The Value of Non-Alpha Services*

Jules van Binsbergen Alessandro Previtero Ran Xing

January, 30 2024

Abstract

Households invest heavily in actively managed mutual funds with the help of financial advisors. Nonetheless, these advised portfolios consistently underperform passive benchmarks. To account for this evidence, we introduce non-alpha services in the Berk and Green (2004) model. We find that funds with negative net alphas can survive, in equilibrium, by attracting clients who value non-alpha services. We empirically test the relevance of non-alpha services, analyzing the revenues of over 2,000 financial advisors over 13 years. Client alphas and advisor investment skills show a weak association with advisor revenues. As proxied by the number of accounts per client, financial planning is the major driver of advisor revenues. Non-alpha services could help explain a long-standing puzzle in the mutual fund literature.

Please do not cite without the authors' permission.

*Jules van Binsbergen is with Wharton Business School and NBER. Alessandro Previtero is with Indiana University and NBER. Ran Xing is with Stockholm University and the Swedish House of Finance. We are grateful for the feedback during seminars at Indiana University, London Business School, Nova University, and the University of Notre Dame. Address correspondence to Alessandro Previtero, Indiana University, 1275 E. 10th St., Bloomington, IN 47405 (email: aleprevi@indiana.edu).

Many households invest in actively managed funds, despite the evidence that these funds consistently underperform the market after fees (e.g., Jensen (1968), Gruber (1996), Wermers (2000) and Fama and French (2010)). Financial advisors often intermediate these fund transactions.[1] Despite financial advisors' guidance, clients' portfolios also lag passive benchmarks (Foerster, Linnainmaa, Melzer, and Previtero (2017)) and deliver lower Sharpe ratios than target date funds (Chalmers and Reuter (2020)).

One interpretation of this evidence is that households lack the financial knowledge to assess the skills of fund managers and advisors. Consistent with this view, financial advice is often modelled as a "credence good." In fact, clients might be unable to verify that the provider (fund manager/advisor) is providing the service. In markets of credence goods, charlatans—subjects that promise goods or services but do not deliver them—could survive in equilibrium if their skills are in high demand (Berk and Van Binsbergen (2022)).

An alternative interpretation is that clients derive utility from services other than maximizing risk-adjusted returns or generating alphas (i.e., *non-alpha services*). For example, Gennaioli, Shleifer, and Vishny (2015) model managers/advisors as reducing clients' anxiety about investing in risky assets. Therefore, clients trade off alpha for hand-holding. Besides helping clients bear the volatility of financial markets, advisors could provide several services, such as, for example, financial planning about retirement and education-related saving plans, portfolio customization, tax optimization, and estate planning.

In this paper, we investigate the possibility that investors could derive enough utility from these non-alpha services to keep investing in the funds with negative net-alphas that provide them. We

[1] In the U.S., advisors intermediate over 50% of fund transactions and 56% of households report using financial advisors (Egan, Matvos, and Seru (2015)). In Canada, financial advisors intermediate 80% of retail financial assets (Foerster, Linnainmaa, Melzer, and Previtero (2017).

first extend the standard Berk and Green (2004)'s model to include both alpha and non-alpha services and a fixed cost per client to provide them. Our model helps to rationalize the existence, in equilibrium, of funds with negative net alphas. It also delivers some empirical predictions on the determinants of fund fees, both in percentage terms and dollar values. Then, we test these predictions by analyzing the drivers of fund fees and advisors' revenues in a large sample of advised investors from Canada.

Building on Berk and Green (2004), we model a fund investor's payoff as depending on the utility from alpha-service (i.e., the alpha) and the utility of non-alpha services. We assume that a fund incurs a fixed, non-negligible cost for providing these services.[2] Our model predicts that the percentage fee should be lower for a fund with a higher average investment amount per client. Sorting portfolios based on average investment amounts per client confirms this prediction. The percentage fee decreases monotonically from 2.72% per year for funds in the quintile with the smallest investments per client to 2.37% for funds with the largest investments per client. These results are robust across different fund sizes or categories (money market, fixed-income, balanced, equity, and alternative funds).

In the case of perfect competition, the fund percentage fee is a function of the fund alpha and—if non-alpha services matter—of the inverse of the investment amount per client. Following Berk and van Binsbergen (2015), we also derive that the fund fees in dollars should depend on the value added of the fund and–if non-alpha services matter—on the number of clients. We empirically test these predictions using a sample of Canadian mutual funds sold by two mutual fund dealers by over 3,000 advisors. Our regressions show that gross alpha and value-added have an economically

[2]While the marginal cost of providing homogeneous services such as indexing investments could be negligible, the cost of client-specific services such as annual client meetings to assess their portfolios are non-trivial and difficult to scale.

small effect determining fund fees. Consistent with the relevance of non-alpha services, the amount invested per client and the number of clients drive the fund fees.

We then extend our model to allow for imperfect competition and for funds that provide non-alpha services to extract rents. We document that funds with the smallest investments per client have a lower gross alpha by 1.67% than those with the largest. This evidence suggests that better alpha services (i.e., higher abnormal returns) alone do not justify the higher percentage fees charged by funds serving small clients. Under imperfect competition, we estimate in our Canadian data that the fund fees from non-alpha services could range from 2.33% to 2.84% of the asset under management.

To better characterize non-alpha services, we investigate the drivers of financial advisors' revenues. We analyze detailed records from all the fees paid by roughly 500,000 Canadian clients to their 3,000 advisors for 13 years. We regress client fees aggregated at the advisor level on advisor characteristics (such as age, gender, and skill), client portfolio characteristics (such as their alphas or riskiness), and proxy of the breadth of services provided by the advisors such as number of clients and number of different type of investment accounts (such as brokerage, retirement, and college savings accounts). Our outcome variables are client fees, computed as the percentage of assets under management with each advisor or in dollars.

Two findings emerge from our analysis of advisor revenues. Variables associated with alpha services such as client alphas and advisor investment skill[3] do not drive advisor revenues. Conversely, variables associated with non-alpha services are important determinants in explaining client fees. For example, the riskiness of client portfolios is the major determinant of client fees as a percent-

[3]We divide advisors into ten deciles based on their personal portfolios' gross alphas during our entire sample period.

age of assets under management (AUM). A one standard deviation increase in the value-weighted riskiness of client portfolios increases advisors' fees by 12 basis points or roughly 4.9% of the unconditional mean (245 basis points). While other variables are statistically significant, their impact is economically trivial.

Investigating fees as a percentage of AUM is common in the mutual fund literature (e.g., Khorana, Servaes, and Tufano (2009)). Nonetheless, looking at percentage fees could be misleading about how many investors actually use and are willing to pay for specific services. Building on the distinction between alphas and value-added introduced by Berk and van Binsbergen (2015), we analyze the determinants of client fees in dollars. This analysis helps to paint a clearer picture. The number of different investment accounts is the major driver of the dollars that an advisor extracts from a client. For example, a one standard deviation increase in the number of brokerage accounts increases advisor fees by USD 80,996 or 48% of the unconditional mean (USD 170,354). Analogously, a one standard deviation increase in the number of retirement income accounts increases the advisor fees by 32.0% and a similar increase in the number of college saving accounts by 23.9%. This evidence suggests that non-alpha services associated with reducing client anxiety or financial planning are the major drivers of advisor revenues. These results are robust to various tests, such as controlling for advisor fixed effect, advisor different licenses, or investor-level characteristics such as client investment horizon, age, and financial literacy.

Our paper provides a potential explanation of the mutual fund performance puzzle. Under the CAPM, Jensen (1968), Gruber (1996), and Fama and French (2010) document a net alpha of -1.1%, -1.56%, and -1.13% per year respectively for US domestic actively managed equity mutual

funds.[4] Our framework with alpha and non-alpha services rationalizes the underperformance of these actively managed mutual funds using investors' utility from non-alpha services. In addition, measuring fund managers' skill/value added as their ability to outperform the market assumes that asset managers play a zero-sum game, as in Sharpe (1991). Our framework illustrates that funds may add value to all investors in the aggregate by providing non-alpha services.

Our paper also contributes to the literature on the determinants of mutual fund fees. In the model of Berk and Green (2004) where only alpha service is provided and investors' capital prevision is competitive, the percentage fee depends solely on the fund's gross alpha. Most empirical papers also focus on the supply-side determinants of fees, largely because fund characteristics such as fund size, age, style, turnover, and alphas are widely available.[5] In contrast, empirical papers investigating the demand-side determinants of fund fees are limited partially because the data on fund investors' characteristics are lacking.[6] We use Canadian data on clients of financial advisors for this demand-side analysis, and our study emphasizes the importance of accounting for investors' heterogeneous demand and financial literacy when understanding the mutual fund industry.

Our study closely relates to a literature on costly search and mutual fund marketing (e.g., Sirri and Tufano (1998), Hortaçsu and Syverson (2004), Huang, Wei, and Yan (2007), Gârleanu and

[4]Under the Fama-French-Cahart four factor model, the net alphas are 0.65%, -1.16%, and -1.00% per year respectively in Gruber (1996), Wermers (2000), and Fama and French (2010). Moreover, Cooper, Halling, and Yang (2021) show that high-fee funds have consistently more negative net alphas and net value added relative to the market and Vanguard market index funds. Their result holds for both active and index funds. Gil-Bazo and Ruiz-Verdú (2009) document that funds with more negative before-fee performance (i.e., more negative gross alpha) on average charge higher fees, making their net alphas even more negative.

[5]Research papers using fund-level characteristics to investigate fund fees, among others, include Ferris and Chance (1987), Tufano and Sevick (1997), Latzko (1999), Malhotra and McLeod (1997), Deli (2002), and Cooper, Halling, and Yang (2021). Khorana, Servaes, and Tufano (2009) add national characteristics to fund characteristics, and Golec (2003) add regulations.

[6]There are few papers investigating the relationship between fund fees and investors' demand curves using flow-performance or flow-fee sensitivities (e.g., Luo (2002) and Christoffersen and Musto (2002)). Our model with alpha and non-alpha services gives an economic foundation of the difference in investors' performance (fee) sensitivities—the alpha service and various types of non-alpha services have different price-demand elasticities depending on the width of their client base and the competitiveness of providing these services.

Pedersen (2018) Roussanov, Ruan, and Wei (2021), and Chen, Jiang, and Xiaolan (2023)), and a literature on production differentiation and competition between funds including Massa (1998), Luo (2002), Wahal and Wang (2011), Khorana and Servaes (2012), Kostovetsky and Warner (2020), and Bonelli, Buyalskaya, and Yao (2021). In our framework, marketing and product differentiation are two types of non-alpha services that increase investors' utility by reducing their searching costs and customization, respectively. Therefore, funds providing marketing services should be rewarded with higher fees or more capital inflows in equilibrium. Their results are consistent with our conjecture that less competitive funds in providing alpha services choose to compete more through non-alpha services such as product differentiation and marketing.

Last, our paper contributes to a large literature on decreasing returns to scale (DRS) of mutual funds, including Berk and Green (2004), Chen, Hong, Huang, and Kubik (2004), Zhu (2018), and Barras, Gagliardini, and Scaillet (2022). The DRS in alpha service says that the fee of a fund, which equals to its gross alpha in equilibrium, decreases with an increase in fund size for the alpha service. Our model shows that for non-alpha services, there is also a negative correlation between fees and the total amount of capital because of the price-demand elasticity of the demand curve. That is, the utility of a marginal investor decreases with an increase in the total amount of investors/capital choosing to use this non-alpha service.

1 Model with Alpha and Non-alpha Services

There is a continuum of risk-neutral fund investors considering investing in one fund. Each fund investor i has a total payoff

$$TP_i = (\alpha^g + s_i - f)w_i, \tag{1}$$

where s_i denotes the utility of the service (per unit of capital) that fund investor i receives from investing in the fund, and w_i is the amount of capital invested by fund investor i. We assume that variables s_i and w_i are bounded and independently distributed across investors. A fund investor with $TP_i > 0$ chooses to invest in the fund. A break-even investor will have $TP_i = \alpha^g - f + s_i = \alpha^n + s_i = 0$, and all investors with $s_i > -\alpha^n$ would invest.

The fixed cost of serving each client is relatively small, if any, for a service that is homogeneous to all investors (e.g., providing abnormal returns to investors or indexing service). In contrast, providing heterogeneous/client-specific services (e.g., services catered to investors' heterogeneous preferences, liquidity demands, and financial knowledge) requires a higher fixed cost on serving each client from, for example, visiting or calling the client to collect information about the client's specific demand. Therefore, *we assume that the fund pays a fixed cost c for providing a customized service to each client.*

1.1 The Setting with Perfect Competition in Providing Non-Alpha Services

We first assume that the gross alpha $\alpha^g = 0$ to focus on the services s_i. Eq.(1) becomes

$$TP_i = (s_i - f^s)w_i, \tag{2}$$

where f^s is the fee charged for the non-alpha service. A break-even investor will have $TP_i = s_i - f^s = 0$, and all investors with $s_i \geq f^s$ would invest.

If there is *perfect competition* in providing a service to clients at each level of investment amount w, the equilibrium service fee f^* should be just enough to cover the fixed cost c from serving each

client as follows:

$$f^{s*} = \frac{c}{w}. \tag{3}$$

As Eq. (3) shows, the percentage fee should decrease with an increase in the average investment amount per client w. For a fund with n clients and an investment amount of w each, the percentage fee can be rewritten as below:

$$f^{s*} = \frac{cn}{q}, \tag{4}$$

where q is the total assets under management of that fund. As shown in Eq. (4), the percentage fee should increase with the number of clients n and decrease with the fund size q in equilibrium to cover the fixed cost for serving each client.

Now we generalize our setting to the case where a fund manager provides both alpha service (i.e., $\alpha^g \geq 0$ as in Berk and Green (2004)) and non-alpha service as in Eq. (1). As in Berk and Green (2004), since the provision of alpha service is scarce, the equilibrium fee charged for alpha service f^α should equal the gross alpha that a fund manager can generate:

$$f^{\alpha*} = \alpha^g. \tag{5}$$

In this general case, the total fee in equilibrium from providing both alpha and non-alpha services becomes:

$$f^* = f^{\alpha*} + f^{s*} = \alpha^g + c\frac{1}{w}. \tag{6}$$

Eq. (6) motivates our first regression analysis. *The importance of a fixed cost per client of providing non-alpha service can be tested by regressing the percentage* f^* *of each fund on the reciprocal of the*

average investment amount per cts gross alpha. The fixed cost estimate $\hat{c}$ would be significantly positive if the fixed cost per client of providing non-alpha service is relevant for the percentage fee.

Under the *null hypothesis* that the fee revenue of fund managers is entirely from alpha service, the coefficients of the average investment amount per client $1/w$ should be zero. The fixed cost per client from providing non-alpha service should not affect a fund manager's fee revenue.

As in Berk and van Binsbergen (2015), we define the value added of a fund as

$$V = \alpha^g * q. \tag{7}$$

The product of the percentage fee in Eq. (6) and the assets under management of that fund q gives the total fee revenue in dollars of the fund manager as

$$F = f^* q = n f^* w = V + cn, \tag{8}$$

where n is the total number of clients the fund manager serves. Eq. (8) gives the equation for our second regression analysis. *The importance of a fixed cost per client of non-alpha service can be tested by regressing the total fee revenue f^*q of each fund on the total number of clients n and the value added of the fund.*

1.2 The Setting with an Imperfect Competition in Providing Non-Alpha Service

In this section, we relax the assumption of perfect competition in providing non-alpha service, allowing for a larger revenue from a better service. In particular, we assume that the utility of

the service s_i in Eq.(1) is uniformly distributed at an interval from $\bar{s} - k$ to $\bar{s}$, $s_i \sim U[\bar{s} - k; \bar{s}]$. Parameter $\bar{s}$ is the highest utility an investor can get from this fund service. Parameter k is the dispersion of investors' utility. A fund investor with $TP_i > 0$ chooses to invest in the fund. A break-even investor will have $TP_i = \alpha^g - f + s_i = \alpha^n + s_i = 0$, and all investors with $s_i > -\alpha^n$ would invest. We assume that $\bar{s} > -\alpha^n > \bar{s} - k$, so there is a fraction of investors investing in this fund. We assume that there are N investors in the market, and each client has an investment amount of w for simplicity. Then, the total amount of capital invested in this fund can be written as

$$q = \frac{(\bar{s} + \alpha^n)}{k} Nw = \frac{(\bar{s} + \alpha^n)}{\kappa}, \tag{9}$$

where we define $\kappa \equiv \frac{k}{Nw}$. Its reciprocal $\frac{1}{\kappa} = \frac{Nw}{k}$ captures the price-demand elasticity of this service.

To understand this price-demand elasticity, we assume that the fund has no active investment skill (i.e., $\alpha^g = 0$). Since we have the fee for service $f^s = -\alpha^n$ in this case, Eq. (9) becomes

$$q = \frac{(\bar{s} - f^s)}{\kappa}. \tag{10}$$

Eq. (10) shows that a one-unit increase in service fee f^s leads to a decrease in the total amount of capital invested q by $\frac{1}{\kappa}$. The price-demand relationship described in Eq. (10) is similar to the price-demand relationship of a good in neoclassical economics. This price-demand elasticity $\frac{1}{\kappa} = \frac{Nw}{k}$ increases with the total amount of capital in the market Nw and decreases with an increase in the dispersion of investors' utility k.

Rearranging Eq.(9) gives the equilibrium net alpha of the fund as

$$\alpha^n = -\bar{s} + \kappa q. \tag{11}$$

This result relaxes the assumption in Berk and Green (2004)'s model that the expected value of net alpha equals zero by introducing a utility from non-alpha services. The corresponding fee f^s for non-alpha services charged by the fund is

$$f^s = -\alpha^n = \bar{s} - \kappa q, \tag{12}$$

where index funds with the same fee f^s have different fund size q because their services have heterogeneous utilities $\bar{s}$ to investors.

The total dollar revenue of the fund after a fixed cost per client can be written

$$\Pi^s = f^s q - cn = \bar{s}q - \kappa q^2 - cn = \bar{s}q - \kappa q^2 - \frac{c}{w}q. \tag{13}$$

A fund chooses the optimal fund size q^* (or correspondingly the optimal fee for non-alpha services f^{s*}). Taking the F.O.C. of Eq. (13) with respect to the fund size q gives

$$q^* = \frac{\bar{s} - c/w}{2\kappa}. \tag{14}$$

Substituting the To maximize its dollar revenue, aq* in Eq. (14) into Eq. (13) gives the maximum revenue from non-alpha services after costs as

$$\Pi^{s*} = \frac{(\bar{s} - c/w)^2}{4\kappa}, \tag{15}$$

and the dollar fee revenue before the fixed cost per client as

$$F^{s*} = \frac{\bar{s}^2 - (c/w)^2}{4\kappa}, \tag{16}$$

which is larger than the revenue from non-alpha services after costs Π^{s*} in Eq. (15). Substituting q^* into Eq. (11) gives the equilibrium net alpha and percentage fee as

$$\alpha^{n*} = -f^{s*} = -\frac{\bar{s} + c/w}{2}. \tag{17}$$

This equation shows that a fund that provides a better service (with higher $\bar{s}$) has a lower equilibrium net alpha α^{n*} and a higher percentage fee. A fund manager serving wealthier clients (with a higher w) has a higher net alpha and lower percentage fee.

Again, we generalize our setting to the case where a fund manager provides both alpha service (i.e., $\alpha^g \geq 0$ as in Berk and Green (2004)) and non-alpha services as in Eq. (1). As in Berk and Green (2004), since the provision of alpha service is scarce, the equilibrium fee charged for alpha service f^α should equal to the gross alpha that a fund manager can generate as in Eq. (6). Assuming that the choice of $f^{\alpha*}$ and f^{s*} are independent, the total fee in equilibrium from providing both alpha and non-alpha services becomes:

$$f^* = f^{\alpha*} + f^{s*} = \alpha^g + \frac{1}{2}\bar{s} + \frac{1}{2}\frac{c}{w}. \tag{18}$$

Eq. (18) enriches Eq. (6) for our first regression analysis with the additional fee from the utility of non-alpha services captured by the term $\frac{1}{2}\bar{s}$. The importance of non-alpha services can be estimated by regressing the percentage f^* of each fund on its gross alpha and the reciprocal of the average

investment amount per client $1/w$. The constant term in this estimation would capture the effect of non-alpha services $\bar{s}$ on the percentage fee of a fund.

The product of the percentage fee in Eq. (18) and the assets under management of that fund q gives the total fee revenue in dollars of the fund manager as

$$F = f^* q = n f^* w = V + \frac{1}{2}\bar{s}q + \frac{1}{2}cn, \tag{19}$$

where n is the total number of clients the fund manager serves, and V is the value added of the fund as defined in Eq. (7). Eq. (19) enriches the equation for our second regression analysis with the additional fee revenue from the utility of non-alpha services captured by the term $\frac{1}{2}\bar{s}q$. The importance of non-alpha services to fee revenues can be estimated by regressing the total fee revenue f^*q of each fund on the value added of the fund V, the total assets under management of the fund q, and the total number of clients n. The coefficient of q would capture the effect of non-alpha service $\bar{s}$ on the fee revenue of a fund.

2 Data And Descriptive Statistics

To test the predictions of our model, we use administrative records provided by two (independent) Canadian Mutual Fund Dealers. These firms advise just under C$20 billion of assets, or roughly 5% of assets under management by MFDA-registered advisors. Financial institutions in the Mutual Fund Dealer Association (MFDA) represent a primary component of retail investment in Canada. Their advisors are licensed to distribute only mutual funds.[7] The dataset contains transactions

[7] As of December 2022, 85 MFDA members employed roughly 78,000 advisors and managed accounts worth C$635B, or nearly 50% of Canadian retail investment assets.

and demographic information for clients and advisors from 1999 to 2012.[8] We can access the last available "Know Your Client" form. This form collects information on the client's risk tolerance, investment horizon, financial knowledge, wealth, income, and occupation.

For the 488,263 clients in our sample, the average age is 49.2 years. Roughly 50% of clients are women and have an average tenure with their advisors of 4.6 years. The average account has a value of CND$ 55,3000 invested in 4.7 different mutual funds with a share of risky assets equal to 73.3%. Over 80% of clients have a net worth above CND$ 100,000, and roughly 70% have a salary below CND$ 70,000. Among these investors, the most common risk-tolerance and financial knowledge categories are "moderate." Roughly 90% of the accounts have an investment horizon of six or more years. Over one-quarter of investors own a brokerage account ("General" or "Open"), while 85%

Three thousand two hundred seventy-six advisors follow these clients. Their average age is 48, and 27% of them are women. Advisors have personal portfolios that are, on average, larger (CND$ 112,100), invested in more funds (8.7), and riskier (80.7% risky share). The average advisors serve 110 clients with assets under management of CND$ 6.2 Million.

3 Fund-level Analyses

In this section, we test the model predictions using portfolio sorting analyses. Then, we estimate the fixed cost per client and fee revenues from the value-added of non-alpha services versus alpha services using the regression analyses suggested in our model.

[8] These two firms are the same as those examined in Linnainmaa, Melzer, and Previtero (2021).

3.1 The Relationship between Percentage Fee and Average Investment Amount per Client

We first test the relationship between funds' total percentage fees and average investment amounts per client as predicted in Eq. (3) and Eq. (6). If the fixed cost c from serving each client is positive, we expect a fund's total percentage fee to decrease with an increase in the average investment amount per client of that fund. In particular, we sort all fund share classes in our sample into quintiles based on their average investment amounts per client every month, where quintile 1 is for small clients and quintile 5 is for large clients.

As reported in Panel A of Table 2, the percentage fee decreases monotonically with an increase in the average investment amount per client from quintile one to five. The fee difference between quintiles one and five is 0.35% per year. To further show that this fee difference is not caused by the fee difference between small and large funds, we do a double sorting analysis first by fund size and then by average investment amount per client and report the results in Panel B of Table 2. In particular, we first sort fund share classes into quintiles by fund size, measured by the total investment amount of all the clients in our sample into that fund share class. Quintile one is for small funds, and quintile five is for large funds. For funds within each fund size quintile, we sort them into quintiles based on their average investment amounts per client. As reported in Panel B of Table 2, the fee differences are between 0.32% to 0.43% per year for all fund size quintiles, and they are all significant at the 1% significance level. Moreover, the average total investment amount (fund size) of funds serving small clients (in client's average investment amount quintile 1) is 1,301,984 dollars as reported in Panel A of Table 3, which is even larger than the 891,757 dollars for funds serving large clients (in client's average investment amount quintile 5), indicating that

the lower fee of larger funds does not drive our finding.

We further investigate this fee difference by fund categories. Table 4 shows that our finding holds for all fund categories in our sample, including equity funds, bond funds, balanced funds, money-market funds, and alternative funds. The fee differences between quintiles 1 and 5 are as large as 0.45% for equity funds and 0.62% and 1.40% for money-market funds and alternative funds, respectively. This difference is smaller for bond and balanced funds because financial advisors are less likely to recommend these two types of funds to their clients.

According to Eq. (6), the fee difference is either from the gross alpha generated by the fund α^g or the cost of servicing each client c. To check whether the difference in gross alpha generates this fee difference, we calculate the average gross returns, CAPM alphas, and Fama-French three-factor alphas of equity funds by average investment amount per client quintiles. To adjust for the market exposure of funds investing globally, we also include the returns of the MSCI world index and the Canadian market factor, size factor, and value factor when calculating the CAPM alphas and Fama-French three-factor alphas. Table 5 shows that funds managing the money of small clients (quintile 1) underperform funds serving large clients (quintile 5) by 1.67% per year before fees according to CAPM alphas, which is statistically significant at 10% significance level. This number stays positive but becomes statistically insignificant for gross returns and Fama-French 3-factor alpha. This result indicates that higher abnormal returns do not justify the higher percentage fees charged by funds serving small clients.

3.2 Estimation of Fixed Cost per Client and Fee Revenues from Non-Alpha Services versus Alpha Services

Next, we estimate the fixed cost per client c and fee revenues from value-added of non-alpha services versus alpha services using the regression analyses in Eq. (18) and (19) suggested in our model.

Table 6 reports the regression results of Eq. (19) in Panel A and Eq. (18) in Panel B. Our estimate of fixed cost of serving each client is 17.91 dollars using fee revenues in dollar as in Eq. (19) and 5.71 dollars using percentage fees as in Eq. (18). The former estimate using fee revenues in dollars is mainly driven by a small number of large funds, whereas the latter estimate using fee revenues in dollars is primarily driven by a large number of relatively small funds. Since the assets of the majority of investors are managed by a smaller number of large funds in the mutual fund industry, the former estimate of 17.91 dollars is a more appropriate estimate for the fixed cost of serving an average client in this industry. The latter estimate of 5.71 dollars is an estimate of the fixed cost of serving each client for an average fund in the industry.

To further investigate the variation of the fixed cost of serving each client across fund size, we sort funds into fund size quintiles based on the total investment amount of all the clients in our sample into that fund share class every month and do the same regression analyses for each fund size quintile separately. As reported in settings (2) - (6) and (8) - (12), the estimate of the fixed cost of serving each client increases monotonically with the total investment amount, which is consistent with the conjecture that funds spending more money on serving each client manage to attract more capital into their funds.

Furthermore, the coefficients of VA CAPM and alpha CAPM are economically small, suggesting the fund alphas have limited explanatory power to account for the variation of fees across funds.

The coefficients of fund size in Panel A and the constant terms in Panel B suggest that the fee revenues from the value added of non-alpha services are about 2.33% to 2.84% of fund TNAs according to our model.

4 Advisor-level Analyses

4.1 Drivers of Advisor Revenues: Percentage Fees

To better characterize non-alpha services, we investigate the determinants of the total client fees. The administrative data allows us to precisely reconstruct all the fees that clients pay from the management expense ratio to the deferred sale charge (for back-end load funds), from the front-end load to the administrative fees.[9] Nonetheless, we do not observe the commissions (kickbacks) the advisors receive from the mutual fund firm. Therefore, we will refer to advisor revenues as the total fees a client is willing to pay to an advisor and a fund manager.

In Table 7, we present the results of regressing client total fees as a percentage of the asset under management on various explanatory variables. We include in our regressions: i) advisor-level variables such as age, gender, and investment skill; ii) client-portfolio variables such as value-weighted share of risky assets and alpha; and iii) proxies for the breadth of services such as the number of clients and the number of different investment plans. The variables are standardized to interpret the coefficients better.

Variables associated with alpha services do not explain variation in percentage fees across advisors. The coefficient for the client portfolios alphas is of the wrong sign (negative) and economically trivial (one basis point). The effect of advisor investment skills— measured by the returns on their

[9] We also include the fee for the f-class funds and subtract all the rebates that a client receives.

portfolios—is not statistically or economically significant. While several other variables are statistically significant, many effects are economically small. The strongest determinant of percentage fees is the value-weighted riskiness of the client portfolios. One standard deviation increase in the riskiness of the client portfolio increases the percentage fee by 12 basis points or roughly 5% of the unconditional mean (245 basis points). While this evidence is consistent with investors paying higher fees for hand-holding in riskier portfolios as in Gennaioli, Shleifer, and Vishny (2015), the effects are still economically small.

In Table 8, we investigate further non-alpha services by controlling for the number of investment accounts by each of their type (open, retirement savings or RRSP, retirement income or RRIF, education savings or RESP, and tax-free plans). The previous evidence is largely confirmed also in this specification.

This evidence suggests that alpha services do not drive variation in percentage fees. While there is some evidence that clients are willing to pay for hand-holding, the economic magnitudes are pretty small.

4.2 Drivers of Advisor Revenues: Dollar Value Fees

Building on the distinction between alphas and value-added introduced by Berk and van Binsbergen (2015), we estimate the determinants of fees in dollar terms to understand better which services clients demand and are willing to pay for. In practice, we compute the dollar value of fees as the percentage fee times the dollar value of the asset under management. On average, an advisor can extract CND$ 170,355 from all their clients.

We present the results of our regressions in Table 9. As for percentage fees, variables associated with alpha services, such as client alphas and advisor investment skills, do not drive dollar revenues.

The riskiness of the client portfolios does not significantly increase dollar revenues, suggesting that the demand for hand-holding is not widespread among investors. Advisor demographics matter as a one standard deviation increase in advisor age increases dollar fees by CND$ 13,875 or 8.1% of the unconditional mean of dollar revenues. It is worth noticing that female advisors—even after controlling for portfolio returns and investment skills —earn CND$ 25,111 less than their male colleagues. The number of different accounts is the most critical determinant of advisor revenues.

To investigate further this evidence on the number of accounts, in Table 10, we regress the dollar revenues on the number of different accounts separated by type. Several types of accounts significantly increase advisor revenues. For example, a one standard deviation increase in the number of open (brokerage) accounts increases advisor fees by USD 80,996 or 48% of the unconditional mean. Analogously, a one standard deviation increase in the number of retirement income accounts increases the advisor fees by 32.0% and a similar increase in the number of college saving accounts by 23.9%.

Altogether, this evidence suggests that non-alpha services associated with financial planning (i.e., retirement income or college savings) and tax optimization are the major determinants of advisor revenues.

These results are robust to various tests such as controlling for advisor fixed effect, advisor different licenses, or investor-level characteristics such as client investment horizon, age, and financial literacy.

5 Conclusions

Studies of mutual funds traditionally stem from the asset pricing literature and build on the central assumption that investors value only the risk-return trade-off of their investments. Consequently, fund managers' skill and value-added are related to their ability to outperform the market and other passive benchmarks (e.g., Jensen (1968), Berk and Green (2004), Berk and van Binsbergen (2015)). For example, in Berk and Green (2004), the expected fund net alphas should be zero, in equilibrium, if the provision of capital is competitive. In their setting, only funds with positive gross alphas can attract capital and charge a fee to investors.

What happens if, instead, investors value other services and not just the risk-return payoff of their investments? What happens if investors value, for example, financial planning, tax optimization, portfolio customization, or the hand-holding that an advisor can provide? We investigate this possibility by developing and testing a model of non-alpha services. In our model, investors derive utility both from alpha and non-alpha services. In equilibrium, some funds may have a negative net alpha and still positive assets under management because of the high utilities they provide to their investors through non-alpha services.

To better characterize non-alpha services, we investigate the drivers of financial advisors' revenues for roughly 500,000 Canadian clients for 13 years. We find that variables associated with alpha services, such as client alphas and advisor investment skills, do not drive advisor revenues. Conversely, variables associated with non-alpha services, such as the number of different investment accounts per client (e.g., retirement or college savings), are important determinants in explaining client fees. Non-alpha services could help shed light on the long-standing puzzle in the mutual fund literature of why negative-net alphas funds persist in the market.

REFERENCES

Barras, L., P. Gagliardini, and O. Scaillet (2022). Skill, scale, and value creation in the mutual fund industry. *Journal of Finance 77*(1), 601–638.

Berk, J. B. and R. C. Green (2004). Mutual fund flows and performance in rational markets. *Journal of Political Economy 112*(6), 1269–1295.

Berk, J. B. and J. H. van Binsbergen (2015). Measuring skill in the mutual fund industry. *Journal of Financial Economics 118*(1), 1–20.

Berk, J. B. and J. H. Van Binsbergen (2022). Regulation of charlatans in high-skill professions. *Journal of Finance 77*(2), 1219–1258.

Bonelli, M., A. Buyalskaya, and T. Yao (2021). Quality and product differentiation: Theory and evidence from the mutual fund industry. Working Paper.

Chalmers, J. and J. Reuter (2020). Is conflicted investment advice better than no advice? *Journal of Financial Economics 138*(2), 366–387.

Chen, J., H. Hong, M. Huang, and J. D. Kubik (2004). Does fund size erode mutual fund performance? the role of liquidity and organization. *American Economic Review 94*(5), 1276–1302.

Chen, J., W. Jiang, and M. Z. Xiaolan (2023). The economics of mutual fund marketing. Working Paper.

Christoffersen, S. E. and D. K. Musto (2002). Demand curves and the pricing of money management. *Review of Financial Studies 15*(5), 1499–1524.

Cooper, M. J., M. Halling, and W. Yang (2021). The persistence of fee dispersion among mutual funds. *Review of Finance 25*(2), 365–402.

Deli, D. N. (2002). Mutual fund advisory contracts: An empirical investigation. *Journal of Finance 57*(1), 109–133.

Egan, M., G. Matvos, and A. Seru (2015). The market for financial adviser misconduct. University of Chicago working paper.

Fama, E. F. and K. R. French (2010). Luck versus skill in the cross-section of mutual fund returns. *The journal of finance 65*(5), 1915–1947.

Ferris, S. P. and D. M. Chance (1987). The effect of 12b-1 plans on mutual fund expense ratios: A note. *Journal of Finance 42*(4), 1077–1082.

Foerster, S., J. T. Linnainmaa, B. T. Melzer, and A. Previtero (2017). Retail financial advice: Does one size fit all? *Journal of Finance 72*(4), 1441–1482.

Gârleanu, N. and L. H. Pedersen (2018). Efficiently inefficient markets for assets and asset management. *Journal of Finance 73*(4), 1663–1712.

Gennaioli, N., A. Shleifer, and R. Vishny (2015). Money doctors. *Journal of Finance 70*(1), 91–114.

Gil-Bazo, J. and P. Ruiz-Verdú (2009). The relation between price and performance in the mutual fund industry. *Journal of Finance 64*(5), 2153–2183.

Golec, J. (2003). Regulation and the rise in asset-based mutual fund management fees. *Journal of Financial Research 26*(1), 19–30.

Gruber, M. J. (1996). Another puzzle: The growth in actively managed mutual funds. *Journal of Finance 51*(3), 783–810.

Hortaçsu, A. and C. Syverson (2004). Product differentiation, search costs, and competition in the mutual fund industry: A case study of s&p 500 index funds. *Quarterly Journal of Economics 119*(2), 403–456.

Huang, J., K. D. Wei, and H. Yan (2007). Participation costs and the sensitivity of fund flows to past performance. *Journal of Finance 62*(3), 1273–1311.

Jensen, M. C. (1968). The performance of mutual funds in the period 1945-1964. *Journal of Finance 23*(2), 389–416.

Khorana, A. and H. Servaes (2012). What drives market share in the mutual fund industry? *Review of Finance 16*(1), 81–113.

Khorana, A., H. Servaes, and P. Tufano (2009). Mutual fund fees around the world. *Review of Financial Studies 22*(3), 1279–1310.

Kostovetsky, L. and J. B. Warner (2020). Measuring innovation and product differentiation: Evidence from mutual funds. *Journal of Finance 75*(2), 779–823.

Latzko, D. A. (1999). Economies of scale in mutual fund administration. *Journal of Financial Research 22*(3), 331–339.

Linnainmaa, J. T., B. T. Melzer, and A. Previtero (2021). The misguided beliefs of financial advisors. *Journal of Finance 76*(2), 587–621.

Luo, G. Y. (2002). Mutual fund fee–setting, market structure and mark–ups. *Economica 69*(274), 245–271.

Malhotra, D. K. and R. W. McLeod (1997). An empirical analysis of mutual fund expenses. *Journal of Financial Research 20*(2), 175–190.

Massa, M. (1998). Why so many mutual funds? mutual fund families, market segmentation and financial performance. Working Paper.

Roussanov, N., H. Ruan, and Y. Wei (2021). Marketing mutual funds. *Review of Financial Studies 34*(6), 3045–3094.

Sharpe, W. F. (1991). The arithmetic of active management. *Financial Analysts Journal 47*(1), 7–9.

Sirri, E. R. and P. Tufano (1998). Costly search and mutual fund flows. *Journal of Finance 53*(5), 1589–1622.

Tufano, P. and M. Sevick (1997). Board structure and fee-setting in the us mutual fund industry. *Journal of Financial Economics 46*(3), 321–355.

Wahal, S. and A. Y. Wang (2011). Competition among mutual funds. *Journal of Financial Economics 99*(1), 40–59.

Wermers, R. (2000). Mutual fund performance: An empirical decomposition into stock-picking talent, style, transactions costs, and expenses. *Journal of Finance 55*(4), 1655–1695.

Zhu, M. (2018). Informative fund size, managerial skill, and investor rationality. *Journal of Financial Economics 130*(1), 114–134.

Table 1: Investor and Account Characteristics

This table reports the descriptive statistics for the 488,263 investors (Panel A) and the 3,276 advisors (Panel B) in our sample. The sample period is 1999 to 2012.

Panel A: Investors and Accounts

		Percentile				
	Mean	10	25	50	75	90
Age	49.2	32	40	48	58	67
Female (%)	52.2					
w/ Current Advisor, yrs	4.6	0.9	2.3	4.5	6.9	8.0
Number of funds	4.7	1	2	4	6	10
Account value, $K	55.3	2.2	7.3	23.5	63.4	136.0
Portfolio risky share (%)	73.3	46.6	56.9	76.5	96.7	100

Account types	
General	27.6%
Retirement savings or income	84.9%
Education savings	9.4%
Tax-free	4.3%

Risk tolerance	
Very low	4.2%
Low	4.3%
Low to Moderate	8.5%
Moderate	51.5%
Moderate to High	19.7%
High	11.9%

Financial knowledge	
Low	40.3%
Moderate	54.5%
High	5.2%

Net worth	
Under $35k	3.6%
$35–60k	6.2%
$60–100k	9.3%
$100–200k	18.3%
Over $200k	62.7%

Salary	
$30-50k	34.6%
$50-70k	35.4%
$70-100k	17.3%
$100-200k	12.1%
$200-300k	0.2%
Over $300k	0.2%

Time horizon	
1–3 years	2.5%
4–5 years	8.1%
6–9 years	69.7%
10+ years	19.7%

Panel B: Advisors

		Percentile				
	Mean	10	25	50	75	90
Age	48.4	35	41	48	56	62
Female (%)	27.1					
Number of funds	8.7	1	3	6	12	19
Account value, $K	112.1	3.8	14.7	50.9	130.7	269.2
Portfolio risky share (%)	80.7	51.2	70.2	88.1	99.7	100
Number of clients (%)	109.8	4	18	64	154	275
Client assets, $K	6,242.6	94.9	569.4	2,546.8	7,799.2	17,499.5

Table 2: Total Fee by Average Investment Amount per Client

This table reports the total percentage fee by average investment amount per client quintiles in Panel A. Every month, we sort all fund share classes in our sample into quintiles based on their average investment amounts per client, where quintile 1 is for small clients and quintile 5 for large clients. Panel B reports the results of double sorting first by fund size then by average investment amount per client. We first sort fund share classes into quintiles by fund size, which is measured by the total investment amount of all the clients in our sample into that fund share class. Quintile 1 is for small funds and quintile 5 for large funds. For funds within each fund size quintile, we sort them into quintiles based on their average investment amounts per client. Robust standard errors are clustered by fund. All total percentage fees reported are equally weighted across fund share classes. Asterisks denote significance levels: *** 0.01, ** 0.05, and * 0.1.

Panel A: Single sorting by average investment amount per client							
	Client's average investment amount quintiles						
	1 small client	2	3	4	5 large client	(5-1)	t stat.
Total Fee (in %)	2.72	2.57	2.53	2.49	2.37	-0.35***	-19.22
Panel B: Double sorting by fund size and by average investment amount per client							
Fund size quintiles							
1 small	2.75	2.61	2.58	2.54	2.42	-0.32***	-10.31
2	2.75	2.64	2.58	2.50	2.38	-0.37***	-11.56
3	2.75	2.63	2.55	2.54	2.32	-0.43***	-13.72
4	2.73	2.61	2.55	2.49	2.35	-0.39***	-11.45
5 large	2.65	2.45	2.38	2.39	2.33	-0.32***	-9.52

Table 3: Average Investment Amount per Client, Number of Clients, and Total Investment Amount

This table reports the average investment amount per client, total number of clients, and total investment amount per fund share class (fund size) by average investment amount per client quintiles in Panel A. Every month, we sort all fund share classes in our sample into quintiles based on their average investment amounts per client, where quintile 1 is for small clients and quintile 5 for large clients. Panel B reports the total investment amount for double sorting first by fund size then by average investment amount per client. We first sort fund share classes into quintiles by fund size, which is measured by the total investment amount of all the clients in our sample into that fund share class. Quintile 1 is for small funds, and quintile 5 is for large funds. For funds within each fund size quintile, we sort them into quintiles based on their average investment amounts per client. Robust standard errors are clustered by fund. All numbers reported are equally weighted across fund share classes. All investment amounts are reported in dollars. Asterisks denote significance levels: *** 0.01, ** 0.05, and * 0.1.

Panel A: Single sorting by average investment amount per client					
	Client's average investment amount quintiles				
	1 small client	2	3	4	5 large client
Average investment amount per client	4,910	9,915	15,645	26,193	95,189
Number of clients	276	304	198	77	18
Total investment amount (fund size)	1,301,984	2,746,552	2,455,383	1,375,921	891,757
Panel B: Double sorting by fund size and by average investment amount per client					
Variable: Total investment amount (in dollars)					
Fund size quintiles					
1 small	25,745	22,920	22,617	25,643	33,977
2	84,446	84,834	84,122	83,726	87,552
3	234,925	232,347	233,804	232,946	233,964
4	745,284	737,158	736,495	721,795	695,280
5 large	5,079,659	9,127,475	10,500,000	8,292,523	5,545,934

Table 4: Total Fee by Average Investment Amount per Client (by Fund Category)

This table reports the total percentage fee by average investment amount per client quintiles (quintile 1 for small clients and quintile 5 for large clients) by fund categories. Robust standard errors are clustered by the fund. Asterisks denote significance levels: *** 0.01, ** 0.05, and * 0.1.

Total Fee (in %)	Client's average investment amount quintiles						
Fund Category	1 small client	2	3	4	5 large client	(5-1)	t stat.
Equity	2.86	2.80	2.73	2.64	2.42	-0.45***	-17.28
Bond	1.92	1.89	1.96	1.90	1.80	-0.12***	-2.48
Balanced	2.65	2.63	2.66	2.66	2.52	-0.13***	-5.93
Money-market	1.81	1.52	1.34	1.32	1.20	-0.62***	-5.08
Alternatives	3.78	3.34	2.94	2.64	2.38	-1.40***	-11.29

Table 5: Fund Gross Performance by Average Investment Amount per Client

This table reports the gross returns, CAPM alphas, and Fama-French three factor alphas of equity funds by average investment amount per client quintiles (quitile 1 for small clients and quintile 5 for large clients). The average investment amount per client quintiles are formed based on their average investment amounts per client in the previous month in this analysis. To adjust for the market exposure of funds investing globally, we also include the returns of MSCI world index when calculating the CAPM alpha and Fama-French three factor alphas. All returns and alphas are value weighted by fund TNAs. Asterisks denote significance levels: *** 0.01, ** 0.05, and * 0.1.

(in %, annualized)	Client's average investment amount quintiles						
	1 small client	2	3	4	5 large client	(5-1)	t stat.
Gross return	4.73	4.29	5.15	5.19	6.12	1.39	1.33
Gross CAPM alpha	-0.80	-0.62	-0.07	0.12	0.88	1.67*	1.77
Gross FF3 alpha	-0.76	-1.02	-0.70	-0.55	0.26	1.02	1.26

Table 6: Regressions of Fee Revenues

This table reports the regression results of Eq. (19) in Panel A and Eq. (18) in Panel B. Setting (1) and (7) are regressions using all the equity funds in our sample. Settings (2) - (6) and (8) - (12) report the results by fund size quintiles. Funds are sorted into fund size quintiles based on the total investment amount of all the clients in our sample every month. Robust standard errors are clustered by fund. Asterisks denote significance levels: *** 0.01, ** 0.05, and * 0.1.

Panel A: Regressions for Total Fee Revenue in Dollar						
Dependent Variable: Total Fee Revenue in Dollar						
		Fund size quintiles				
	All	1 small	2	3	4	5 large
	(1)	(2)	(3)	(4)	(5)	(6)
N clients	17.91***	0.57**	3.32***	8.79***	10.63***	17.82***
	(3.94)	(2.12)	(4.48)	(7.88)	(7.46)	(3.70)
VA capm	0.0004***	-0.0007***	-0.0003**	0.0001	0.0003**	0.0004***
	(3.78)	(-3.52)	(-2.01)	(0.39)	(2.16)	(3.74)
Fund size	0.0234***	0.0268***	0.0284***	0.0268***	0.0258***	0.0233***
	(37.49)	(64.96)	(74.03)	(66.28)	(62.04)	(36.54)
Constant	659.5**	-5.4	-152.1***	-219.8***	-357.1*	2748.3
	(1.97)	(-0.62)	(-5.47)	(-3.12)	(-1.86)	(1.53)
Observations	341,373	67,548	67,909	68,346	68,523	69,047
Adjusted R-squared	0.981	0.600	0.603	0.668	0.762	0.975
Panel B: Regressions for Percentage Fee						
Dependent Variable: Fee Revenue in Percentage						
	(7)	(8)	(9)	(10)	(11)	(12)
$1/w$	5.72***	3.28***	5.41***	8.87***	9.19***	13.93***
	(13.88)	(8.14)	(9.75)	(11.30)	(8.98)	(9.82)
alpha capm	-0.0004***	-0.0005***	-0.0006***	-0.0004***	-0.0001	-0.0002*
	(-7.17)	(-3.93)	(-4.40)	(-3.32)	(-1.12)	(-1.86)
Constant	0.0260***	0.0263***	0.0262***	0.0257***	0.0255***	0.0244***
	(205.54)	(125.38)	(124.65)	(110.12)	(104.01)	(90.99)
Observations	341,373	67,548	67,909	68,346	68,523	69,047
Adjusted R-squared	0.020	0.014	0.017	0.029	0.029	0.048

Table 7: Regressions of Advisor Revenues in Percentage of AUM

This table reports the regression of client total fees as a percentage of AUM on explanatory variables. All the variables are standardized. Robust standard errors are clustered at the advisor level. Asterisks denote significance levels: *** 0.01, ** 0.05, and * 0.1.

	Client Total Fees Mean=2.45				
	(1)	(2)	(3)	(4)	(5)
VW Client Alphas	-0.011***	-0.007*	-0.007*	-0.007*	-0.011***
	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)
Advisor Age		0.004	0.004	0.004	-0.003
		(0.005)	(0.005)	(0.005)	(0.005)
Advisor Female		-0.022*	-0.021*	-0.020	-0.024**
		(0.012)	(0.012)	(0.012)	(0.011)
Advisor Skill		-0.016***	-0.015***	-0.015***	-0.007
		(0.005)	(0.005)	(0.005)	(0.005)
N of Plans			0.006	-0.010	-0.023**
			(0.005)	(0.013)	(0.012)
N of Clients				0.017	0.029**
				(0.013)	(0.012)
VW Risky Share					0.116***
					(0.006)
Year-Month F.E.	Yes	Yes	Yes	Yes	Yes
N	269,048	197,422	197,422	197,422	197,098
R-sq	0.034	0.038	0.038	0.038	0.099

Table 8: Regressions of Advisor Revenues in Percentage of AUM on Type of Accounts

This table reports the regression of client total fees as a percentage of AUM on explanatory variables. All the variables are standardized. Robust standard errors are clustered at the advisor level. Asterisks denote significance levels: *** 0.01, ** 0.05, and * 0.1.

	Client Total Fees		Mean=2.45
	(1)	(2)	(3)
VW Client Alphas	-0.007*	-0.007*	-0.011***
	(0.004)	(0.004)	(0.004)
Advisor Female	-0.021*	-0.020*	-0.024**
	(0.012)	(0.012)	(0.011)
Advisor Skill	-0.016***	-0.017***	-0.009*
	(0.005)	(0.005)	(0.005)
N of Clients		0.035***	0.047***
		(0.011)	(0.010)
VW Risky Share			0.117***
			(0.006)
N Open Plans	0.019***	0.011*	-0.008
	(0.006)	(0.006)	(0.007)
N RRSP Plans	0.014	-0.011	-0.010
	(0.009)	(0.013)	(0.013)
N RRIF Plans	-0.015***	-0.017***	-0.011***
	(0.005)	(0.005)	(0.004)
N RESP Plans	-0.016***	-0.017***	-0.022***
	(0.006)	(0.006)	(0.005)
N Tax-free Plans	-0.010***	-0.010***	-0.005*
	(0.004)	(0.004)	(0.003)
Year-Month F.E.	Yes	Yes	Yes
N	197,422	197,422	197,422
R-sq	0.040	0.041	0.102

Table 9: Regressions of Advisor Revenues in Dollars

This table reports the regression of client total fees in dollars on explanatory variables. All the variables are standardized. Robust standard errors are clustered at the advisor level. Asterisks denote significance levels: *** 0.01, ** 0.05, and * 0.1.

	Client Total Fees Mean=170,354.6				
	(1)	(2)	(3)	(4)	(5)
VW Client Alphas	2,529.3*	1,966.7	1,603.5	1,548.9	1,547.3
	(1,298.2)	(1,560.6)	(1,202.7)	(1,211.6)	(1,265.8)
Advisor Age		18,300.5**	13,432.6***	13,907.9***	13,874.7***
		(7,133.2)	(4,910.2)	(4,906.9)	(4,933.3)
Advisor Female		-81,784.8***	-25,930.5***	-25,011.5***	-25,110.9***
		(1,3261.1)	(6,609.8)	(6,604.8)	(6,609.7)
Advisor Skill		-14,311.3**	-1,982.8	-2,001.7	-1,944.3
		(7,023.9)	(4,174.7)	(4,133.2)	(4,157.1)
N of Plans			217,292.9***	179,684.9***	179,526.6***
			(11,532.2)	(44,097.2)	(44,102.9)
N of Clients				39,228.1	3,9401.0
				(41,562.2)	(4,1577.3)
VW Risky Share					1,024.4
					(2,823.9)
Year-Month F.E.	Yes	Yes	Yes	Yes	Yes
N	267,354	196,206	196,206	196,206	195,908
R-sq	0.002	0.003	0.029	0.029	0.029

Table 10: Regressions of Advisor Revenues in Dollars on Type of Accounts

This table reports the regression of client total fees in dollars on explanatory variables. All the variables are standardized. Robust standard errors are clustered at the advisor level. Asterisks denote significance levels: *** 0.01, ** 0.05, and * 0.1.

	Client Total Fees Mean=170,354.6		
	(1)	(2)	(3)
VW Client Alphas	1,220.9	1,149.3	1,283.6
	(1,115.1)	(1,127.3)	(1,171.8)
Advisor Age	12,070.9**	11,500.3**	11,699.1**
	(5,595.9)	(5,421.9)	(5,527.3)
Advisor Female	-29,466.8***	-25,768.4***	-25,750.0***
	(6,815.5)	(6,534.6)	(6,513.0)
Advisor Skill	5,962.6	3,879.8	3,713.4
	(4,053.3)	(3,755.2)	(3,718.9)
N of Clients		11,7917.8***	11,7751.2***
		(2,1241.4)	(2,1129.5)
VW Risky Share			-2693.7
			(2,743.0)
N Open Plans	104,705.2***	80,568.1***	80,995.8***
	(26,211.9)	(25,110.8)	(25,287.7)
N RRSP Plans	44,272.1**	-41,350.8	-41,421.8
	(17,908.7)	(29,788.3)	(29,796.7)
N RRIF Plans	61,494.8***	54,692.4***	54,540.6***
	(14891.279)	(16515.664)	(16568.187)
N RESP Plans	42,921.4**	40,528.2**	40,668.6**
	(16,920.3)	(16,954.9)	(17,008.3)
N Tax-free Plans	13,920.2**	14,439.4***	14,330.1***
	(5,906.2)	(5,325.1)	(5,351.4)
Year-Month F.E.	Yes	Yes	Yes
N	196,206	196,206	195,908
R-sq	0.030	0.031	0.031