds with better recent performance.[8] We measure **return chasing** by ranking all mutual funds by their prior year net return and computing the average

[7] Advisors share commissions with their dealer firms. In a 2010 industry study of the top ten Canadian dealers, advisors received, on average, 78% of commission payments (Fusion Consulting 2011). We therefore assume that advisors keep 78% of commissions in calculating their net cost of investment.

[8] Return chasing has been studied extensively. See, for example, Nofsinger and Sias (1999), Grinblatt and Keloharju (2001), Barber and Odean (2008), and Kaniel, Saar, and Titman (2008) for analyses of how investors trade in response to past price movements. Frazzini and Lamont (2008) show that retail investors reduce their wealth in the long run by chasing returns.

percentile rank of the funds purchased. Clients purchase funds in the 60th percentile of prior year performance, on average. Advisors display slightly more return chasing, with an average purchase in the 63rd percentile.

Clients and advisors display a similar, overwhelming preference for actively managed mutual funds. We define **active management** as the fraction of (non-money market) assets invested in actively managed mutual funds. We classify as passive those funds that are identified as index or target-date funds in Morningstar or in their names. The average client invests almost exclusively in actively managed mutual funds, with only 1.5% allocated to passive funds. Likewise, advisors allocate only 1.2% to passive funds. These allocations are close to the 1.5% market share of index mutual funds in the Canadian market (Canadian Securities Administrators 2012).[9] For comparison, the market share of index mutual funds in the United States is 9% (Investment Company Institute 2012).

Advisors trade more actively than clients, particularly in non-retirement accounts. We define **turnover** as the market value of funds bought and sold divided by the beginning-of-the-month market value of the portfolio.[10] We split the sample between tax-deferred retirement accounts and general-purpose accounts within which income and capital gains are taxed annually. Advisors trade substantially more in general-purpose accounts, with average turnover of 52% compared to 34% for clients. Both display lower turnover in retirement accounts—39% for advisors and 31% for clients.

We measure **underdiversification** as the amount of idiosyncratic portfolio risk. Following Calvet, Campbell, and Sodini (2007), we regress investors' portfolio returns against the MSCI World index, measured in Canadian dollars and net of the Canadian T-bill rate. Idiosyncratic

[9]Index funds, though rarely chosen, are available. More than half of the top 100 Canadian fund families offer a passive option.

[10]Odean (1999) and Barber and Odean (2000), among others, find that high turnover reduces performance.

portfolio risk is the annualized volatility of the residuals from this regression. We compute this measure for investors' risky assets alone to avoid confounding underdiversification with differences in asset allocation. High idiosyncratic risk indicates that an investor holds an underdiversified portfolio.[11] The annualized idiosyncratic volatility is 7.3% for the average client and 8.1% for the average advisor.

Finally, we measure the **cost** of funds purchased in two ways. The first measure is the average annualized management expense ratio (MER). The second measure is the average within-asset class percentile rank of MER.[12] A high percentile rank implies that clients hold mutual funds that are expensive compared to other funds in the same class. Advisors invest in slightly more expensive mutual funds. The average MER is 2.36% for clients and 2.43% for advisors. These expense ratios are very similar to the Canadian mutual fund average of 2.41% (Khorana, Servaes, and Tufano 2008). Comparing within asset classes, advisors also favor slightly more expensive funds: the average funds bought by clients and advisors lie in the 43rd and 46th percentiles, respectively.

3.2 Investment performance

Table 3 summarizes the investment performance of advisors and clients. We compute aggregate value-weighted returns for all clients or all advisors. We consider three measures of returns: gross of fees, net of management expense charges alone, and net of all fees and rebates. Rebates on the advisor portfolio also include the sales and trailing commissions that mutual funds pay on their

[11] See Barber and Odean (2000), Calvet, Campbell, and Sodini (2007), Goetzmann and Kumar (2008), Kumar (2009), and Grinblatt, Keloharju, and Linnainmaa (2011) for studies of underdiversification. Both home bias and a preference for lottery-type payoffs can cause households to underdiversify (Barber and Odean 2013). Using the same data as this study, Foerster, Linnainmaa, Melzer, and Previtero (2017) document home bias among Canadian investors and their advisors.

[12] Each fund is categorized into one of five asset classes: equities, balanced, fixed income, money market, and alternatives. The category "alternatives" includes funds classified as commodity, real estate, and retail venture capital.

personal purchases and holdings. Due to these payments, advisors' returns net of all fees and rebates are almost always higher than their returns net of mutual fund expense ratios.

We measure performance with three asset pricing models. The first model is the Sharpe (1964)-Lintner (1965) capital asset pricing model with the excess return on the Canadian equity market as the market factor. The second model adds a factor measuring the term spread in bonds, which is the return difference between long-term and short-term Canadian government bonds. The third model adds the North American size, value, and momentum factors, and the return difference between high-yield Canadian corporate debt and investment grade debt. We include the bond factors to account for investors' bond holdings, and the size, value, and momentum factors to adjust for any style tilts. We use three models to assess whether the alpha estimates are sensitive to the choice of factors.

Table 3 shows that both clients and advisors earn gross alphas that are statistically indistinguishable from zero.[13] In the first model, gross alpha is 14 basis points (t-value = 0.15) per year for clients and -68 basis points (t-value = -0.66) for advisors. The alpha estimates decline with the addition of the other factors but remain statistically indistinguishable from zero. The six-factor model explains 87% to 88% of the time-series variation in the returns on client and advisor portfolios.

The difference between clients' and advisors' gross returns has a positive and statistically significant alpha in all three models. This alpha is measured more precisely than the separate client

[13]Table A2 in the Appendix reports the factor loadings and model fits.

and advisor alphas because the difference removes time-series variation in returns. In the six-factor model, the alpha for the difference is 55 basis points (t-value of 2.55) per year in the clients' favor.[14]

Clients and advisors net alphas—computed after management expense charges but before other fees and rebates—are substantially negative. The annualized six-factor alphas are -3.07% (t-value $= -3.42$) for clients and -3.66% (t-value $= -3.79$) for advisors. The additional fees net of rebates reduce clients' alphas by an additional 15 basis points per year. The sales and trailing commissions paid to advisors, net of other fees, raise their net alpha by 66 basis points per year. Therefore, net of all fees and rebates, the total performance of advisors and clients is similar. In the six-factor model, clients lag advisors by a statistically insignificant 21 basis points per year.

4 Measuring advisors' influence on client trading

In this section we measure advisors' influence on client portfolios. We use the return chasing behavior to introduce the methodology and then present the results for the other trading behaviors and fee measures.

4.1 Return chasing behavior

The distribution of return chasing, plotted in Figure 1, shows considerable variation across clients and advisors. Although the mean of the distribution is positive, some clients and advisors are contrarian. In the following analysis, we test whether an advisor's common input explains where his clients fall in this distribution.

[14] In Appendix Table A3, we decompose the net alpha difference between advisors and clients into four components: style gross alpha, within-style gross alpha, style fee, and within-style fee. We define the styles using 53 Morningstar categories, such as "U.S. Small- and Mid-Cap Equity" and "Global Fixed Income." Most of the 60 basis point return gap between advisors and clients stems from the two gross alpha components. The point estimates are 27 and 28 basis points for the style and within-style alphas; the two fee components together account for four basis points.

Table 4 Panel A displays estimates from the following regression model:

$$y_{ia} = \boldsymbol{\mu}_a + \boldsymbol{\theta}\boldsymbol{X}_i + \varepsilon_{ia}, \tag{1}$$

in which the dependent variable, y_{ia}, is the average percentile rank of the funds bought by client i when advised by advisor a. The vector $\boldsymbol{X}_i$ includes the investor attributes summarized in Table 1—such as risk tolerance, investment horizon, and age—as well as province and dealer firm fixed effects. The advisor fixed effects $\boldsymbol{\mu}_a$ capture common variation in return chasing among clients of the same advisor. We estimate the model using OLS, clustering standard errors by advisor to account for correlation in behavior between clients of the same advisor.

The first model reported in Table 4 excludes the advisor fixed effects to gauge the explanatory power of the investor attributes, the dealer fixed effect, and the province fixed effects alone. This model's explanatory power is modest. The adjusted R^2s are 1.1% and 1.0% with and without the dealer effect. Some covariates stand out. Return chasing is more common among wealthier, more risk tolerant, and financially knowledgeable clients who report short investment horizons. The second regression includes advisor fixed effects. These fixed effects substantially increase the model's explanatory power, to 16.5%. This estimate indicates that clients who share the same advisor chase returns to a similar extent.

The significance of the advisor fixed effects in Table 4 could emanate from endogenous matching between advisors and clients. An investor who is predisposed to chase returns may seek an advisor who recommends such trades to all his clients. In that case, the advisor fixed effects may overstate the common input of the advisor—some of the common trading may reflect client-initiated trades.

The regressions control for many demographics that plausibly relate to the advisor-client matching. However, advisors and clients may also match in other dimensions that correlate with return chasing.

We use two-way fixed effects to address this issue. In this analysis, we limit the sample to clients who switch advisors (within the same dealer firm) after their initial advisor dies, retires, or leaves the industry. By observing clients who switch advisors, we can simultaneously identify advisor and client fixed effects, the latter controlling for unobserved characteristics shared by clients of the same advisor. The client fixed effects will absorb these characteristics—to the extent that they remain fixed over time—purging the advisor fixed effects of potential matching-induced bias. We exclude switches initiated by clients since they may coincide with a change in preferences. We identify a client as having been displaced if the advisor goes from having at least ten clients to quitting within six months.

While clients can still select their post-switch advisor, selection at this stage is somewhat rare. The vast majority of switches in our sample represent transfers of entire client groups, or "books of business," from one advisor to another at the same dealer. Upon being displaced, 85% of clients maintain an account at the same dealer and, conditional on staying, 87% of the clients end up with the same new advisor. The variation that we examine in the two-way fixed effects model, therefore, is mostly unaffected by client-level selection.

The estimates in Panel B of Table 4 show that advisors significantly influence client behavior. The adjusted R^2 rises from 5.1% in the model with client fixed effects alone to 29.1% in the model with both client and advisor fixed effects. The F-tests at the bottom of the table indicate that both sets of fixed effects are statistically highly significant.

4.2 Other trading patterns

In Table 5, we repeat the analysis of Section 4.1 for each trading behavior and fee measure. Because the differences in turnover between clients' general and retirement accounts in Table 2 are relatively modest, we henceforth pool these accounts. Panel A shows that, in most cases, the inclusion of advisor fixed effects significantly boosts the model's explanatory power. In the active-management regressions, for example, the client attributes explain just 0.9% of the variation. Advisor fixed effects increase the model's explanatory power to 18.0%. The explanatory power of these advisor fixed effects does not arise from differences between dealers. Models with and without the dealer effect have the same explanatory power of 0.9%.

Panel B uses displaced clients to estimate models with client fixed effects, advisor fixed effects, and both. Similar to the return-chasing regressions presented in Table 4 Panel B, advisor fixed effects often increase the explanatory power significantly. In each two-way fixed effects regression, the F-test (not reported) rejects the null that the advisor fixed effects are jointly zero. These estimates suggest that advisors direct many clients to trade in similar ways.

4.3 Event-study analysis of purchases by clients of the same advisor

As further illustration that advisors provide common recommendations, we show that clients of the same advisor ("co-clients") often purchase the same funds at the same time. We use an event-study approach. We identify all events in which a client purchases a new mutual fund and then, for a two-year window around this month, we estimate the probability that at least one co-client buys the same fund for the first time.

The black line in Figure 2 indicates these estimates. The probability that at least one co-client purchases the same fund in the same month is 0.45. In addition to this contemporaneous spike, there is an elevated probability of a co-client purchase in the two months before or after the original client's purchase. By contrast, when we randomly match each client with another advisor's clients, we find little overlap in their purchases. For this analysis we resample the data 100 times with replacement, each time matching the client to another advisor at the same dealer (blue line) or the other dealer (red line). We then measure the fraction of fund purchases that are also made by at least one counterfactual co-client during the two-year window. We find few common purchases among counterfactual co-clients, whether drawn from the same dealer or the other dealer.

The coordination in trading that we observe among co-clients is strong evidence that advisors direct clients to trade in similar ways. Even if clients selected advisors who prefer a given trading strategy such as active management, it would be unlikely that co-clients would purchase precisely the same funds at the same time without common input from the advisor. While other events, such as news stories or fund ratings changes, might also cause coordination in trading, their effects would not be restricted to co-clients.

5 Do advisors encourage clients to trade like themselves?

We now explore whether advisors adopt for themselves the same trading strategies or individual trades that we have identified as common among their clients. In these tests, we compare each advisor's estimated fixed effects to his own trading behaviors, and we also examine the overlap in individual trades between advisors and their clients.

5.1 Explaining advisor fixed effects with advisors' own investment behavior

Table 6 reports estimates from regressions of advisor fixed effects on advisor behavior and attributes:

$$\hat{\mu}_{ia} = \alpha + \beta \text{ Own behavior}_{ia} + \boldsymbol{\gamma}\boldsymbol{X}_a + \varepsilon_{ia}. \tag{2}$$

The dependent variable, $\hat{\mu}_{ia}$, is advisor a's estimated fixed effect for trading behavior i from the analysis reported in Table 5. We analyze fixed-effect estimates from regressions that include either client attributes or client fixed effects. While the latter analysis covers a smaller set of advisors—those that work with displaced clients—its measure of advisor influence more cleanly identifies the causal input of those advisors. The key independent variable, Own behavior$_{ia}$, is the measure of behavior i in advisor a's own portfolio. The control variables in $\boldsymbol{X}_a$ are the advisor's age, gender, native language, number of clients, and risk tolerance.

The estimates in Table 6 indicate that an advisor's personal investment behavior correlates closely with that of his clients. In the return chasing regression, for example, the slope estimate for the advisor-behavior variable is 0.24 (t-value = 13.67). If an advisor chases returns, his clients are more likely to chase returns. For the other trading behaviors, the coefficients range from a low of 0.13 (for total MER) to a high of 0.29 (for active management), indicating some variation in which dimensions an advisor's behavior tracks that of his clients. Advisor attributes do not meaningfully correlate with the advisor fixed effects: the adjusted R^2 decreases only modestly when we exclude them from the regressions. The bottom half of Table 6 shows that the advisor-behavior coefficients are broadly similar when we use advisor fixed effects from the displacement regressions as the dependent variable.

5.2 Similarity in fund purchases and timing between advisors and clients

The connection between advisor and client trading goes beyond similarity in strategy: clients often invest in the same funds at the same time as the advisor. We compare advisor and client purchases in an event study, just as we did for clients and co-clients. We identify all events in which an advisor purchases a new mutual fund and estimate the probability that at least one of the advisor's clients buys the same fund in the months surrounding the advisor's purchase. We also compare each advisor's purchases to the purchases of clients who use another advisor. For this comparison, we resample other advisors' clients 100 times with replacement, and compute how often one of these counterfactual clients purchases the same fund as the advisor.

The black line in Figure 3 shows that an advisor's clients often buy the same new fund as the advisor within a few months of the advisor's own purchase. The estimated probability of contemporaneous purchase by at least one client is 0.45.[15] There is little overlap in purchases with respect to the clients of other advisors. The probability of common purchase with at least one client of the randomly matched advisor never exceeds 0.04. This estimate is similar for counterfactual clients drawn from the same dealer (blue line) or the other dealer (red line).

As in the estimation of advisor fixed effects, the sample of displaced clients is useful for establishing a causal link between an advisor's own trades and his clients' trades. Before a client is displaced, we can measure the overlap between his purchases and those of his current and future advisors. We classify a client's purchase as overlapping if the advisor buys the same fund within one month of the client's purchase. Figure 4 shows that, before displacement, more than 5% of a client's purchases coincide with a purchase by his current advisor, while just 1% coincide with

[15] Figure A1 estimates the same probabilities using data on advisors who have no more than ten clients at the time of the purchase. The estimated probabilities for this sample are similar to those reported in Figure 3 Panel A. Advisors with a large number of clients therefore do not drive the results.

a purchase by his future advisor. Following the switch, the overlap in purchases with the new advisor increases more than four-fold, to nearly the same level as exhibited with the old advisor. This pattern is consistent with a causal connection—advisors' preferred investments appear in their clients' portfolios specifically while they work together.

5.3 A comparison of advisors' and clients' overlapping and non-overlapping trades

Advisors often, but not always, purchase the same mutual funds for themselves as for their clients. Table 1 Panel C shows that one-fifth of advisor purchases are "advisor-only," mutual funds neither bought nor held by clients at the same time. Among client transactions, three-quarters of fund purchases are "client-only," neither bought nor held by advisors at the same time.

We measure the differences in characteristics—return chasing, active management, idiosyncratic risk, and fees—of the funds bought just by the advisor, just for the clients, or jointly. We compute, for each advisor, the average characteristics by purchase type. The regressions reported in Table 7 summarize the differences in characteristics. The omitted category consists of the client-only purchases.

Funds purchased only by advisors have higher prior returns, more idiosyncratic risk, and higher fees. The differences between client-only and joint purchases, by contrast, are small. The average percentile rank of funds purchased solely by the advisor is 5 points higher than funds bought by clients. The advisor-only purchases also have 1.7 percentage points more idiosyncratic volatility and lie 3 percentage points higher in the fee distribution than client-only purchases.[16] Finally,

[16]In Table 7's trade-level analysis, we measure differences in idiosyncratic volatilities of mutual funds bought by advisors, clients, or both. We measure a fund's risk by regressing its excess returns against the MSCI World index and computing the volatility of its residual returns.

advisor-only purchases are tilted slightly toward passive funds, but with little economic difference: index funds comprise less than 2% of purchases within each purchase type pair.

6 How much do the risk and return of client portfolios vary with advisors' beliefs?

Advisors' tendency to recommend the same investments as they hold personally causes correlation between their performance and the performance of their clients. Advisors who pay high fees underperform those who pay low fees and so do their clients. Likewise, advisors whose investments earn poor returns gross of fees will also deliver poor returns for their clients. The same pattern will also hold for portfolio risk—advisors who fail to diversify will experience more volatile returns themselves and deliver a riskier portfolio to their clients. We quantify these effects by sorting advisors into deciles by their personal fees, performance or portfolio risk and comparing client portfolios across deciles.

Panel A of Figure 5 plots the results for fees. We compute the average fee paid each advisor's clients and then average across advisors in each decile. Clients' average annual fees increase by 26 basis points between the bottom and top deciles. This difference is roughly one-third of the standard deviation of fees in the cross-section of clients (76 basis points). This comparison indicates that an indirect sort on *advisor* fees generates considerable dispersion in client fees.

Panel B of Figure 5 examines the association between client and advisor alphas. We estimate the alpha for each client and advisor using a two-factor model that includes the market and term factors. Similar to the fee computation, we calculate the average client alpha for each advisor and average across advisors in each decile of net alpha. Client alphas, both gross and net, increase

significantly in advisor alpha. Moving from the bottom decile to the top decile, clients' annual gross and net alphas increase by 1.56% and 1.61%. The differences between the top and bottom deciles are significant with t-values in excess of 5.0.[17]

Panel C of Figure 5 examines idiosyncratic portfolio risk. The idiosyncratic risk in advisors' own portfolios ranges from an average of 5% per year in the bottom decile to 12% per year in the top decile. Client idiosyncratic risk increases by more than half, from 6.0% to 9.3% per year, between the bottom and top deciles of the advisor distribution.

7 Do advisors trade contrary to their beliefs?

We have interpreted advisors' trades as reflecting their own beliefs. But advisors may trade contrary to their beliefs for two reasons. First, advisors could voluntarily disclose their trades to gain their clients' trust. For example, they may buy expensive, high-commission funds in order to convince clients to do the same. Second, an advisor might seek to resolve cognitive dissonance by investing himself as he advises clients to invest.

In this section, we present four tests that examine whether advisors trade contrary to their beliefs. We show that advisors continue to trade similarly after they quit the industry; that the correlation between their behavior and that of their clients is higher for advisors with large personal portfolios; that advisors would have been better off had they held exact copies of their clients' portfolios; and that the stability of trading in the post-career period is also evident when advisors join the industry and throughout their careers.

[17] Appendix B describes the methodology for this test.

7.1 Post-career advisors

Table 8 summarizes advisors' behavior before and after they leave the industry. We observe more than 400 advisors who stop advising clients. Nearly 90% of them continue to hold a personal portfolio at their old firm. The last column's pairwise t-tests evaluate whether advisors invest differently while advising clients.

Advisors do not substantially alter their investment behavior after they quit the industry. Although advisors trade more often during the post-career period—with annual turnover of 53% compared to 35% during their career—this change is inconsistent with the view that they trade actively only to convince clients to do the same. Advisors slightly moderate their return chasing behavior in the post-career period, though they still purchase funds that are, on average, in the 58th percentile of past-year returns. Post-career advisors continue to favor actively managed funds and underdiversified portfolios, with allocations similar to when they were advising clients. Advisors' annualized management expense ratios decrease by 14 basis points (t-value $= -2.84$) after they leave the industry, but this change reflects an increased allocation to fixed income—the within-asset class fee remains nearly unchanged (t-value $= 0.26$) at the 46th percentile. Thus, advisors' maintain their preference for expensive mutual funds even when there is no strategic benefit from doing so.

7.2 Client-advisor trading similarity and advisor wealth

Advisors who buy costly funds only to convince clients to do the same accept lower returns on their own portfolios in exchange for increased commissions. The cost of this strategic trading increases in the size of the advisor's portfolio, while the benefit increases in client assets under advice. Therefore, we expect such strategic behavior to be less common for advisors with larger

personal portfolios relative to assets under advice. Building on our analysis in Section 5, we test this hypothesis by measuring the correlation between advisor fixed effects and advisor behavior, alone and interacted with relative portfolio size:

$$\hat{\mu}_{ia} = \alpha + \beta \text{ Own behavior}_{ia} + \frac{\text{Advisor assets}_a}{\text{Client assets}_a} \times (\delta + \theta \text{ Own behavior}_{ia}) + \boldsymbol{\gamma} \boldsymbol{X}_a + \varepsilon_{ia}. \qquad (3)$$

We measure an advisor's relative portfolio size ("Advisor assets / Client assets") as a percentile rank. For each month, we compute the ratio of each advisor's personal account value to the value of his client assets under management and then rank advisors from those with the smallest ratio (value of 0) to the largest (value of 1). An advisor's relative portfolio size is his average percentile rank across all months.

We summarize the estimates from Equation (3) here and report them in detail in Appendix Table A4. In contrast to the strategic trading conjecture, the coefficients on the interactions are positive; these estimates are statistically significant at the 5% level for return chasing and percentile fees, and at the 10% level for idiosyncratic risk. The economic magnitudes are large. Consider, for example, the return chasing behavior. The estimates reported in Panel A of Table 6 show that the unconditional correlation between advisors and clients is 0.24. The estimates in Table A4 show that this correlation is as low as 0.11 among the advisors with the smallest personal portfolios and as high as 0.36 among advisors with the largest portfolios. Excluding total MER, for which the interaction coefficient is very small, the correlation in advisor-client trading is two or three times larger for advisors with the largest relative portfolios compared to the smallest. These estimates indicate that, if anything, advisors who have a greater vested interest in the performance of their own portfolios invest more similarly to their clients.

7.3 Hypothetical performance if advisors held perfect copies of their clients' portfolios

If an advisor selects poor investments only to convince clients to do the same, his optimal portfolio should perform no worse than that of his clients. While the advisor can benefit from buying expensive and poor performing funds if his clients do the same, he has no reason to buy such funds solely for his own account. We would thus expect an advisor's unique investments to outperform the investments that overlap with his clients.

In Table 9, we test this hypothesis by comparing advisors' actual returns to the hypothetical returns they would earn by duplicating their clients' portfolios. The six-factor alpha for advisors' actual returns is -3.01% per year (t-value of -3.07), as reported in Table 3. We also compute the value-weighted returns on each advisor's aggregate client portfolio. We assume the advisor would pay the same deferred sales charges as those paid by his clients, and we credit the advisor with the commissions he would earn by serving as his own agent. The six-factor model alpha for this hypothetical "perfect-copy" portfolio is -2.26% per year (t-value of -2.50). This estimate is higher than clients' net alpha with fees (-3.22%, reported in Table 3) because of the sales commissions and trailing commissions. The bottom part of Table 9 measures how much advisors' alphas would change if they copied their clients' portfolios. In the six-factor model, the increase is 0.75% (t-value of 3.47) per year. This estimate ranges from 0.75% to 1.03% across the three pricing models.

These estimates suggest that advisors could significantly improve their performance by holding the same portfolios as their clients. Poor-performing funds do not appear just among investments held jointly with clients but are actually more prevalent among investments made by the advisors alone.

7.4 Additional evidence on the stability of advisors' beliefs

Financial advisors' beliefs and behaviors may change over time. Advisors may learn to increase their commissions over time by chasing returns of expensive actively managed funds. They also may be trained by their firm to believe in, and adopt, strategies that maximize commissions.

In Figure 6 we show that advisor's personal trading behavior is stable throughout their career and not just when they stop advising clients. In this figure we plot the average measures of return chasing, idiosyncratic risk, turnover, and fees from the moment the advisor begins advising clients until either ten years later or the date at which they stop advising clients. We include only advisors who start advising clients during our sample period to ensure that we capture changes in their behavior from the beginning. We estimate each measure at the advisor-quarter level, compute quarter-by-quarter averages, and standardize each measure to 100% in the first quarter. The figure reveals no apparent trends in return chasing, under-diversification, or fees. Turnover is an exception, but this effect appears to be mechanical. Advisors typically have positive net inflows when they are active, and so their portfolio values increase over time. Turnover therefore decreases over time as the denominator increases.[18]

In Table 10 we examine changes in advisors' behavior when they start advising clients. This analysis parallels that in Table 8 except that the comparison is now between their pre-career behavior and their behavior when active. This sample consists of advisors who appear in the data as clients before becoming advisors. Some of these clients-turned-advisors may have worked at the firm in some other capacity, e.g. as a clerk, before becoming an advisor. Others may have been clients of

[18] Advisor behavior might also appear to change over time through attrition. If there is heterogeneity in advisor behavior and differences in attrition rates correlate with differences in behavior, the average advisor's behavior would change as the composition of the pool changes over time. In Figure A2 we condition on survival by limiting the sample to advisors who remain active for at least five years. This sample restriction has no discernible effect on the estimates.

the firm that they subsequently joined as an advisor. Many advisors are probably former clients—according to the Canadian Financial Monitor survey, approximately 40% of Canadian households use financial advisors. What is important for our pre-versus-active comparison, however, is that we observe how these individuals behave before they begin advising clients.

The estimates suggest that advisors' behavior remains largely unchanged after they start advising clients. The average return-chasing estimate, for example, decreases from 66.8% to 63.5%, a drop of 3.3 percentage points (t-value = -1.79). We also observe modest decreases in active management (-0.2, t-value = -2.01), fees (-1.6, t-value = -1.12), and total MER (-13 basis points, t-value = -2.99).

The stability of advisors' trading during their career (Figure 6) and in their career transitions (Tables 8 and 10) suggests that advisors' *beliefs* concerning the value of active management are also quite stable. While the advisory firms may select advisors that favor active management, they do not appear to systematically shape the advisors' beliefs in favor of active management.

8 Conclusions

Many households turn to financial advisors for guidance and receive advice that has been criticized as costly or of low-quality. A central concern, highlighted in academic studies and policy debates alike, is that advisors lack a fiduciary obligation to clients and receive commissions that may create agency conflicts.

Within a large sample of Canadian advisors, we show that many advisors invest personally just as they direct their clients. They underdiversify, trade frequently, and favor expensive, actively managed mutual funds with high past returns, despite evidence that these strategies often under-

perform. Advisors pursue similar strategies in their own portfolios even after they stop advising clients, which rules out the possibility that advisors hold expensive portfolios merely to convince clients to do the same.

Differences in advisors' beliefs predict substantial differences in client performance. Advisors in the top decile of personal portfolio returns deliver 1.4% per year higher gross returns to clients compared to bottom-decile advisors. Advisors in the top decile of portfolio fees likewise deliver portfolios that cost 36 basis points per year more than the bottom-decile advisors. Finally, advisors that hold the least-diversified risky portfolios also deliver client portfolios with nearly twice the idiosyncratic volatility as advisors in the bottom decile.

Our finding that advisors' beliefs cause substantial variation in the quality of advice is important for policy. Regulations that reduce conflicts of interest—by imposing fiduciary duty or banning commissions—do not address misguided beliefs. When advisors recommend strategies that underperform, they act as an agent exactly as they would as a principal, so aligning their interests would not change their behavior. Solving the problem of misguided beliefs would instead require improved education or screening of advisors. Advisors are not random draws from the population, and they may pursue their vocation in part *because* of their belief that active management adds value. Policymakers could address misguided beliefs by imposing professional licensing requirements. Such requirements, however, may create other distortions. Regulators would have to specify what constitutes "good advice," thereby limiting investor choice. Regulation-based barriers to entry could increase the cost of advice. Such regulations therefore may not be welfare-improving.

For two reasons, we are cautious in ruling out agency conflicts as an additional cause of costly advice. First, our findings may not generalize to other samples and institutional settings. To our

knowledge, there is no reason to believe that agency conflicts should be weaker for our two sample firms; Canadian advisors lack fiduciary obligation and the advisors in our sample place clients in mutual funds with costs that are representative of the Canadian market (Khorana, Servaes, and Tufano 2008). Nevertheless, advisors who work for other firms and in other countries may well behave differently. Second, the conflict of interest may lie between the advisory firm and its clients. Advisory firms may respond to poor incentives by hiring precisely those advisors who will deliver sincere, but expensive, advice. In that case, policies that eliminate agency conflicts may still reduce the cost of advice, but these benefits will materialize more slowly as the pool of advisors improves over time.

A Appendix: Mutual Fund Fee Structures

Mutual funds come in five types, which differ in their costs and how they restrict client behavior. In every option, the client pays the mutual fund company a management expense ratio (MER), deducted daily from the fund's net asset value.[19] The fund types are:

1. **Front-end load fund.** The client pays a fee directly to the advisor upon purchase of the fund. This up-front fee can be negotiated between the advisor and the client, subject to a maximum value set by the mutual fund. The maximum load is typically 5% of the purchase value. The client is free to sell the mutual fund at any time without any additional cost. In addition to the up-front payment from the client, the advisor receives a trailing commission—typically 1% of the client assets per year—from the mutual fund company for as long as the client holds the fund.

2. **Back-end load fund.** The client pays no fee upon purchase but instead pays a deferred sales charge if he sells the fund within a specified period of time. The deferred sales charge is highest for redemptions in the first year and typically declines to zero after five to seven years. Back-end load funds often release 10% of the shares each year so that the client can sell these shares without incurring a sales charge. The mutual fund pays the advisor a sales commission at the time of the purchase and a trailing commission for as long as the client holds the fund. The typical sales commission is 5% of the purchase value and the typical trailing commission is 0.5% of client assets per year. The trailing commission associated with this option is typically low because of the up-front sales commission.

[19] Some funds also charge clients an administrative fee for retirement-account investments.

3. **Low-load fund.** These investments are similar to back-end load funds, except that the sales commission and deferred sales charges are smaller and amortize more quickly.

4. **No-load fund.** The client pays no fee to the advisor at the time of the purchase, and the mutual fund company pays no sales commission to the advisor. The advisor may receive a trailing commission from the mutual fund.

5. **F-class fund.** These funds have no loads and pay no commissions. They are meant for fee-only advisors, who are compensated directly by clients, but can be sold by anyone. When these funds are sold by a commissions-based advisor, the mutual fund company can arrange a recurring fee to be drawn from the client's assets and paid to the advisor.

B Appendix: Analyzing client performance across deciles of advisors

We normalize monthly decile returns by subtracting the average return across the deciles, and run the two-factor asset pricing regression using these normalized returns. We estimate a model:

$$r_{d,t} - \bar{r}_t = \alpha_d + \beta_{d,\text{mkt}}\text{MKTRF}_t + \beta_{d,\text{term}}\text{TERM}_t + e_{d,t}, \tag{A-1}$$

where $r_{d,t}$ is decile d's month t return and $\bar{r}_t = (1/10)\sum_{d=1}^{10} r_{d,t}$. This normalization provides more precision when comparing performance across deciles; it removes the time-series variation in returns that is common to all clients. These standard errors are appropriate for comparisons across deciles; the estimates in Table 3 are appropriate for tests concerning the level of alphas.

We next estimate the two-factor regression for the average return in excess of the riskless rate,

$$\bar{r}_t - r_{f,t} = \alpha + \beta_{\text{mkt}}\text{MKTRF}_t + \beta_{\text{term}}\text{TERM}_t + e_t. \tag{A-2}$$

In Panel B of Figure 5, we plot $\hat{\alpha}_d + \hat{\alpha}$ for each decile to restore the level of alphas. We take the standard errors from the normalized regressions of Equation (A-1), thereby showing only the cross-advisor estimation uncertainty.

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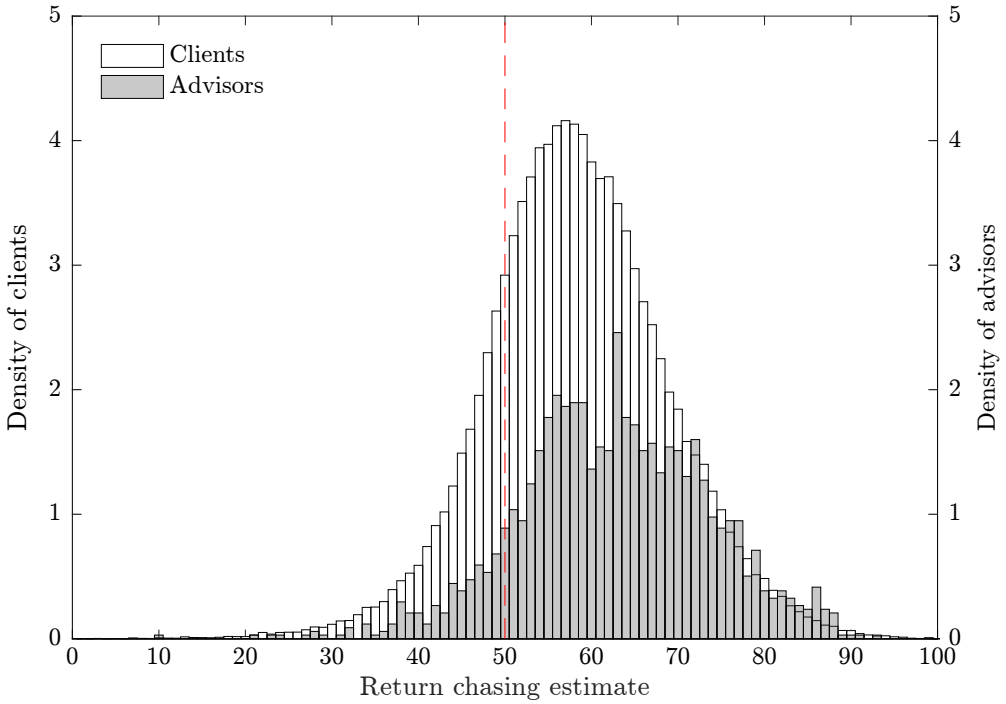


Figure 1: **Return chasing by clients and advisors.** We compute the average percentile rank of prior-year returns for mutual funds purchased by each advisor and client with at least 10 purchases. This figure plots the distribution of this return chasing estimate across clients and advisors. The advisor measures on the secondary y-axis are scaled down for ease of comparison.

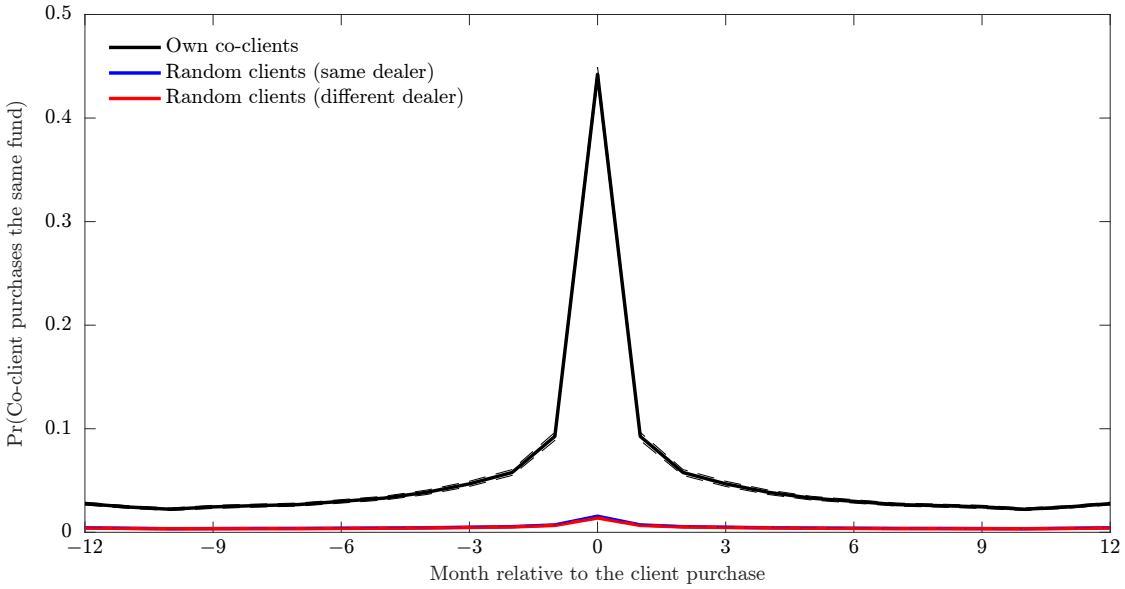


Figure 2: **Similarity in fund purchases and timing between clients and co-clients.** For all purchases of a new fund by a client, we compute the probability that at least one client of the same advisor (a "co-client") makes a new purchase of the same fund in the two-year window around the purchase. The solid black line indicates the estimated probability and the dashed black lines indicate the 95% confidence interval. We also compute the probabilities of common purchase between a client and counterfactual co-clients of a different advisor at the same dealer (blue line) or the other dealer (red line). To form these estimates we resample the data 100 times with replacement and match each client with a randomly drawn advisor's clients.

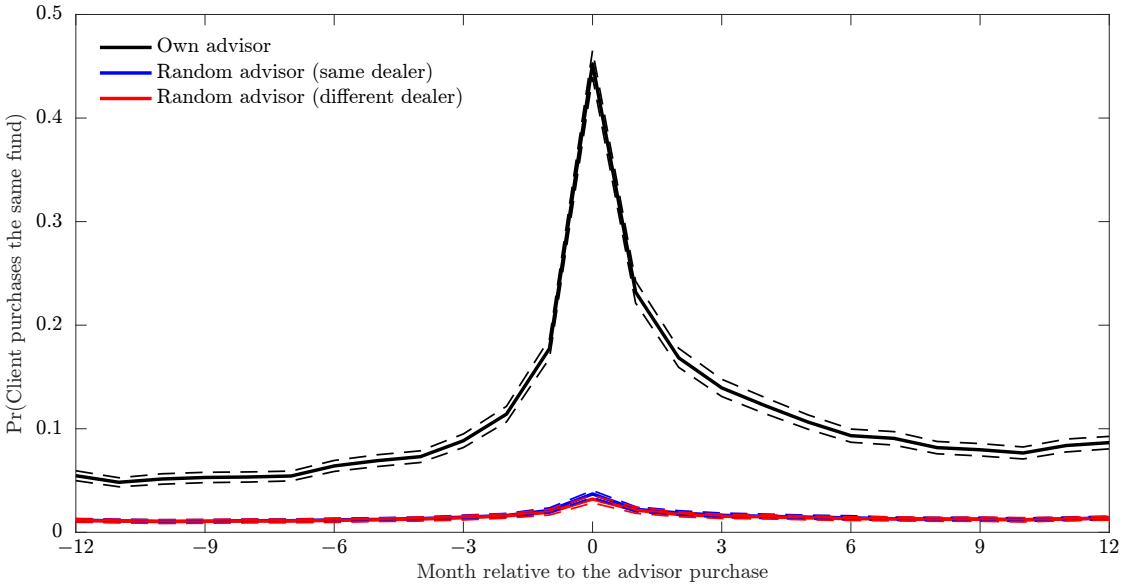


Figure 3: **Similarity in fund purchases between advisors and their clients.** For all purchases of a new fund by an advisor, we compute the probability that at least one client of the advisor makes a new purchase of the same fund in the two-year window around the purchase. The solid black line indicates the estimated probability and the dashed black lines indicate the 95% confidence interval. We also compute the probabilities of common purchase between a client and a counterfactual advisor of the same dealer (blue line) or the other dealer (red line). To form these estimates we resample the data 100 times with replacement and randomly match each advisor with the clients of another advisor that purchased a new fund in the same month.

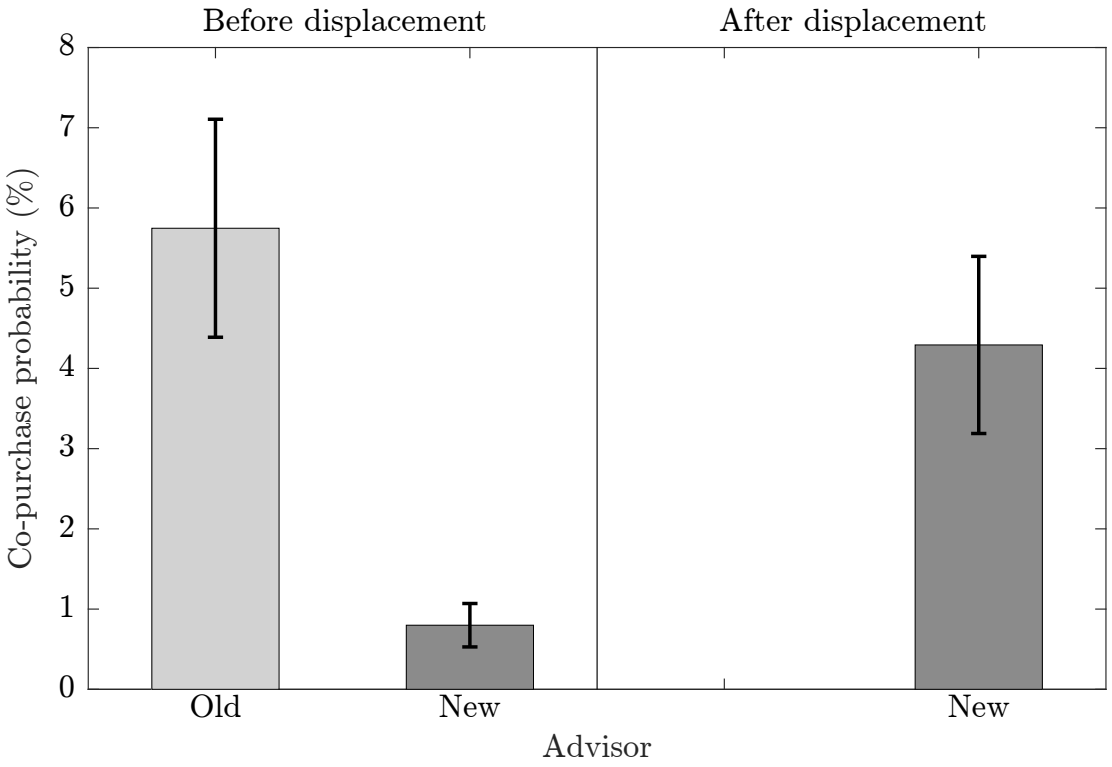
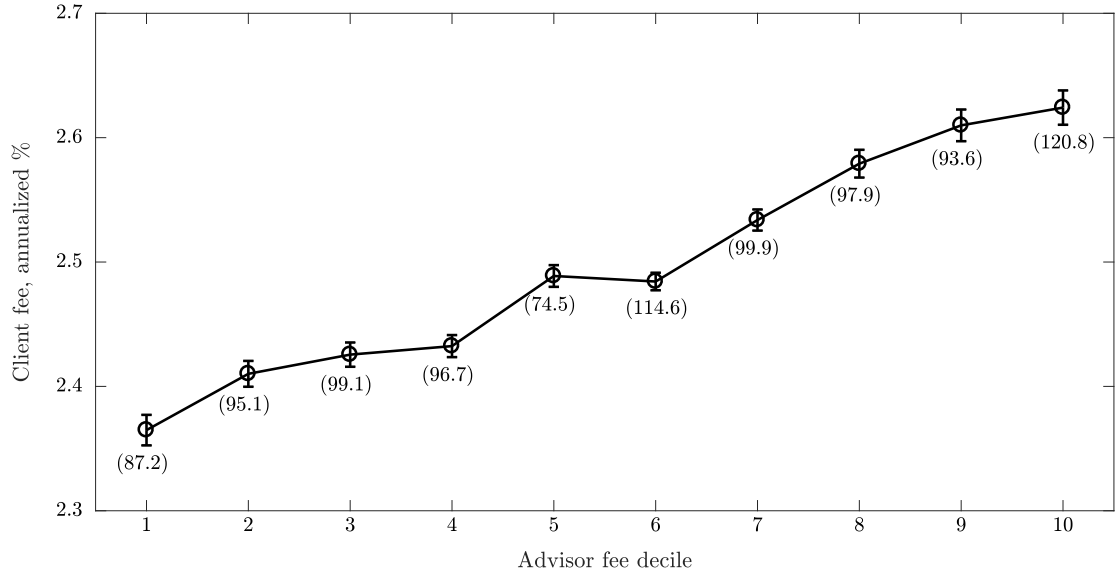
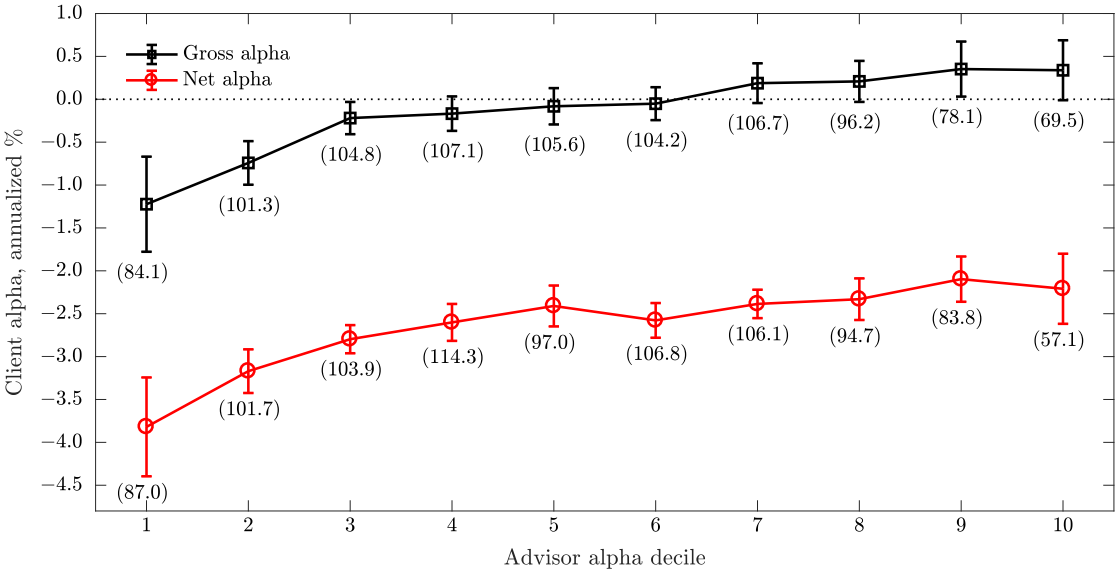


Figure 4: **Estimated co-purchase probabilities for displaced clients.** We compute the probabilities of "co-purchase" between clients and their current and future advisors using the sample of displaced clients. A client's purchase is a co-purchase if the advisor buys the same fund within a three-month window of the client purchase. The before-displacement bars denote the probability that a client's current advisor ("old") or future advisor ("new") purchase the same fund before the client is displaced. The after-displacement bar denotes the probability that the client's new advisor (after displacement) purchases the same fund as the client. A client is included in the sample if his or her future ("after-displacement") advisor already advises other clients during the client's before-displacement period. The error bars indicate 95% confidence intervals.

Panel A: Client fees conditional on advisor fees



Panel B: Client alphas conditional on advisor alphas



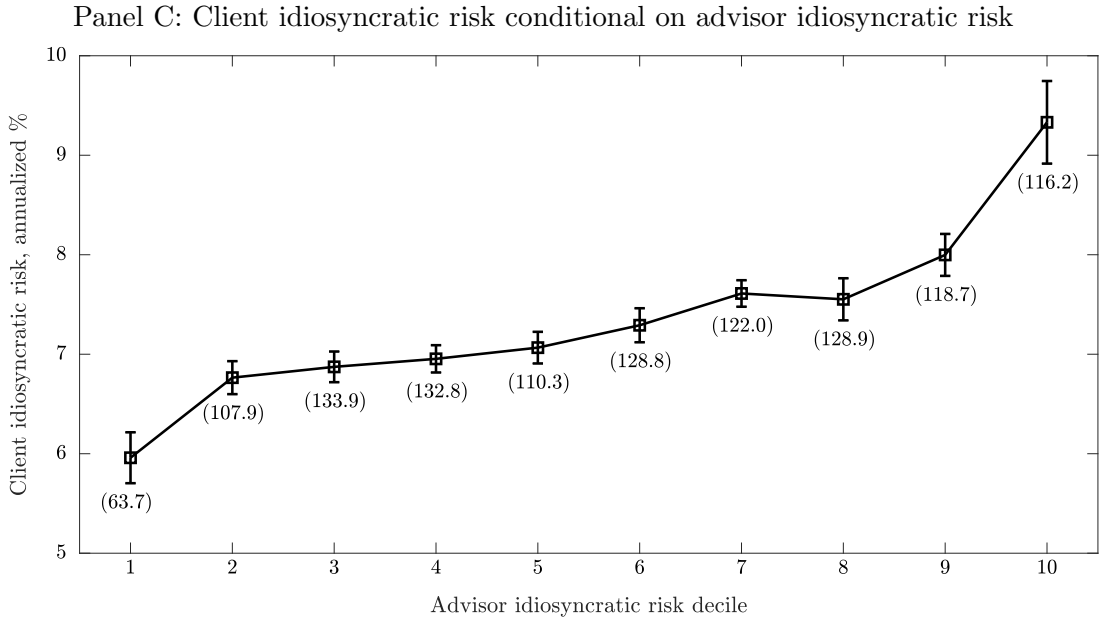


Figure 5: **Client investment performance conditional on advisor investment performance.** This figure sorts advisors into deciles based on the fees (Panels A), alphas (Panel B) or idiosyncratic risk (Panel C) in their personal portfolios and reports the average fee, alpha or idiosyncratic risk of their clients' portfolios. The fees consist of management expense ratios, front-end loads, and deferred sales charges. The alphas in Panel B are estimated using a two-factor model with the market (equity) and term (fixed income) factors. Idiosyncratic risk in Panel C is the annualized volatility of residual returns from regressions of each investor's risky portfolio returns against the MSCI World index. In Panels A and B, we compute the 95% confidence intervals after removing time-series variation in fees and returns shared by all clients (see Appendix B for details). The numbers in parentheses denote the average number of clients per advisor in each decile.

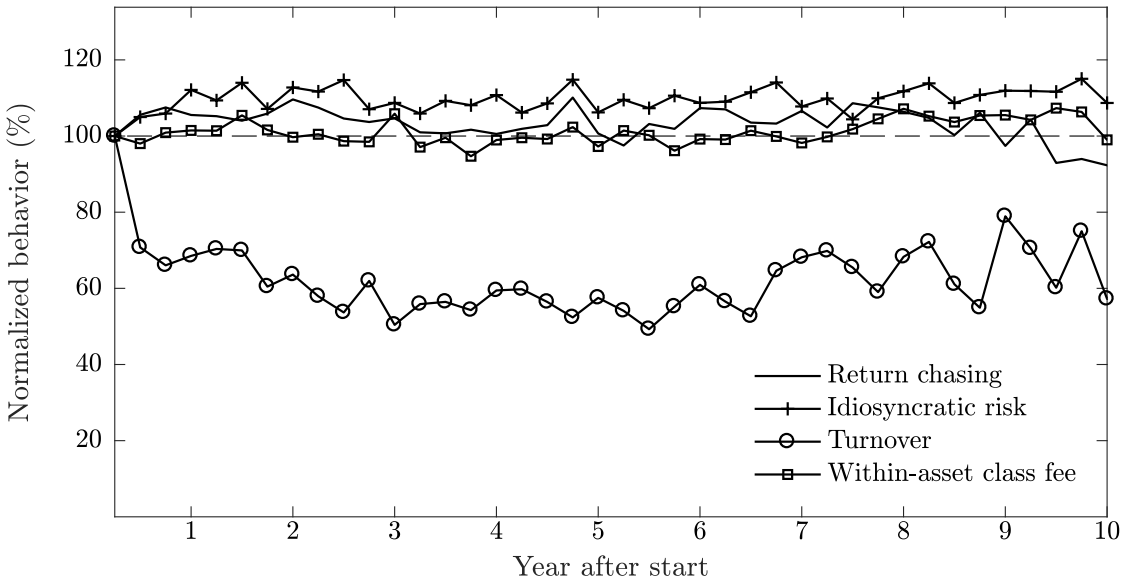


Figure 6: **Changes in advisor behavior over time.** This figure plots the average measures of return chasing, idiosyncratic risk, turnover, and within-asset class fees from the moment the advisor enters the sample until either ten years later or the date they stop advising clients. The sample includes advisors who start advising clients after the start of the sample (January 1999). We estimate each measure at the advisor-quarter level, compute quarter-by-quarter averages across advisors, and standardize each measure to 100% in the first quarter.

Table 1: Descriptive statistics from dealer data

This table reports demographics and portfolio information for clients and financial advisors, and client information for financial advisors. "Account age (years)" is the number of years an investor's account has been open. "Experience" is the number of years since the advisor obtained a license or, if the license date is unknown, the number of years after first appearing as an advisor in our sample. We calculate "Risky share" as the fraction of assets invested in equities, assuming balanced funds invest 50% in equities. For Panel A, we compute the distribution of each variable by calendar month and report the average over time for the mean and each point in the distribution. Time horizon, risk tolerance, financial knowledge, income, and net worth, which we report in Panel B, are collected by advisors through "Know-Your-Client" surveys. Panel C categorizes clients' and advisors' discretionary mutual fund purchases and reports the frequency of each type. We label as "discretionary" all purchases that are not made under an automatic savings plan. A purchase is: "client-only" if the client's advisor neither purchases nor holds the same fund at the same time; "client and advisor purchase" if both the client and advisor buy the same fund in the same month; or "client purchases, advisor holds" if the advisor holds the fund at the same time. The advisor purchase categories are defined analogously.

Panel A: Demographics, portfolio characteristics, and client accounts

Variable	Mean	Percentiles				
		10^{th}	25^{th}	50^{th}	75^{th}	90^{th}
		Clients (N = 488,263)				
Demographics						
Female (%)	52.2					
Age	49.2	32.1	39.7	48.4	58.1	67.4
Investment portfolio						
Account age (years)	4.6	0.9	2.3	4.5	6.9	8.0
Number of plans	2.0	1.0	1.0	1.7	2.4	3.9
Number of funds	4.7	1.0	1.8	3.5	6.3	10.0
Account value, $K	55.3	2.2	7.3	23.5	63.4	136.0
Risky share (%)	73.3	46.6	56.9	76.5	96.7	100.0
		Financial advisors (N = 3,276)				
Demographics						
Female (%)	27.1					
Age	48.4	34.8	40.9	48.3	56.1	62.0
Investment portfolio						
Account age (years)	5.4	1.2	2.8	5.2	7.4	8.8
Number of plans	3.4	1.0	1.1	2.7	4.6	6.7
Number of funds	8.7	1.3	2.9	6.4	12.0	18.7
Account value, $K	112.1	3.8	14.7	50.9	130.7	269.2
Risky share (%)	80.7	51.2	70.2	88.1	99.7	100.0
Client accounts						
Experience	5.8	2.3	4.3	6.9	7.0	7.0
Number of clients	109.8	4.2	17.7	63.6	153.6	275.2
Client assets, $ thousands	6,242.6	94.9	569.4	2,546.8	7,799.2	17,499.5

Panel B: Account and client characteristics

Account types	Clients	Advisors	Time horizon	Clients	Advisors
General	27.6%	44.3%	1–3 years	2.5%	2.2%
Retirement	84.9%	85.6%	4–5 years	8.1%	5.3%
Education savings	9.4%	23.0%	6–9 years	69.7%	67.2%
Tax-free	4.3%	7.4%	10+ years	19.7%	25.3%
Other	0.6%	0.1%			

Risk tolerance	Clients	Advisors	Salary	Clients	Advisors
Very low	4.2%	1.0%	$30–50k	34.6%	15.1%
Low	4.3%	2.7%	$50–70k	35.4%	26.1%
Low to Moderate	8.5%	3.1%	$70–100k	17.3%	21.6%
Moderate	51.5%	30.1%	$100–200k	12.1%	34.1%
Moderate to High	19.7%	20.7%	$200–300k	0.2%	2.2%
High	11.9%	42.3%	Over $300k	0.2%	0.8%

Financial knowledge	Clients	Advisors	Net worth	Clients	Advisors
Low	40.3%	1.5%	Under $35k	3.6%	1.3%
Moderate	54.5%	15.7%	$35–60k	6.2%	2.5%
High	5.2%	82.8%	$60–100k	9.3%	5.9%
			$100–200k	18.3%	13.1%
			Over $200k	62.7%	77.2%

Panel C: Clients' and advisors' discretionary mutual fund purchases

Client only	72.5%	Advisor only	19.7%
Client and advisor purchase	4.3%	Advisor and client purchase	43.7%
Client purchases, advisor holds	23.3%	Advisor purchases, client holds	36.6%
No. of discretionary purchases	8,119,446	No. of discretionary purchases	127,251

Table 2: The trading behaviors of clients and advisors

This table summarizes the trading behaviors of clients and advisors. The measures are defined as follows: (i) *Return chasing* is the average percentile rank of prior one-year returns for funds bought; (ii) *Active management* is the proportion of index funds and target-date funds bought; (iii) *Turnover* is the market value of monthly purchases and sales divided by the beginning of month market value of holdings (annualized by multiplying by 12); and (iv) *Underdiversification* is the annualized volatility of the residuals from regressions of risky portfolio returns against the MSCI World index. The bottom two rows report two measures of fees. *Total MER* is the average management expense ratio of the funds bought by clients and advisors. *Percentile within asset class* is the average percentile fee rank of funds bought. We compute percentile ranks within five asset classes: equity, balanced, fixed income, money market, and alternatives. We include all accounts and, in the case of turnover, also report the measures separately for general-purpose and retirement accounts. We compute the client measures by first taking the average client behavior for each advisor and then averaging across advisors.

	Clients		Advisors		Difference,	
Behavior	Mean	SE	Mean	SE	t-value	N
Return chasing	60.3	0.2	63.1	0.3	−9.67	2,313
Active management	98.5	0.1	98.8	0.2	−1.52	2,380
Turnover						
Retirement accounts	30.9	0.7	38.9	1.3	−6.15	2,352
General-purpose accounts	33.7	0.9	52.2	1.9	−9.83	1,498
All	31.5	0.7	40.0	1.2	−7.20	2,589
Underdiversification	7.3	0.0	8.1	0.1	−11.10	2,402
Fees						
Percentile within asset class	43.2	0.2	45.9	0.3	−10.10	2,361
Total MER	2.36	0.01	2.43	0.01	−6.70	2,364

Table 3: The investment performance of clients and advisors

This table reports annualized percentage alphas for clients' and advisors' portfolios. We measure value-weighted returns gross of fees, net of mutual fund management expense charges ("net of MER"), and net of all fees and rebates. For advisors, these rebates include the commissions earned on their personal purchases and holdings. We measure alphas using three asset pricing models. The first model is the Sharpe (1964)-Lintner (1965) capital asset pricing model with the excess return on the Canadian equity market as the market factor; the second model adds the return difference between the long-term and short-term Canadian government bonds (the term factor); and the third model adds the return difference between high-yield Canadian corporate debt and investment grade debt (the default factor) and the North American size, value, and momentum factors.

		Factors in the asset pricing model					
						MKTRF, SMB, HML, UMD,	
Return	Return	MKTRF		MKTRF, TERM		TERM, DEF	
series	type	$\hat{\alpha}$	$t(\hat{\alpha})$	$\hat{\alpha}$	$t(\hat{\alpha})$	$\hat{\alpha}$	$t(\hat{\alpha})$
Clients	Gross return	0.14	0.15	−0.11	−0.12	−0.69	−0.78
	Net of MER	−2.23	−2.40	−2.49	−2.64	−3.07	−3.42
	Net of all fees & rebates	−2.38	−2.56	−2.64	−2.80	−3.22	−3.59
Advisors	Gross return	−0.68	−0.66	−0.88	−0.84	−1.25	−1.29
	Net of MER	−3.10	−2.99	−3.30	−3.13	−3.66	−3.79
	Net of all fees & rebates	−2.43	−2.33	−2.63	−2.47	−3.01	−3.07
Clients	Gross return	0.82	2.50	0.77	2.30	0.55	2.55
− Advisors	Net of MER	0.86	2.62	0.81	2.42	0.60	2.74
	Net of all fees & rebates	0.05	0.15	−0.01	−0.04	−0.21	−0.95

Table 4: Explaining cross-sectional variation in return chasing with advisor fixed effects and client attributes

Panel A evaluates the importance of advisor, dealer, and province fixed effects and client attributes in explaining cross-sectional variation in clients' return chasing behavior. Return chasing is the average percentile rank of prior one-year returns of funds purchased. The unit of observation is a client-advisor pair. The first regression in Panel A includes client attributes and a dealer effect. The second regression adds advisor fixed effects. The age fixed effects are based on the client's average age during the time the client is active, measured in five-year increments. Panel B uses a sample that consists of clients who are forced to switch advisors when their old advisor dies, retires, or leaves the industry. The specifications in Panel B include advisor fixed effects, client fixed effects or both. We calculate t-values with clustering by advisor.

Panel A: Regressions with advisor fixed effects and client attributes

Independent variable	Regression 1		Regression 2	
	EST	t-value	EST	t-value
Constant	55.12	48.47	56.39	73.56
Risk tolerance				
Low	−0.26	−0.35	−0.21	−0.35
Low to Moderate	−0.03	−0.04	−0.14	−0.28
Moderate	1.48	2.42	0.97	2.01
Moderate to High	2.10	3.34	1.29	2.65
High	1.47	2.06	0.14	0.26
Financial knowledge				
Moderate	0.75	4.07	0.28	3.14
High	1.48	4.41	0.99	4.30
Time horizon				
Short	1.95	3.87	1.82	4.27
Moderate	1.62	3.35	1.75	4.33
Long	0.94	1.84	1.52	3.69
Female	−0.06	−0.62	0.06	0.94
French speaking	1.19	2.19	0.26	0.83
Salary				
$30-50k	−0.05	−0.46	−0.03	−0.37
$50-70k	0.17	1.02	0.22	2.21
$70-100k	0.16	0.87	0.26	2.18
$100-200k	−2.61	−1.95	−1.43	−1.17
Over $200k	0.19	0.28	0.20	0.37
Net worth				
$35-60k	0.64	2.60	0.36	1.65
$60-100k	0.66	2.56	0.35	1.66
$100-200k	0.85	3.63	0.52	2.58
Over $200k	1.37	5.36	0.79	3.95
Advisor FEs	**No**		**Yes**	
Dealer FE	Yes		–	
Age FEs	Yes		Yes	
Province FEs	Yes		Yes	
N	311,032		311,032	
Adjusted R^2	1.1%		16.5%	
w/o Dealer FE	1.0%			

Panel B: Regressions with advisor and client fixed effects

Advisor FEs	Client FEs	Adjusted R^2
Yes	No	19.7%
No	Yes	5.1%
Yes	Yes	29.1%
Test: Client FEs jointly zero	$F(9537, 2495) = 1.30$	
Test: Advisor FEs jointly zero	$F(154, 1402) = 4.19$	
Number of observations	12,476	

Table 5: Explaining cross-sectional variation in client behavior with advisor fixed effects, client attributes, and client fixed effects

Panel A reports adjusted R^2s for models explaining cross-sectional variation in client behavior using advisor fixed effects, dealer fixed effects, and client attributes. Panel B reports adjusted R^2s for models with advisor and client fixed effects in the sample of displaced clients. The displaced clients are those who switch advisors when their old advisor dies, retires, or leaves the industry. We calculate the measures of behavior using all trades and holdings in clients' general-purpose and retirement accounts. The unit of observation is a client-advisor pair.

Panel A: Regressions with advisor fixed effects and client attributes

Behavior	Client attributes	Client attributes + dealer effect	Client attributes + advisor FEs	N
Return chasing	1.0%	1.1%	16.5%	311,032
Active management	0.9%	0.9%	18.0%	325,472
Turnover	0.7%	0.7%	7.1%	387,640
Underdiversification	3.0%	3.1%	20.2%	287,229
Fees				
Total MER	8.1%	8.3%	26.1%	322,968
Percentile within asset class	3.0%	3.1%	22.4%	321,064

Panel B: Two-way fixed effects models for client behavior

Behavior	Client FEs	Advisor FEs	Both FEs	N
Return chasing	5.1%	19.7%	29.1%	12,476
Active management	8.8%	34.1%	49.0%	13,259
Turnover	7.2%	13.9%	21.9%	22,764
Underdiversification	44.6%	26.1%	63.8%	16,195
Fees				
Total MER	57.0%	34.3%	67.3%	13,161
Percentile within asset class	30.7%	29.3%	47.9%	13,076

Table 6: Explaining advisor fixed effects with their investment behavior and attributes

This table reports estimates from regressions of advisors' estimated fixed effects on their own investment behavior and attributes. The fixed-effect estimates are from Table 5's regressions, either for the full sample, with controls for client attributes, or for the sample of displaced clients, with controls for client fixed effects. The advisor attributes are age, gender, native language, number of clients, and risk tolerance. We report t-values in parentheses.

		Active		Under-	Fees	
	Return	manage-		diversi-	Total	Cond.
Regressor	chasing	ment	Turnover	fication	MER	percentile
	Advisor fixed effects conditional on client attributes					
Advisor behavior	0.24	0.29	0.16	0.21	0.13	0.27
	(13.67)	(4.21)	(2.71)	(10.50)	(3.73)	(15.54)
Adjusted R^2	22.3%	19.2%	7.3%	23.4%	9.9%	20.1%
w/o Advisor attributes	18.7%	18.4%	6.9%	21.5%	9.3%	20.7%
N	1,982	2,105	2,209	2,115	2,073	2,056
	Advisor fixed effects conditional on client fixed effects					
Advisor behavior	0.29	0.26	0.22	0.18	0.14	0.25
	(5.48)	(1.87)	(2.78)	(3.96)	(2.22)	(4.57)
Adjusted R^2	6.4%	6.7%	2.2%	6.6%	2.1%	7.3%
w/o Advisor attributes	5.9%	5.5%	1.5%	6.1%	2.3%	6.1%
N	592	624	739	646	616	613

Table 7: Differences in mutual funds purchased by advisors and clients

We examine the characteristics of overlapping and non-overlapping fund purchases between advisor and client accounts. We categorize advisor and client purchases as follows. A purchase is: "client-only" if the client purchases a fund and his advisor neither purchases nor holds the fund at the same time; "advisor-only" if the advisor purchases a fund and none of his clients purchase or hold the fund at the same time; "joint purchase" if the client purchases a fund that the advisor purchases or holds at the same time, or if the advisor purchases a fund that one of his clients purchases or holds at the same time. We compare the average characteristics of the mutual funds bought by regressing the percentile rank of past returns, active-management indicator variable, idiosyncratic risk, MER, and percentile fee on the advisor-only and joint-purchase indicator variables. Idiosyncratic risk is the annualized volatility of the residuals from a regression of each fund's excess returns against the MSCI World index. The omitted category is the client-only category. The unit of observation is an advisor-purchase type pair, and the standard errors, reported in brackets, are clustered by advisor.

	Dependent variable				
	Return	Active	Idiosyncratic	Fees	
Regressor	chasing	management	risk	MER	Percentile fee
Intercept	59.36	98.97	10.27	2.39	44.14
	[0.19]	[0.09]	[0.05]	[0.01]	[0.19]
Advisor-only purchase	5.06	−0.41	1.72	0.05	2.77
	[0.40]	[0.18]	[0.12]	[0.01]	[0.38]
Joint purchase	−0.30	−0.06	0.02	0.03	−0.70
	[0.36]	[0.17]	[0.10]	[0.01]	[0.34]
Adjusted R^2	1.6%	0.0%	2.3%	0.2%	0.6%
N	10,558	10,727	9,876	10,697	10,675

Table 8: Change in advisor behavior after the end of the career

We compare advisors' behavior while active to their behavior after they stop advising clients. We report t-values for pairwise tests of equality in behavior between the active and post-career periods.

	Active advisors		Post-career advisors		Difference		
Behavior	EST	SE	EST	SE	EST	t-value	N
Return chasing	63.4	1.2	58.3	1.5	−5.1	−2.64	168
Active management	99.5	0.2	98.6	0.5	−0.9	−1.99	195
Turnover	35.0	4.0	53.4	6.4	18.4	2.74	420
Underdiversification	7.9	0.2	7.2	0.2	−0.6	−2.50	312
Fees							
Percentile within asset class	45.8	1.1	46.2	1.4	0.4	0.26	183
Total MER	2.47	0.03	2.33	0.04	−0.15	−2.84	184

Table 9: Hypothetical advisor returns from holding perfect copies of client portfolios

This table reports actual and hypothetical annualized net alphas for advisors' value-weighted aggregate portfolio. The hypothetical net alphas are computed by assuming that the advisors hold perfect copies of their clients' portfolios. The return on this portfolio equals the net return earned by the clients, adjusted for the commissions that advisors would earn if these were personal purchases and holdings. In this computation, advisors pay the same deferred sales charges as those paid by the clients. We report t-values in parentheses.

	Factors in the asset pricing model					
Advisor	MKTRF		MKTRF, TERM		MKTRF, SMB, HML, UMD, TERM, DEF	
portfolio	$\hat{\alpha}$	R^2	$\hat{\alpha}$	R^2	$\hat{\alpha}$	R^2
Actual	−2.43	85.5%	−2.63	85.5%	−3.01	88.3%
	(−2.33)		(−2.47)		(−3.07)	
Hypothetical	−1.41	84.7%	−1.66	84.8%	−2.26	86.9%
	(−1.50)		(−1.75)		(−2.50)	
Hypothetical	1.03	51.2%	0.97	51.2%	0.75	80.5%
− actual	(3.15)		(2.91)		(3.47)	

Table 10: Change in advisor behavior at the start of the career

We compare advisors' behavior while active to their behavior before they become advisors. We report t-values for pairwise tests of equality in behavior between the active and pre-career periods.

	Pre-career advisors		Active advisors		Difference		
Behavior	EST	SE	EST	SE	EST	t-value	N
Return chasing	66.8	1.5	63.5	1.3	−3.3	−1.79	155
Active management	99.2	0.6	99.0	0.6	−0.2	−2.01	167
Turnover	39.4	5.4	39.8	4.1	0.4	0.07	211
Underdiversification	7.6	0.3	7.1	0.3	−0.5	−1.43	135
Fees							
Percentile within asset class	47.4	1.4	45.8	1.1	−1.6	−1.12	162
Total MER	2.52	0.05	2.39	0.03	−0.13	−2.99	164

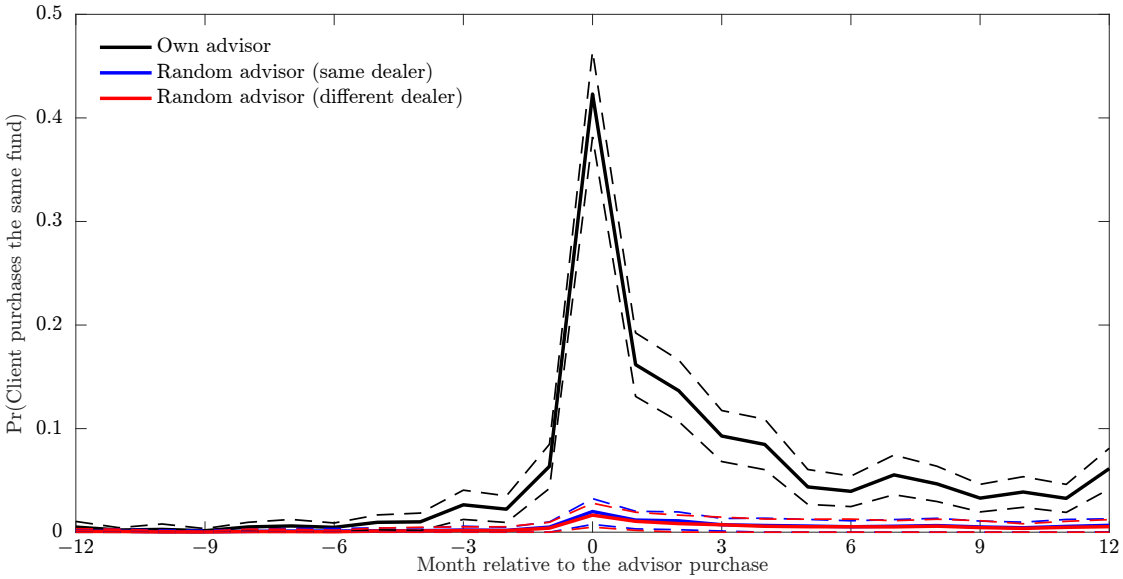


Figure A1: **Robustness of similarity in fund purchases and timing between advisors and their clients.** This figure repeats the analysis of Figure 3 in a sample limited to purchases made by advisors who have at most 10 clients at the time of the purchase. For all purchases of a new fund by an advisor, we compute the probability that at least one client of the advisor makes a new purchase of the same fund in the two-year window around the purchase. The solid black line indicates the estimated probability and the dashed black lines indicate the 95% confidence interval. We also compute the probabilities of common purchase between a client and a counterfactual advisor of the same dealer (blue line) or the other dealer (red line). To form these estimates we resample the data 100 times with replacement and randomly match each advisor with the clients of another advisor that purchased a new fund in the same month.

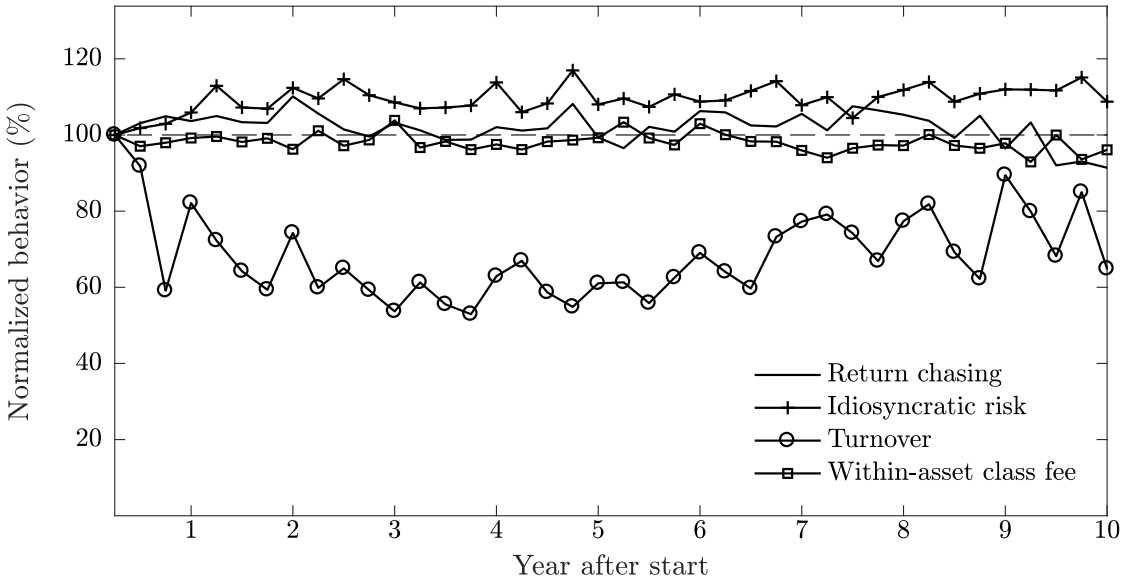


Figure A2: **Changes in advisor behavior over time: Restricted sample.** This figure plots the average measures of return chasing, idiosyncratic risk, turnover, and within-asset class fees from the moment the advisor enters the sample until either ten years later or the date they stop advising clients. We estimate each measure at the advisor-quarter level, compute quarter-by-quarter averages across advisors, and standardize each measure to 100% in the first quarter. The sample includes advisors who start advising clients after the start of the sample (January 1999) and who advise clients for at least five years.

Table A1: Estimated probabilities of advisor survival

This table reports estimates from a linear probability model that examines the relationship between advisor survival and the number of clients. The data are annual. If an advisor serves clients in year t and continues to do so in year $t + 1$, the dependent variable takes the value of one. If an advisor stops advising clients during the following year, the dependent variable takes the value of zero. The regressors consist of indicator variables for the number of clients the advisor has in year t. Advisors with more than 100 clients are the omitted category. The regressions are estimated with year fixed effects and standard errors are clustered by advisor.

Regressor	Coefficient	SE
Intercept	0.989	0.002
Number of clients		
1–5	−0.177	0.010
6–10	−0.083	0.010
11–15	−0.051	0.009
16–20	−0.034	0.008
21–30	−0.040	0.007
31–40	−0.027	0.006
41–50	−0.019	0.006
50–100	−0.016	0.004
Adjusted R^2	8.28%	
N	98,974	

Table A2: Investment performance of clients and advisors: Factor loadings and model fit

This table reports factor loadings and adjusted R^2s for the six-factor models reported in Table 3. The six factors consist of the excess return on the Canadian equity market (MKTRF); North American size (SMB), value (HML), and momentum (UMD) factors; the return difference between the long-term and short-term Canadian government bonds (TERM); and the return difference between Canadian high-yield corporate debt and investment grade corporate debt (DEF).

	Return series					
	Clients		Advisors		Clients − Advisors	
Factor	$\hat{b}$	SE	$\hat{b}$	SE	$\hat{b}$	SE
MKTRF	0.540	0.019	0.597	0.021	−0.057	0.005
SMB	0.074	0.026	0.111	0.028	−0.036	0.006
HML	0.018	0.021	−0.038	0.023	0.057	0.005
UMD	−0.036	0.013	−0.029	0.014	−0.007	0.003
TERM	0.118	0.038	0.098	0.041	0.020	0.009
DEF	0.135	0.037	0.158	0.040	−0.023	0.009
Adjusted R^2	87.0%		88.4%		79.3%	

Table A3: Decomposition of the difference between client and advisor net returns

We measure the difference in net returns between clients and advisors, and decompose this difference into four components. We compute net returns after management expense ratios (MER) but before other fees and rebates. "Style gross alpha" is computed by replacing every fund with the average fund of the same style. "Within-style gross alpha" is computed as the difference between the actual fund return and the return earned by the average fund of the same style. "Style fee" is the MER of the average fund of the same style. "Within-style fee" is computed as the difference between the actual MER and the MER of the average fund of the same style. These four components add up to the total difference in net returns between clients and advisors shown on the bottom row. The first set of columns report time-series averages of these components for value-weighted advisor and client portfolios. The second set of columns reports the six-factor model alphas for these components. The t-values associated with the fee components are large because these differences are very stable in the time-series.

Client-minus-advisor	Excess returns		Six-factor model	
return component	Estimate	t-value	Estimate	t-value
Style gross alpha	0.33	1.64	0.27	1.51
Within-style gross alpha	0.49	2.36	0.28	2.12
Style fee	0.05	42.35	0.05	41.92
Within-style fee	−0.01	−3.71	−0.01	−4.03
Total difference	0.86	2.62	0.60	2.74

Table A4: Client-advisor trading similarity and advisor portfolio size

This table reports estimates from regressions of advisor fixed effects on advisor investment behavior, alone and interacted with relative portfolio size. For each advisor, we compute the ratio of his personal account value to the value of his client assets under management and then rank advisors each month from those with the smallest relative portfolio size (value of 0) to the largest (value of 1). An advisor's relative portfolio size ("Advisor assets / Client assets") is his average percentile rank across all months. We include relative portfolio size by itself (unreported) and interacted with advisor investment behavior. The advisor fixed effects are from Table 5's regressions of client behavior on client attributes and advisor fixed effects.

		Active		Under-	Fees	
	Return	manage-		diversi-	Total	Cond.
Regressor	chasing	ment	Turnover	fication	MER	percentile
Advisor behavior	0.11	0.18	0.08	0.16	0.13	0.15
	(4.41)	(2.63)	(2.33)	(3.91)	(3.36)	(5.61)
Advisor behavior	0.25	0.23	0.18	0.14	0.02	0.26
× Advisor assets / Client assets	(4.57)	(1.18)	(1.40)	(1.79)	(0.19)	(4.50)
Adjusted R^2	21.5%	19.7%	7.8%	22.6%	9.2%	22.3%
N	1,982	2,105	2,208	2,111	2,073	2,056