

Financial Advice and Bank Profits*

Daniel Hoechle[†], Stefan Ruenzi[‡], Nic Schaub[§], Markus Schmid[¶]

January 13, 2018

Abstract

We use a unique dataset from a large retail bank containing internal managerial accounting data on revenues and costs per client to analyze how banks and their financial advisors generate profits with customers. We find that advised transactions are associated with higher profits than independently executed trades of the same client. The bank's own mutual funds and structured products are most profitable for the bank and profits increase with trade size. We show that advisors recommend exactly those transactions. Furthermore, we find that advised clients achieve a significantly worse net performance than independent clients. Collectively, our evidence suggests that advisors put their employer's rather than their clients' interest first.

JEL Classification: D14, G11, G21

Keywords: bank profits, financial advice, conflicts of interest, structured products

*We would like to thank an anonymous bank for providing the data. We are grateful to Itay Goldstein (the editor), two anonymous referees, Marc Arnold, Martin Brown, Claire Célérier, John Chalmers, Jay Choi, Anthony Cookson, Christian Ehm, Thomas Etheber, Andre Guettler, Luigi Guiso, Matti Keloharju, Samuli Knüpfer, Peter Limbach, Veronika Pool, Alessandro Previtero, Jean-Charles Rochet, Petra Vokatá, Ingo Walter, Youchang Wu, conference participants at the 1st Research in Behavioral Finance Conference in Rotterdam, the 11th European Winter Finance Summit (Skinance) in Schlading, the 8th Swiss Winter Conference on Financial Intermediation in Lenzerheide, the 18th annual conference of the Swiss Society for Financial Market Research (SGF) in Zurich, the 3rd European Retail Investment Conference (ERIC) in Stuttgart, the 10th annual conference of the Financial Intermediation Research Society (FIRS) in Reykjavik, the 6th Helsinki Finance Summit, the 22nd annual meeting of the German Finance Association (DGF) in Leipzig, the 26th Annual Conference on Financial Economics and Accounting (CFEA) in New Brunswick, the 76th annual meeting of the American Finance Association (AFA) in San Francisco, the 43rd annual meeting of the European Finance Association (EFA) in Oslo, the WU Gutmann Center Symposium on “Financial Advice and Asset Management” in Vienna, and seminar participants at the University of Mannheim, Karlsruhe Institute of Technology, the University of Luxembourg, and the University of Bern for helpful comments. Part of this research was undertaken while Schaub was a visiting researcher at the UCLA Anderson School of Management and Schmid was a visiting researcher at NYU Stern School of Business. Financial support from the Swiss National Science Foundation (SNF) is gratefully acknowledged.

[†]Institute for Finance, University of Applied Sciences Northwestern Switzerland, CH-4002 Basel, Switzerland, daniel.hoechle@fhnw.ch

[‡]University of Mannheim, Finance Area, D-68131 Mannheim, Germany, ruenzi@bwl.uni-mannheim.de

[§]Swiss Institute of Banking and Finance, University of St. Gallen, CH-9000 St. Gallen, Switzerland, nic.schaub@unisg.ch

[¶]Swiss Institute of Banking and Finance, University of St. Gallen, CH-9000 St. Gallen, Switzerland, markus.schmid@unisg.ch

1 Introduction

In this paper, we examine the role of financial advice in the profit generation process of banks. While previous studies either focus on determinants of the profitability of the whole banking sector or on profit drivers at the individual bank level, little is known about factors affecting bank profitability at the customer level. In this study, we use a unique dataset containing internal managerial accounting data from a large Swiss retail bank to shed light on the profit generation mechanism of banks and the role of financial advisors in this context. To the best of our knowledge, ours is the first study to use detailed client-level data on revenues, expenses, and eventually profits to investigate how financial advisors generate profits with bank clients.

Financial advisors are subject to a conflict of interest: They are supposed to help clients execute the most suitable transactions and at the same time they are expected to maximize profits for their employer. Specifically, on the one hand, advisors may strive to identify and recommend suitable trades because of professional concerns about clients' well-being. Additionally, advisors typically have a fiduciary duty to their clients and might be concerned about legal liability and reputational loss if they give advice that is not optimal from the clients' point of view.¹ On the other hand, advisors may aim for bank profit maximization out of a sense of duty to their employer. To earn money for the bank may also be motivated by career concerns. Moreover, as the bonus of advisors typically depends upon the commission and fee income they generate with clients, they also have direct monetary incentives to maximize bank profits. Given these conflicting incentives, it is an empirical question whether financial advisors recommend the most suitable transactions from the clients' point of view or promote the most profitable trades from the bank's point of view.²

Our dataset provides information on about 20,000 clients, their nearly 500 advisors, the financial holdings of these clients, and more than 240,000 trades executed by them between

¹See Bank for International Settlements (2008) for an overview of fiduciary duties and legal requirements imposed on financial advisors across jurisdictions and across different types of financial advice.

²Even if one expects that financial advisors put the interest of their employer first, it is an empirical question whether providing advice leads to more profits for banks, as providing advice is also costly. Banks may need to provide clients with access to financial advice in order to be able to attract customers in a competitive environment. However, if clients choose to actually take advantage of financial advice, this could still generate more costs than revenues for the bank. Our internal managerial accounting data including the costs arising from financial advice allow us to empirically analyze this question.

January 2002 and June 2005. Most importantly, the dataset contains quarterly managerial accounting data on revenues, costs, and profits generated from each individual client. This feature of our data enables us to study drivers of bank profitability at the client level. Moreover, our data include information on the type of financial advice followed by clients, allowing us to examine the role of financial advisors in the bank's profit generation process using two distinct settings: when clients sometimes rely on advice but also conduct trades independently and when clients completely delegate portfolio management to advisors. Optional financial advice is provided free of any direct costs for clients, while clients pay a semi-annual fee when delegating account management to the bank. In a within-person analysis using client-advisor fixed effects, we are able to compare bank profits related to advised and independent trades of the *same* client-advisor pair and we can investigate the change in bank profits when a client decides to switch from a self-managed to a bank-managed account, and vice versa.

We start our analysis by investigating the different profit centers related to the bank's retail client business. Our results show that the income from securities transactions and securities holdings accounts for about 70% of quarterly revenues generated with individual clients in our sample. Interest income only contributes about one-fourth to revenues.

The core of our analysis is an investigation of the role of financial advice in generating profits from securities transactions and securities holdings. We find that trades executed based on optional financial advice are associated with significantly higher bank profits than independently executed transactions of the same client. If clients rely on optional financial advice, average quarterly bank profits increase by more than 50%. Focusing on the subgroup of clients who fully delegate account management to the bank, we document that the bank's profit with a customer increases by about 80% after the switch to a delegated account.

We then examine the profits associated with different securities transactions and securities holdings of clients to shed light on how exactly financial advisors can influence profitability. We find that profits increase with trade size, as commissions and fees are proportional to the size of transactions, while transaction-related expenses for the bank do not increase to a similar extent with trade size. Moreover, we document that the bank's own mutual funds and structured products generate the highest transaction- and holding-related profits for the

bank. This effect is partly driven by payments from the department that manages the bank's own funds and from issuers of structured products (so-called kickbacks). Thus, if advisors recommend transactions and implement portfolios that maximize expected bank profits, we hypothesize that they should particularly promote larger trades, trades in the bank's own funds, and trades in structured products.

We then investigate directly whether advisors do actually promote trades and implement portfolios in a way that would be expected to maximize bank profits. Consistent with our conjecture, we document that advised trades are indeed significantly larger than independently executed transactions. In addition, we find that advised trades are more likely to be trades in the bank's own mutual funds and in structured products. Similarly, when clients switch from a self-managed to a bank-managed account, we document a permanent increase in portfolio turnover. We also show that the share of own-bank mutual funds and structured products in clients' portfolios increases significantly following the delegation of portfolio management to the bank.

Next, we explore whether there is meaningful variation of our results in the cross-section of clients, advisors, and client-advisor matches. We find that wealthier clients, more risk-tolerant clients, and older clients that are advised by younger advisors are more likely to carry out advised trades that are particularly profitable to the bank. These investors conduct larger advised trades, and their advised trades are more likely to be trades in the bank's own mutual funds and in structured products.

Our evidence hitherto is consistent with the view that advisors act in the interest of the bank rather than in the interest of their clients. However, financial advice might still be beneficial for clients if it leads to superior after-cost performance. To check this possibility, in the last step, we analyze how financial advice influences clients' performance. Our evidence shows that a win-win situation does not seem to exist: Portfolios of clients who rely on optional financial advice perform significantly worse than portfolios of clients who only trade independently. Focusing on trades in structured products, we document that advised trades tend to underperform independent trades executed by the same client. Finally, we show that switching to a managed account also hurts investors' portfolio performance. These results are

consistent with a number of empirical studies investigating the impact of financial advice on performance (e.g., Hackethal et al., 2012; Chalmers and Reuter, 2015; Foerster et al., 2017; Hoechle et al., 2017). In summary, our findings suggest that advisors put the interest of their employer before the interest of bank customers, potentially neglecting their fiduciary duty to their clients.³

Our study contributes to several strands of the literature. First, it adds to the literature on bank profitability. Among the factors that have been shown to impact bank profits at the industry level are the market interest rate (e.g., Flannery, 1981; Ho and Saunders, 1981), the market structure (e.g., Heggstad, 1977; Rhoades and Rutz, 1982), the regulatory environment (e.g., Stiroh and Strahan, 2003; Barth et al., 2004), taxation (e.g., Demirgüç-Kunt and Huizinga, 2001; Albertazzi and Gambacorta, 2010), and the business cycle (e.g., Albertazzi and Gambacorta, 2009). At the individual bank level, previous research shows that banks' size (e.g., Berger and Mester, 1997; Bertay et al., 2013), capitalization (e.g., Berger, 1995; Berger and Bouwman, 2013), product mix (e.g., DeYoung and Roland, 2001; Stiroh, 2004; Demirgüç-Kunt and Huizinga, 2010), and corporate and risk governance (e.g., Gorton and Rosen, 1995; Aebi et al., 2012; Ellul and Yerramilli, 2013) matter for profitability. We extend this research by opening up the black box of banks' profit generation at the client level. Our main contribution is to show that financial advisors play an important role in generating profits for banks by inducing clients to execute transactions that maximize commission and fee income.

Second, we contribute to the literature on financial advice. Several theoretical studies shed light on the conflict of interest of financial advisors. They document that while payments from product providers to financial advisors can lead to biased advice, competitive pressure may protect customers from exploitation (e.g., Bolton et al., 2007; Stoughton et al., 2011; Inderst and Ottaviani, 2012). However, empirical evidence on whether financial advisors recommend

³The extent to which financial advisors can be held liable for not meeting fiduciary or legal standards remains largely unresolved to this date. In 2012, the Swiss Federal Supreme Court ruled that a client with a managed account at a large Swiss bank is entitled to claim back payments the bank received from product providers (see, e.g., "Court tells UBS it must pay back fees", Financial Times, November 11, 2012). Following this verdict, some smaller banks proactively reimbursed their managed account clients. However, larger banks argued that the vast majority of clients waived the right to receive payments from product providers in client contracts. This argument has not yet been challenged in court.

the trades most suitable for the clients or the transactions most profitable to the financial services firms is limited. Bergstresser et al. (2009) find that net flows of broker-sold mutual funds increase with (maximum) front loads and 12b-1 fees. In a related study, Christoffersen et al. (2013) show that sales loads paid to brokers and other revenues shared with brokers have a positive impact on funds' inflows. Our paper differs from these studies in that our data enable us to focus not only on mutual funds, but to investigate the entire product menu that is available to individual investors and their advisors. Moreover, one requires client-level data on profits (not only revenues) to determine which transactions are most attractive from the advisors' perspective because financial advisors add an additional layer of commissions and fees and providing advice is also associated with costs. We document that the bank's own mutual funds and structured products are the most profitable products from the entire product menu available and consistent with this finding we show that advisors recommend exactly those transactions.⁴

Finally, our study is also related to the literature on structured products. Henderson and Pearson (2011) investigate the overpricing of a popular type of structured products in the U.S. and estimate that it amounts to about 8%, resulting in a negative expected return. They conclude that it is difficult to rationalize purchases of structured products by informed rational investors. Bergstresser (2008) analyzes the performance of structured products in an international sample and documents that structured products underperform common benchmarks, most likely reflecting the premium built into the prices of these products at issuance. Nevertheless, structured products enjoy great popularity among retail investors.⁵ We are the first to show that structured products generate substantial profits for distributors (and not only for issuers). Moreover, the high profitability of these products induces financial advisors to promote them strongly to their customers, providing an explanation for why these products are so popular among retail investors.

⁴Our paper also provides an important micro-foundation for experimental studies. Mullainathan et al. (2012) run a field experiment and document that financial advisors promote actively managed funds that have high fees. Anagol et al. (2017) also conduct a field experiment and show that indirectly remunerated agents in the Indian life insurance market recommend products that provide high commissions to the agents.

⁵In June 2005, at the end of our investigation period, the market for structured products in Switzerland amounted to CHF 172 billion (equivalent to roughly USD 134 billion), of which 46.3% were held by retail investors.

Our results stress the importance of the ongoing debate on commissions and fees paid in the financial services industry. The recent financial crisis has motivated several countries to consider new regulations to better protect private investors' interests. In the U.S., based on the 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act, the SEC is currently considering imposing a uniform standard of care for all types of financial advisors, but there are no attempts so far to ban payments from product providers to financial advisors, which we show to affect advisors' recommendations.⁶ Moreover, in 2014, the European Union published a revised version of its Markets in Financial Instruments Directive (MiFID II), which states that independent financial advisors must transfer all commissions and fees paid by third parties to their clients.⁷ However, these new rules only apply to financial advisors declaring themselves to be independent, leaving the business model of non-independent advisors largely unchanged. In addition, the ban on payments of product providers to financial advisors does not necessarily affect the bank's own products and commissions customers pay directly to the bank for transactions in any product, both of which we show to also have a substantial influence on profitability and eventually advisors' recommendations in our analysis. Moreover, even in the absence of direct monetary incentives, career concerns are likely to provide indirect incentives to increase revenues with clients, as often those advisors get promoted that contribute most to the bank's performance.⁸ Thus, regulatory steps taken so far might not be sufficient to align interests of financial advisors and clients.

2 Data and variables

2.1 Data and sample selection

The dataset used in this study was provided by a large Swiss retail bank, which we will simply call *the bank* henceforth. Our bank offers a broad range of financial products and services to

⁶See, e.g., "SEC head backs fiduciary standards for brokers, advisers", The Wall Street Journal, March 17, 2015.

⁷See, e.g., "MiFID II: Regulatory 'typhoon' on course for Europe", The Financial Times, October 26, 2014. Shortly after the European Union, Switzerland, which is covered by our study, issued a draft of a new regulation for the financial services industry that is largely consistent with MiFID II.

⁸See, e.g., "Former brokers say JP Morgan favored selling bank's own funds over others", The New York Times, July 2, 2012.

its clients such as securities accounts, savings accounts, retirement savings accounts, checking accounts, mortgages, and loans. It operates a network of bank branches throughout Switzerland and several branches abroad. The data cover the time period from January 2002 to June 2005.

The typical customers are traditional bank branch clients relying on a strong and long-lasting relationship with their bank. The bank is typically the house bank of its clients and clients usually do not have accounts with other banks. This feature allows for a comprehensive view of the overall financial situation and portfolio structure of the clients examined. The clients in our sample constitute a random sample comprising 90% of the bank’s private clients whose main account is denominated in Swiss Francs and whose wealth at the bank exceeds CHF 75,000 (equivalent to roughly USD 56,000 during our investigation period) at least once prior to December 2003.⁹ As of December 2003, 42.0% of Swiss residents subject to taxation had a net wealth (including non-financial wealth) of more than CHF 50,000 (Swiss Federal Statistical Office, 2012). Hence, clients are on average wealthier than the median private person in Switzerland. As our analysis focuses on the profit-generating role of investment recommendations of advisors, we exclude clients that do not trade at all during our investigation period. Our final sample consists of 20,411 clients, assigned to 461 advisors, executing a total of 242,421 trades between January 2002 and June 2005.¹⁰

2.2 Optional financial advice and managed accounts

When opening an account at our bank, each client is assigned to an advisor who serves as the main contact person for the client. Clients can conduct their financial transactions independently, they can make use of optional financial advice provided by bank employees for free, or they can completely delegate account management to the bank in return for a semi-annual fee.

Our dataset provides information on contacts between clients and their advisors. This feature of our data allows us to identify individual trades based on optional financial advice.

⁹The bank did not provide information on its complete customer base for confidentiality reasons.

¹⁰Hoechle et al. (2017) use a subset of the data used in this study to compare the stock-picking skills of financial advisors with the stock-picking skills of individual investors.

For the clients who never delegate account management to the bank, we have information on 60,402 client-advisor contacts. Contacts may include everything from a client receiving a rather impersonal mailing to an in-person meeting between the client and the advisor. 11,004 contacts are explicitly classified as advisory contacts, out of which 41.0% are initiated by the advisor. Clients who never delegate account management to the bank execute a total of 154,846 trades during our sample period. Figure 1 illustrates how these trades are distributed around advisory contacts. Advisory contacts are associated with an increased number of trades. In the figure, the advisory contact takes place on day $t = 0$ and trades also peak on this day. However, an exceptionally high number of trades also takes place on the days following the advisory contact. Therefore, we classify a trade as an *advised trade* if it is executed within five trading days after an advisory contact, that is, between $t = 0$ and $t = 4$.¹¹ 57.0% of all advisory contacts are associated with at least one trade during this period. If a client decides to trade after interacting with the advisor, the client executes 1.6 transactions on average. This results in 10,105 advised transactions in our dataset. Thus, 4.2% of all trades in our sample are classified as advised. 38.0% of these advised trades take place after a contact that is classified as advisor-initiated.¹²

There are 2,161 *advised clients* in our dataset, meaning that 10.6% of all clients trade on advice at least once during our sample period. Advised clients execute 30,694 *independent trades* besides the 10,105 advised transactions. Hence, even clients that trade on advice at least once execute most of their transactions independently, highlighting the importance of analyzing the impact of optional financial advice at the trade level and not at the client level.

Rather than making use of financial advice only occasionally, clients can also completely delegate account management to the bank. The dataset provides information on whether a client has a managed account at least once during our investigation period. There are 1,244 customers with managed accounts in our sample (equivalent to about 6.1% of all clients).

¹¹In a survey among retail customers, Chater et al. (2010) document that 68% of purchasers of retail financial products act within the first three days of receiving advice and 88% act upon advice received within the first two weeks.

¹²Our classification of advised trades could be misleading if clients meet with advisors but then do not follow the advice they get but rather execute trades in other securities. However, Hoechle et al. (2017), using data from the same bank, show that this does not seem to be the case.

Unfortunately, this variable is time-invariant and we do not know when account management is assumed by the bank. However, as we have data on the management fees which are paid semi-annually for managed accounts, we can determine when clients switch to and from managed accounts indirectly. There are 371 clients that decide to delegate account management to our bank during our investigation period from January 2002 to June 2005 and 153 clients that switch back from a bank-managed account to a self-managed account according to this definition. A large number of trades (87,575 or 36.1% of all trades) are associated with clients that delegate account management to the bank at least once. About one sixth of these trades are executed while the accounts are self-managed and the remaining ones are carried out while the bank manages the accounts.

Finally, there are 17,006 *independent clients* neither relying on optional financial advice nor delegating account management during our sample period. They execute a total of 114,047 independent transactions.

While we think that our dataset has many advantages, a natural limitation of our study is that all information is from one bank only. However, there are no obvious reasons to expect the bank to be different from other financial institutions in other countries in any fundamental way and we argue that the bank, its customers, and its advisors are representative: First, according to a recent survey by BlackRock (2013), individual investors' reliance on advice provided by bank employees fluctuates roughly between 20% and 40% across a broad range of industrialized countries (Belgium, Canada, France, Germany, Italy, Netherlands, Switzerland, U.K., U.S.). Hence, financial advice is of similar importance across developed countries. Second, even though commission-based remuneration models have come under scrutiny more recently, according to a survey among purchasers of retail financial services in Europe, still less than 10% of clients pay directly for financial advice they receive (Chater et al., 2010). Similar numbers apply for North America.¹³ Moreover, even if financial advisors do not have direct financial incentives, career concerns are likely to provide indirect incentives to increase revenues with clients. Therefore, incentives of financial advisors are expected to be

¹³See, e.g., “‘Fee-only’ financial advisers who don’t charge fees alone”, The Wall Street Journal, September 20, 2013; “Canada’s trouble with investment advisers”, The Globe and Mail, November 23, 2013.

similar across different financial institutions. Finally, to analyze whether our clients and their trading behavior deviates from the trading behavior of individual investors in other samples, in unreported tests we replicate a number of studies on individual investors' behavior that use data from a large U.S. brokerage house, including Barber and Odean (2000, 2001, and 2002), Ivkovic et al. (2008), and Seasholes and Zhu (2010). We find that their results also hold in our dataset. Thus, there is no reason to expect investors in our dataset to behave differently from investors in other samples.

2.3 Descriptive statistics

The dataset provides information on quarterly revenues, expenses, and eventually profits generated with each client. This is an important and unique feature of our data, as focusing on revenues without taking into account costs allows only for an incomplete picture of the drivers of bank profitability. Moreover, we have detailed information on clients' use of financial products, including individual positions in securities accounts, transaction data, savings, retirement savings, checking account holdings, mortgages, and loans. The dataset also includes various investor characteristics such as gender, age, place of residence, the length of the bank relationship, and, for some clients in the sample, their education, employment, and a risk tolerance score assigned by the bank. Finally, the dataset also includes socio-demographic information on the advisors, including gender, age, and seniority. All information is collected by the bank on the date of the account opening and updated when new information is provided either by clients or advisors. Appendix A provides detailed descriptions of all variables used throughout the study.

Table 1 reports descriptive statistics. Profit characteristics are presented in Panel A. The bank generates average total revenues of CHF 718 (equivalent to about USD 540) per client and quarter. The revenue figure contains the securities account fee, the securities transaction income, the fee the client pays if account management is delegated to the bank, other commission and fee income, interest income, and a residual position for other revenues that can be assigned to a client. This compares with average total expenses of CHF 225 per client and quarter. The expense data is not further split up into subcategories. Expenses

include all costs that can be attributed to a client such as labor costs of the financial advisor or costs the client generates in another department of the bank. Overall, the average quarterly profit the bank generates with each client over our investigation period from January 2002 to June 2005 amounts to CHF 492. Clients in the most profitable decile of customers generate about 57.4% of all profits. At the lower end of the distribution there are 2,874 (or 14.1% of all) clients generating losses to the bank on average over our investigation period.

Securities transaction income (CHF 183), other commission and fee income (CHF 179), and interest income (CHF 184) account for 76.1% of total revenues. Securities transaction income consists mainly of commissions and fees that customers pay directly to our bank when trading securities regardless of whether the product was issued by the bank or by another financial institution, as well as transaction-related payments the bank receives from product providers. Other commission and fee income includes, among other things, recurring payments the bank gets from product providers as long as a client holds a security in the portfolio as well as fees for account keeping, payment transactions, and credit cards. Interest income includes the net income from savings accounts, retirement savings accounts, checking accounts, mortgages, and loans calculated according to the market interest rate method. The market interest rate method assumes that assets and liabilities are refinanced at current market conditions. Securities account fees generate CHF 83 (or 11.6% of total revenues) per client and quarter on average. These are the fees clients have to pay semi-annually for their securities accounts. Management fees for accounts managed by our bank are also paid semi-annually and amount to CHF 41 (5.7%) on average.¹⁴ In order to smooth the distributions of these semi-annual variables, we spread the securities account fee and the management fee over the quarter preceding the payment and the quarter of the actual payment. Finally, other income contributes CHF 48 (6.7%) per client and quarter on average. Figure IA1 in the Internet Appendix presents average quarterly profits (Panel A) and average quarterly revenues by profit center (Panel B) over time between January 2002 and June 2005. Average quarterly revenues and profits per client are lowest at the trough of the dot-com crisis in the

¹⁴Management fees are fees clients pay for the management of managed accounts. This should not be confused with mutual fund management fees. If our clients hold mutual funds and have to pay management fees for them, the respective expenses are directly deducted from the fund investment.

first quarter of 2003 and tend to increase again thereafter.

Panel B of Table 1 reports portfolio characteristics. The average client holds CHF 307,187 (equivalent to about USD 230,000) in financial wealth at our bank. Hence, a large part of clients' financial wealth appears to be represented in our dataset and we can reasonably assume that the accounts at our bank typically are the clients' main accounts rather than 'play money' accounts.¹⁵ Securities accounts contribute CHF 234,321 (or 76.3% of total bank wealth), savings accounts CHF 37,645 (12.3%), retirement savings accounts CHF 5,225 (1.7%), and checking accounts CHF 29,995 (9.8%). Mortgages and loans are not netted against clients' financial wealth. The average client has an outstanding mortgage balance of CHF 31,645 and a loan balance of CHF 4,118. On average, clients execute almost one trade per quarter amounting to an average quarterly trading volume of CHF 25,785.

Panel C presents various socio-demographic variables on the clients. 56.8% of clients in our sample are male. On average, clients are 58.9 years old as of January 2002. Education is based on the highest education a client received and measured by a count variable ranging from 1 to 7. Detailed definitions are provided in Appendix A. 76.2% of the clients in our sample completed a vocational education, 16.5% hold a university degree, and the remaining 7.3% are assigned to categories such as 'unskilled', 'semi-skilled', 'high-school degree', 'higher vocational education', or 'technical college degree'. 62.2% of clients are employed, 32.1% are retired, and 5.7% belong to other categories such as 'self-employed', 'housewives', or 'students'. The information on the clients' education and employment status is only available for 4,335 and 16,360 customers, respectively. The vast majority of clients (72.4%) lives in Switzerland. Upon opening an account with our bank, clients' risk tolerance is assessed in an in-person meeting with the advisor based on a set of pre-defined questions. It is measured by a count variable ranging from 1 to 3. The majority of clients report a medium risk tolerance (53.3%), 16.3% of clients are classified as having a high risk tolerance, and the remaining 30.4% report a low risk tolerance. This information is only available for about one-third of the total sample. The average client has been a customer of the bank for 6.6 years as of January 2002.

¹⁵In December 2003, the average net wealth of a Swiss resident subject to taxation with net wealth above CHF 50,000 is CHF 529,011 (Swiss Federal Statistic Office, 2012). This also includes non-financial wealth.

Panel D reports advisor characteristics. About 59% of advisors are male. Advisors are on average 34.5 years old as of January 2002. Moreover, 44.0% of all advisors are senior advisors.

3 Empirical analysis

The unique structure of our dataset allows us to perform five sets of novel tests. First, we analyze the determinants of bank profitability at the customer level and the impact of financial advice in this context (Section 3.1). Second, we investigate how trade characteristics and the characteristics of assets held in portfolios affect bank profits (Section 3.2). Third, we analyze whether financial advisors induce trades and implement portfolios which, based on the analysis in Section 3.2, would be expected to maximize bank profits (Section 3.3). In Section 3.4, we examine whether certain client or advisor characteristics or specific client-advisor matches drive our results. Finally, we shed light on whether reliance on advice is not only profitable to banks, but possibly also beneficial for clients, which would resolve the issue of potential conflicts of interest (Section 3.5).

3.1 Financial advice and bank profits

To investigate potential drivers of client profitability, we run panel regressions at the client-quarter level with different measures of bank profits as dependent variables. As independent variables we include the percentage of advised trades per quarter and a dummy variable that equals one if a client delegates account management to the bank in the respective quarter, and zero otherwise. As the percentage of advised trades is not defined in quarters without any transactions, we include a dummy variable that equals one for quarters with at least one trade, and zero otherwise.¹⁶ Moreover, regressions contain quarterly portfolio characteristics. All portfolio characteristics are denoted in Swiss Francs and are scaled by 1,000. To make sure that our findings are not driven by outliers, we winsorize profit and portfolio characteristics in this and all our following analyses at the 1% level and the 99% level. We also control for client and advisor characteristics. In addition, we include quarter fixed effects to control for

¹⁶Results are similar if we restrict our sample to quarters with at least one transaction.

unobserved heterogeneity which is constant across clients. As different quarterly observations on one advisor are not independent (within correlation), we use cluster-robust standard errors and treat each advisor as a cluster.¹⁷

The results are presented in Table 2. In Column 1, the dependent variable is quarterly profits earned by the bank from the respective client. The coefficients on the percentage of advised trades and the managed account dummy variable are both positive and statistically significant, suggesting that optional-advice-driven trading and managed accounts are profitable for the bank. On average, clients execute about one trade per quarter. Thus, the coefficient estimate on the percentage of advised trades indicates that if a client executes this trade on advice rather than independently, this increases quarterly bank profits by about CHF 252 (55.7% of the average quarterly bank profit in the respective sample). Moreover, the coefficient estimate on the managed account dummy indicates that a switch from a self-managed to a bank-managed account is associated with an increase in the bank’s profit from this client of CHF 375 (82.8% of the average quarterly bank profit in the respective sample). Hence, our results document that bank profits increase substantially once the client follows optional financial advice and particularly if a client switches to a bank-managed account.

The coefficients on the size of the securities portfolio and the size of the savings account are both positive and statistically significant, suggesting that wealthier clients generate more profits for the bank. Retirement savings seem to generate losses for the bank, indicating that previously agreed-upon interest rates paid on these accounts are above current market conditions during our sample period. The coefficient on the size of the checking account is positive. Thus, clients with more funds on their checking accounts generate higher profits for the bank. Moreover, clients holding mortgages and loans are substantially more profitable for the bank than other clients. The coefficients on the dummy variable that equals one for client-quarters with at least one trade and on trading volume are both positive and statistically significant, meaning that securities transactions significantly increase bank profits.

¹⁷Clustering standard errors at the client level results in substantially higher t-statistics, while clustering at the quarter level yields t-statistics that are similar to the t-statistics obtained from clustering at the advisor level. Even if we double-cluster at the client-advisor level, the advisor-quarter level, or the client-quarter level, our following main results remain unaffected.

Turning to the impact of client characteristics, we find weak evidence that male clients generate higher bank profits than female clients. Younger clients are significantly more profitable than older clients and foreign clients are significantly more profitable for the bank than Swiss clients. Furthermore, clients that are with the bank for a longer period of time generate higher profits. Regarding the influence of advisor characteristics, we find that none of the coefficient estimates is statistically significant at conventional levels.

While taking advantage of the panel structure of our data and controlling for time fixed effects is a first step towards establishing causality, there are still important endogeneity concerns we need to address: Clients relying more heavily on advice may have poor financial skills and might have spent even more on expensive financial products (and eventually may have generated even higher profits for the bank) if they had not been advised. Hence, in Column 2, we add client-advisor fixed effects to our panel regression to control for unobservable client and advisor characteristics which are constant over time as well as for the match between the two. This allows us to isolate the within-person variation of the impact of advice on profits. In the fixed effects regressions, we exclude the (mostly time-invariant) client and advisor characteristics. The coefficient on the percentage of advised trades now captures the difference in quarterly profits between quarters with more and fewer advised transactions after controlling for the average profit from the respective client-advisor pair. Similarly, the coefficient on the managed account dummy variable now measures the change in quarterly profits when a client switches from a self-managed account to a bank-managed account or back.

Results in Column 2 show that the coefficient on the percentage of advised trades becomes economically slightly weaker but gains statistical significance when compared to Column 1. The coefficient on the managed account dummy variable stays about the same with statistical significance remaining well above the 1% significance level.

While client-advisor fixed effects should alleviate endogeneity concerns to a large extent, there is still one remaining problem even in this setting: It could be the case that for some reason clients approach their advisors more frequently with trading ideas that are particularly profitable for the bank. Therefore, the superior profitability of advised trades could be driven by the client's initiative rather than the advisor's initiative. Thus, in Column 3, we rerun

the analysis only classifying trades as advised transactions if they follow an advisor-initiated contact. This approach allows us to investigate the profitability of trades that result from the advisor's initiative.

Results in Column 3 show that the coefficient estimate on the percentage of advised trades that follow advisor-initiated contacts is economically even stronger than the coefficient estimate on all advised trades in Column 2. Hence, advisors seem to actively approach clients with investment recommendations that are particularly profitable for the bank.

One explanation for our findings is the commission-based remuneration model of our bank that incentivizes financial advisors to induce transactions that increase bank profits. While we have no information on the specific numerical details of the individual compensation contracts of advisors at our bank, we know that advisors usually earn a fixed salary as well as a bonus. The bonus depends on the overall performance of the bank, the performance of the branch, and the individual performance of the advisor. The performance is defined based on various key figures such as the inflow of new money and the commissions and fees generated with clients.

To investigate the potential drivers of bank profits in more detail, we rerun our analysis for the various profit centers of the bank separately. In Columns 4 to 9, we again estimate panel regressions using our most conservative specification with client-advisor and time fixed effects from Column 2. However, now the dependent variable is the income from different profit centers and the incurred expenses of the bank, respectively: the securities account fee in Column 4, the securities transaction income in Column 5, the management fee in Column 6, the other commission and fee income in Column 7, the interest income in Column 8, and expenses in Column 9.

The results in Column 4 show that, as expected, securities account fees are mainly driven by the size of the securities portfolio. Clients with managed accounts pay lower securities account fees, driven by the fact that the management fee already includes the account fee for these clients. In Column 5, we document that securities transaction income is most strongly influenced by whether a trade takes place in the respective quarter and the trading volume. The coefficient on the percentage of advised trades is positive and significant at the

1% level. Hence, advisors seem to generate significant transaction-related profits by either selling products which are more profitable than others or by inducing customers to take larger positions (which also generate higher commission income for the bank). The semi-annual fixed fee clients pay in managed accounts covers commissions, providing an explanation for why the transaction-related revenues decrease after delegating portfolio management to the bank, as indicated by the significantly negative impact of the managed account dummy. By definition, management fees come mainly from managed accounts (Column 6). The results in Column 7 show that the main drivers of other commission and fee income are the existence of a securities portfolio and a checking account. Other commission and fee income contains, among other things, recurring payments from mutual funds and fees for payment transactions. While the former is driven by mutual fund holdings in the securities portfolio, the latter is driven by the number of transactions in the checking account. Clients who rely on advice when trading and clients with managed accounts generate significantly higher other commission and fee income. Hence, advisors also seem to generate higher holding-related profits. In Column 8, we find that, as expected, interest income is driven by savings, retirement savings, checking account holdings, mortgages, and loans. Finally, in Column 9, higher values of all portfolio characteristics are associated with higher expenses for the bank (except for the provision of loans). Moreover, switching to a managed account also increases expenses for the bank significantly. However, the coefficient on the percentage of advised trades is negative and statistically significant. This finding suggests that advisors promote trades that are, *ceteris paribus*, associated with lower expenses than trades clients execute independently. Note that labor costs of financial advisors (that can be assigned to individual clients) are already included in the expense figure. These results highlight the importance of not only focusing on revenues but also taking into account the costs that accrue at the client level to get a precise view of the role of financial advice for the profit generation of banks.

We run a number of robustness tests. Results are always based on variations of our baseline regression specification reported in Column 2 of Table 2. They are presented in Table IA1 in the Internet Appendix. We first examine whether our results hold with a broader or narrower definition of advised trades. In the above analysis, we define trades as advised if they occur

within the first five trading days after an advisory contact. In Column 1 of Table IA1, we rerun our main analysis but use all client-advisor contacts available in our dataset to identify advised trades, which increases the fraction of advised clients substantially from 10.6% to 34.3%. In Column 2 (3), we classify trades as advised transactions if they take place anytime within four weeks after (on the exact day of) the advisory contact. Next, we investigate whether the skewed distribution of some of our variables influences our results. In all of our analyses, we winsorize profit and portfolio characteristics at the 1% level and the 99% level to reduce the influence of outliers. In Column 4, we take a more conservative approach and winsorize profit and portfolio characteristics at the 10% level and the 90% level. Moreover, in Column 5, we run a median regression instead of an OLS (mean) regression. In all these tests, our results remain qualitatively unchanged.

3.2 The determinants of transaction- and holding-related bank profits

In this section, we analyze which transactions and which holdings are most profitable to shed light on how advisors can influence bank profitability. We start by analyzing transaction-related profits. We do not have information on the revenues and expenses generated by each individual trade. Hence, to investigate the profitability of transactions, we focus on quarters with exactly one trade. Moreover, we restrict our sample to self-managed accounts. We use panel regression specifications similar to those in Table 2 and focus on those profit centers which we have shown to be significantly influenced by transactions: profits, the securities transaction income, and expenses. The set of explanatory variables includes dummy variables for trades in different asset classes: We include dummies for foreign bond trades, Swiss stock trades, foreign stock trades, trades in the bank’s own mutual funds, trades in mutual funds of partner firms that have an explicit distribution agreement with our bank, other mutual fund trades, derivative transactions, and structured product trades. The omitted base case in the regressions is the transactions in Swiss bonds. Moreover, we include all portfolio characteristics as control variables (except for the dummy variable that takes the value one in quarters with at least one trade as there is one trade per quarter in all specifications by definition). We also include the percentage of advised trades, which by construction becomes

a dummy variable in this setting. The coefficients on these control variables are not tabulated for space reasons.

The results are presented in Table 3. In Column 1, we use profits as dependent variable. We document that quarterly bank profits from clients executing a trade in a mutual fund of our bank are on average CHF 145 higher (31.2% of the average quarterly bank profit in the respective sample) compared to the average quarterly profits from our base case of a trade in Swiss bonds of the same client-advisor pair. Moreover, trades in structured products increase average quarterly profits by CHF 92 (19.9% of the average quarterly bank profit in the respective sample). Trades in foreign bonds are also associated with significantly positive transaction-related profits. The results in Columns 2 and 3 show that the higher profitability of these transactions is almost entirely driven by higher securities transaction income, as the type of the transaction does not cause much variation in expenses for the bank. One explanation for higher securities transaction income is transaction-related payments paid by the department that manages the bank's own mutual funds as well as by structured product providers. As our bank does not issue its own structured products, higher bank profits cannot be driven directly by the issue premium of structured products documented in the literature (e.g., Burth et al., 2001; Wallmeier and Diethelm, 2009; Henderson and Pearson, 2011).

In Columns 4 to 6, we add the actual size of the respective trade to the specifications from Columns 1 to 3 to investigate the effect of trade size on profitability. These variables are denoted in Swiss Francs and scaled by 1,000. The results show that larger trades in any asset class are associated with higher bank profits (Column 4). In Column 5, we document that larger trades in any asset class are also associated with higher securities transaction income. At the same time, expenses are unrelated to the trade size for most asset classes (Column 6). Overall, these findings show that the bank has a strong incentive to induce trades in the bank's own mutual funds, foreign bonds, and structured products as well as larger trades.

Focusing on quarters with exactly one trade makes it easy to determine the average profitability of trades. However, quarters with only one trade might be fundamentally different from quarters with multiple trades. Therefore, in Table IA2 in the Internet Appendix, we estimate regression specifications similar to those in Table 3 but use all quarters with at

least one transaction rather than only quarters with precisely one trade. In Columns 1 to 3, variables that capture the number of trades in each asset class are used as main independent variables. Consistent with our findings in Table 3, we find coefficient estimates to be largest for the bank’s own mutual funds, foreign bonds, and structured products, confirming that these trades are most profitable for the bank. In Columns 4 to 6, we use variables that capture the trading volume in each asset class as main explanatory variables. All coefficients are significantly positive, indicating that profitability increases with trading volume, which is again consistent with our findings from Table 3.

In Table IA3 in the Internet Appendix, we run two additional robustness tests to make sure that our results are not driven by outliers. First, we winsorize all profit and portfolio characteristics at the 10% level and the 90% level rather than at the 1% level and the 99% level. Second, we run a median regression instead of an OLS (mean) regression. In both tests, we find transactions in the bank’s own mutual funds, foreign bonds, and structured products to be most profitable from the bank’s point of view.

Next, we focus on holding-related profits. To separate these profits from transaction-related profits, we investigate the drivers of profitability in quarters without any transactions. As before, we focus on self-managed account quarters. The regression specifications are again similar to those in Table 2. We focus on those profit centers which have been shown to be significantly influenced by securities holdings in Table 2: profits, the other commission and fee income, and expenses. The independent variables of interest are the holdings in different asset classes. Holdings are denoted in Swiss Francs and scaled by 1,000. All regressions also include the full set of portfolio characteristics (except for the dummy variable that takes the value one in quarters with at least one trade and the trading volume as we focus on quarters without any transactions). For space reasons, we only report the coefficients on the holdings in the different asset classes.

Results are shown in Table 4. In Column 1, we document that larger holdings in any asset class are associated with higher profits. However, the effect is by far strongest for mutual funds. Within the category of mutual funds, holdings in the bank’s own mutual funds are about 50% more profitable than holdings in mutual funds of partner firms. Specifically, we

find that holding CHF 100,000 in own-bank mutual funds (mutual funds of partner firms) results in an average quarterly profit of CHF 206 (CHF 136) for our bank (93.5% and 61.7% of the average quarterly bank profit in the respective sample). The results in Columns 2 and 3 show the sources of these profits. Larger holdings in the bank’s own mutual funds and mutual funds of partner firms are associated with higher other commission and fee income, while there is not much variation in holding-related expenses across asset classes. The substantial other commission and fee income the bank generates with its own mutual funds and mutual funds of partner firms is due to payments made by mutual funds while clients hold these securities in their portfolios. In summary, these findings suggest that the advisors have incentives to promote mutual funds, and within this asset class particularly the bank’s own mutual funds, if they are motivated to maximize profits for the bank.

We perform the same two robustness tests for holding-related profits as for transaction-related profits. First, we winsorize profit and portfolio characteristics at the 10% level and the 90% level. Second, we run a median regression. Results of these tests are presented in Table IA4 in the Internet Appendix and confirm our previous findings.

3.3 Do financial advisors promote trades and implement portfolios that are expected to maximize bank profits?

In the next step, we analyze whether financial advisors act in a way that, based on the findings in the previous section, would be expected to maximize bank profits or whether advisors are mainly concerned about the suitability of recommended products to their clients. We follow two approaches to do so: First, we investigate what trades clients execute following optional financial advice (Section 3.3.1). Second, we examine how advisors restructure portfolios after the delegation of account management to the bank (Section 3.3.2).

3.3.1 Optional financial advice

We start by comparing advised and independent trades. If advisors recommend transactions that are most profitable for the bank, we expect advised trades to be larger than independently

executed transactions and to be more likely to involve foreign bonds, and particularly the bank’s own mutual funds, mutual funds of partner firms, and structured products. For this analysis, we restrict the sample to clients who never delegate account management to the bank during our investigation period. Moreover, we focus on purchases of securities. Sales differ from purchases to the extent that selling a security requires that a client holds it in the portfolio since short sales are not allowed by our bank. Thus, focusing on purchases allows for a cleaner analysis of trade motivations.

Table 5 presents univariate comparisons of trade characteristics of advised and independent trades. Consistent with our conjecture, we find that advised purchases are on average about 50% larger than independently executed purchases. Moreover, about 2.5% of advised buys involve the bank’s own mutual funds while only about 0.8% of independent trades are trades in own-bank mutual funds. In addition, 18.3% (7.8%) of advised (independent) trades are trades in structured products.¹⁸ Advised trades are also significantly more likely to involve foreign bonds and foreign stocks.

We corroborate these univariate findings by running panel OLS and logit regressions on the individual trade level with trade size and dummy variables for trades in the different asset classes as dependent variables. To account for the skewness of trade size, we use the natural logarithm of this variable. The main explanatory variable in these regressions is a dummy variable that equals one for advised trades, and zero otherwise. All regressions also include the full set of portfolio characteristics (except for the dummy variable that takes the value one in quarters with at least one trade and the trading volume since we focus on individual trades). When investigating the determinants of trade size, we additionally include the dummies for trades in the different asset classes as control variables. Thereby, we make sure that results for trade size are not driven by trade size varying across asset classes. For space reasons, we do not report the coefficient estimates on the control variables. All regressions also contain client-advisor and time fixed effects.

Results are presented in Panel A of Table 6. In Column 1, we use trade size as dependent

¹⁸This result is not due to own-bank mutual funds and structured products only being available for sale through bank advisors. Every security in our sample can be purchased both on advice and independently.

variable. The coefficient estimate suggests that advised transactions are on average 18.4% larger than independent trades (significant at the 1% level).

In Table IA5 in the Internet Appendix, we use the specification from Column 1, but additionally include interaction terms of the advised trade dummy and the asset-class dummies. This procedure allows us to determine whether the result from Column 1 in Table 6 is driven by specific asset classes. For all interaction terms, we report positive coefficient estimates, except for derivatives where the coefficient is negative but close to zero. Advisors recommend trades that are between 2.4% (other funds) and 29.8% (foreign stock) larger than transactions carried out independently.

In Columns 2 to 10 of Panel A of Table 6, we use asset-class dummies as dependent variables. We find that advised trades are significantly more likely to involve the bank's own mutual funds (Column 6) and structured products (Column 10), that is, trades that are more profitable from the bank's point of view as shown in the previous section. We also document that advised trades are significantly less frequently trades in funds of partner firms (Column 7) and trades in other funds (Column 8). This finding suggests that advisors particularly promote own-bank funds instead of funds of partner firms and other funds. Advised trades are also significantly less likely to be in derivatives (Column 9), the least profitable asset class in terms of transaction-related profits.

Logit regressions with client-advisor fixed effects do not allow us to estimate marginal effects. To be able to examine the economic significance in a multivariate setting, we thus run the same set of regressions as in Panel A of Table 6 but without client-advisor fixed effects. Instead, we include client and advisor characteristics as additional controls. Results of these alternative regression specifications are reported in Table IA6 in the Internet Appendix. The coefficient estimates suggest that the probability of an advised trade being a trade in an own-bank mutual fund is 0.6 percentage points higher compared to independent trades (Column 6) and the probability of an advised trade being a trade in a structured product is 7.4 percentage points higher compared to independent trades (Column 10). Given the percentage of own-bank trades among independently executed transactions of 0.8% and the percentage of structured product trades among independent trades of 7.8%, the documented

effects are economically meaningful, showing that both probabilities nearly double.

Even though trades in the bank's own funds are among the most profitable, the number of transactions in own-bank funds as a percentage of all trades appears relatively low. The reason for this is that the bank's offering of own funds is narrow. The bank set up its first own fund only shortly before the start of our investigation period. However, it issues a number of new funds during our sample period, most likely motivated by the substantial transaction- and holding-related profits generated by the bank's own funds. As a result, the number of trades in own-bank mutual funds increases over time relative to the number of trades in other asset classes.

Trades in structured products are particularly attractive for the bank not only because they are highly profitable upon execution but also because most structured products expire after a rather short period of time, while stocks and mutual funds usually do not have a fixed maturity and bonds typically only mature after several years. In our sample, the average time to maturity of structured products is 1.3 years. Hence, an advisor recommending a structured product knows that after about a year the client will probably trade again either to sell the underlying (if the product delivered the underlying at maturity) or to buy a new asset (when the product was settled in cash), eventually leading to additional transaction-related income.

To mitigate concerns that our findings are driven by clients contacting their advisors only in the case of certain types of trades, for example, large trades or trades in specific product categories, we re-evaluate our results based on the subset of trades that follow advisor-initiated contacts. Results of this analysis are reported in Panel B of Table 6. Results remain similar to those in Panel A. In Column 7, when examining whether advisors promote funds of partner firms, the coefficient estimate becomes statistically insignificant. This pattern suggests that trades in funds of partner firms are as frequent among advised trades as they are among independent trades and advisors mainly promote own funds instead of funds from third-party providers. Taken together, these findings indicate that advisors actively contact their clients with the intention of inducing larger trades, trades in the bank's own mutual funds, and trades in structured products, that is, the kinds of trades that lead to the largest profits.

3.3.2 Managed accounts

Next, we investigate how the bank and its advisors restructure portfolios when a client decides to fully delegate account management to the bank. We expect the portfolio turnover to increase at the time of the switch as implementing the desired portfolio allocation will typically require restructuring of the existing portfolio. Clients in general do not pay trading commissions in managed accounts as those are already covered by the fixed management fee. Still, we predict portfolio turnover to increase also in the long run as financial advisors receive payments from product providers upon execution of certain transactions. Because of these payments, we also conjecture that the portfolio shares of own-bank mutual funds, mutual funds of partner firms, and structured products increase in managed accounts. In contrast, we do not expect the fraction of foreign bonds to rise significantly even though they are one of the most profitable asset classes from the bank's perspective. The reason is that profitability of individual trades in foreign bonds is driven by high commissions charged by the bank and that these are covered by the fixed management fee.

We employ a regression specification similar to that in Column 2 of Table 2. The dependent variable is either the quarterly portfolio turnover ratio or the portfolio share in different asset classes at the end of the respective quarter. Following Barber and Odean (2002), we define the quarterly portfolio turnover ratio as one-half the sum of purchases and sales in a given quarter divided by the beginning of the quarter portfolio value. The explanatory variable of interest is a dummy variable that equals one if a client delegates account management to the bank in the respective quarter, and zero otherwise. All regressions contain the full set of portfolio characteristics. However, when investigating portfolio turnover we do not include the dummy that equals one for quarters with at least one trade and the trading volume as these variables are highly correlated with the turnover variable. Coefficients on portfolio characteristics are not reported for space reasons. Every regression also contains client-advisor and time fixed effects. Consequently, the results are driven by clients that switch at least once from a self-managed to a bank-managed account, or vice versa.

Results are reported in Table 7. The coefficient estimate on the managed account dummy

in Column 1 shows that quarterly turnover increases by 10.4 percentage points on average upon delegation of portfolio management to the bank. This effect is economically sizeable given that the average portfolio turnover ratio in self-managed accounts amounts to 3.7% per quarter. To investigate whether the increase in turnover is due to a temporary surge in trading activity around the switch or whether trading activity increases permanently after the switch, we re-estimate the regression from Column 1 but exclude the quarter of the switch as well as the three subsequent quarters (results not reported). Even if we start a full year after the switch, we still find the turnover ratio to be 3.8 percentage points higher after the switch, indicating that trading activity is permanently elevated by a factor of two when the bank assumes management of the client’s portfolio.

Results are also graphically illustrated in Panel A of Figure 2. The figure shows quarterly turnover ratios around the switch to a bank-managed account. Consistent with our findings from the regression analysis, turnover is at about 5% or lower in the six quarters prior to the switch. In the quarter of the switch and the subsequent quarter, turnover surges to over 20%. Average turnover decreases thereafter but the turnover ratio remains well above the ratio prior to the switch.¹⁹

Panel B of Figure 2 shows graphically how the asset allocation changes around the switch. Before the switch, portfolios are dominated by foreign bonds (40.4%), mutual funds of partner firms (34.1%), and Swiss stocks (11.1%). After the switch, the portfolio share of these asset classes declines from over 85% to about 60%. A substantial fraction of portfolios is now allocated to other mutual funds (22.3%), own-bank mutual funds (8.0%), and structured products (7.4%).

We also examine changes in portfolio composition in a more formal way. In Columns 2 to 10 of Table 7, we analyze the changes to the portfolio that occur after the switch based on regression analysis. To do so, we use the portfolio share in different asset classes as the dependent variable. We find that the share of own-bank mutual funds increases by about

¹⁹ Advisors’ incentives to maximize profits provide one possible explanation for the increase in trading activity following the switch to a bank-managed account. However, the surge in trading activity could also be driven by financial advisors trading to look active and thereby trying to justify management fees (e.g., Dow and Gorton, 1997; Chakrabarty et al., 2017).

5.8 percentage points after the switch to a managed account (Column 6) and the share in structured products rises by 2.6 percentage points (Column 10). These effects are not driven by the issuance of new own-bank funds or new structured products during our investigation period as all our regressions contain time fixed effects that control for potential time trends in general ownership patterns. In Column 8, we also find that switchers have a 15 percentage point higher exposure to mutual funds of third-party providers. The portfolio share of all other asset classes is reduced upon delegation of portfolio management to the bank. Overall, the analysis of switches from self-managed to bank-managed accounts (and vice versa) provides additional evidence that financial advisors implement portfolios that are expected to maximize bank profits.

Even though our analysis in the previous section shows that the bank's own funds and funds of partner firms are more profitable for the bank than funds of third-party providers, financial advisors substantially reduce the share of mutual funds of partner firms in clients' portfolios after taking over responsibility. While puzzling at first, this is most likely due to partner fund firms not covering all fund categories. Figure IA2 in the Internet Appendix shows that the composition of mutual funds in the portfolios changes substantially around switches to bank-managed accounts. Thus, if a fund category is not covered by partner firms, the bank is forced to invest into funds of third-party providers.

3.4 Which clients, advisors, and client-advisor matches drive the results?

In this section, we analyze which client and advisor characteristics, and which matches between these two are responsible for advised trades being particularly profitable for the bank. To this end, we regress quarterly bank profits per client on the percentage of advised trades this client conducts in the respective quarter, the percentage of advised trades interacted with various client and advisor characteristics, and all portfolio characteristics. The interaction terms tell us which advised trades are particularly profitable. Regressions also contain client-advisor and quarter fixed effects. Since client and advisor characteristics are (mostly) time-invariant, the base effects of client and advisor characteristics are picked up by the client-

advisor fixed effects.²⁰ Hence, the regression setup corresponds to that in Column 2 of Table 2, but is augmented by the additional interaction terms.

Results are presented in Table 8. In Column 1, we start by interacting the percentage of advised trades with clients' bank wealth. We expect bank wealth to have a positive effect on the profitability of advised trades as clients that are wealthier are more likely to execute larger trades. Consistent with our expectations, we find a strong positive coefficient estimate for the impact of the interaction between the percentage of advised trades and bank wealth.

In Column 2, we add a variable capturing the risk tolerance of clients to our baseline specification from Column 1. Specifically, we create a dummy variable that equals one for the 16.3% of clients with the highest level of risk tolerance as assessed by financial advisors in an in-person meeting when clients set up their accounts with the bank. The information on clients' risk tolerance is only available for about one-third of the total sample, which substantially reduces the sample size in Column 2. To examine the impact of risk tolerance on the profitability of advised trades, we interact the percentage of advised trades with the risk tolerance dummy. We expect risk tolerance to have a positive effect on the profitability of advised trades as clients that are more risk tolerant are more likely to conduct trades in more risky asset classes such as the bank's own funds and structured products.²¹ Consistent with this conjecture, we find a significantly positive coefficient on the interaction term of the percentage of advised trades with risk tolerance.

In the next set of analyses, we zoom in on the impact of the match between clients and advisors to analyze whether more similar matches along demographic characteristics generate more or less profitable advised trades.²² While we are not aware of any study in finance that investigates the effect of demographic customer-employee matches on profitability, considerable attention has been devoted to this question in the marketing and organization literature.²³ Several related theories suggest that the match between customer and employee

²⁰Results are similar if we replicate the analysis including client and advisor characteristics rather than client-advisor fixed effects.

²¹About half of the bank's own funds are all-equity funds and the other half are balanced funds that invest approximately 50% in equities and 50% in fixed-income securities.

²²We would like to thank an anonymous referee for suggesting this set of analyses to us.

²³In a recent study, Fisman et al. (2017) provide evidence that demographic matches between lenders and borrowers increase the likelihood that a transaction takes place and reduce the probability of default.

demographics can improve sales performance.²⁴ However, empirical research has yielded mixed results. While some studies find that customer-employee matches have a positive impact on sales performance (e.g., Avery et al., 2012; Richard et al., 2017), others document that mismatches enhance performance (e.g., Dwyer et al., 1998), and again others find no effect of demographic matches on performance (e.g., Ayers and Siegelman, 1995; Leonard et al., 2004). In our analysis, we focus on age matches between clients and advisors.²⁵ To do so, we create a dummy variable that equals one for client-advisor pairs with an age difference of more than 10 years, and zero otherwise.²⁶ To analyze the impact of age-matching on the profitability of advised trades, we then add an interaction term between the percentage of advised trades and the different-age dummy variable to our model from Column 1. This regression additionally includes the percentage of advised trades interacted with clients' age and advisors' age to control for the effect of age on the profitability of advised trades. Results are shown in Column 3. The coefficient on the interaction between the percentage of advised trades and the different-age dummy is positive and significant (t-statistic of 1.86), suggesting that age mismatches enhance profitability of advised trades.

In Column 4, we use a more refined definition of age matches. Specifically, we form three age-matching groups: (1) clients are of similar age to their advisors, that is, the age difference is not more than 10 years, (2) clients are more than 10 years older than their advisors, and (3) clients are more than 10 years younger than their advisors. We again augment the model in Column 1 with these additional variables. We omit the dummy variable for the same-age group, that is, the age-matching dummies show the incremental effect of the specific match as compared to the base case of a same-age match. We find a strong positive impact of the client being older than the advisor on the profitability of advised trades, that is, advisors that are relatively younger than their clients seem to generate trades that are more profitable for the bank. One potential explanation for this finding is that it is easier for advisors to exploit

²⁴Important examples include the social identity theory (Tajfel and Turner, 1986), the similarity-attraction hypothesis (Byrne, 1971), the access-and-legitimacy perspective (Thomas and Ely, 1996), and Becker's (1957) theory of customer discrimination.

²⁵In unreported tests, we also examine the effect of gender matches on the profitability of advised trades. However, we do not find much evidence that gender matches affect profitability.

²⁶Results are similar (albeit weaker) when using an age difference of five years rather than 10 years to classify one party as older or younger, respectively.

elderly clients than younger ones. Moreover, younger advisors might have stronger incentives to exploit clients due to greater career concerns.²⁷

Finally, to examine why advised trades of wealthier clients, more risk-tolerant clients, and clients that are substantially older than advisors are more profitable, we split clients into two groups according to these characteristics and compare their advised purchases. We focus on the trade characteristics that are associated with higher profits from the bank’s point of view and that are thus strongly promoted by financial advisors as shown in the previous section. Results are reported in Table IA7 in the Internet Appendix. We find that advised trades of these types of clients are more profitable because these clients are more likely to execute larger trades, trades in own-bank mutual funds, and trades in structured products.

Taken together, we find strong evidence that clients’ bank wealth and their risk tolerance affect the profitability of advised trades. There is also some evidence that age-matching between clients and advisors matters for profitability.

3.5 Is advice beneficial for clients?

So far, our results show that advisors promote trades and implement portfolios that eventually maximize bank profits. These findings suggest that they put their own interest and their employer’s interest, not their clients’ interest, first. However, there may still be a win-win situation in the sense that while advisors promote trades and implement portfolios that maximize bank profits, these trades and restructured portfolios are also beneficial for clients. Such a situation would alleviate the issue of potential conflicts of interest. To analyze this possibility, we follow two approaches: First, we investigate whether clients who follow optional financial advice experience superior overall portfolio performance compared to independently acting investors and whether optional-advice-driven trades in structured products perform better than independently executed transactions (Section 3.5.1). Second, we explore whether portfolios perform better after the switch to a bank-managed account (Section 3.5.2).

²⁷Given these findings, it is natural to ask whether the bank actively matches older clients to younger advisors in order to maximize bank profits. However, in unreported tests, we do not find much evidence that the bank engages in age-matching. Other criteria such as clients’ wealth and their past profitability as well as the advisors’ availability of time seem to be more relevant when assigning clients to advisors.

3.5.1 Optional financial advice

We first compare the portfolio performance of advised and independent clients. To do so, we compute monthly net returns of an aggregate calendar-time portfolio consisting of all individual portfolios of advised clients and monthly net returns of an aggregate calendar-time portfolio consisting of all individual portfolios of independent clients. We explain our approach to calculating portfolio performance in detail in Appendix B. We then determine monthly alphas of these portfolios using a seven-factor model that contains a Swiss and an international equity market factor, the investment style factors of Fama and French (1993) and Carhart (1997), a government bond factor, and a corporate bond factor.²⁸

The results of the performance analysis for advised and independent clients are reported in Panel A of Table 9. To save space, we only report the intercept (alpha), but not the estimated risk factor loadings. In Column 1 (2), the alpha of the aggregate portfolio of advised (independent) clients is -0.061% (0.020%) per month and statistically insignificant. Column 3 reports results for a difference portfolio between the advised clients' and the independent clients' portfolios. The alpha of the difference portfolio is significantly negative at the 5% level and amounts to -0.081% per month, that is, advised clients significantly underperform independent clients by approximately 1.0% p.a.

In Table IA8 in the Internet Appendix, we perform a set of robustness tests on these results. First, we replicate the analysis from Panel A of Table 9 using two alternative factor models. We employ a single-factor CAPM and augment our seven-factor model by a call option and a put option factor to account for the non-linear payoff profiles of derivatives and structured products.²⁹ Second, we use monthly gross portfolio returns rather than net returns. Third, we use equal-weighting rather than value-weighting when forming aggregate calendar-time portfolios from individual client portfolios. Results from these tests broadly

²⁸We use the Swiss Performance Index (SPI) and the MSCI World Index as proxies for the equity market factor, the Swiss SMB factor, the Swiss HML factor, and the Swiss momentum factor from Andrea Frazzini's data library (http://people.stern.nyu.edu/afrazzin/data_library.htm), the Swiss Bond Index (SBI) as proxy for the government bond market factor, and the iBoxx Euro Corporate Bond Index as proxy for the corporate bond market factor. In addition, we use the Swiss 3-month LIBOR as risk-free rate.

²⁹The two option factors are constructed as in Agarwal and Naik (2004) using at-the-money European call and put options on the Swiss Market Index (SMI).

confirm our findings from Panel A of Table 9.

So far, we focus on portfolio performance rather than the performance of individual transactions as this allows us to capture the overall allocation effect of financial advice. Moreover, forming calendar-time portfolios helps in addressing the problem of cross-sectional correlation of individual transactions (e.g., Barber et al., 1999; Odean, 1999; Seasholes and Zhu, 2010). However, focusing on portfolio performance also has some limitations as many clients who are classified as advised clients regularly conduct trades on their own as well as trades that follow advice. Thus, the inferior portfolio performance of advised clients could be driven by the poor performance of the trades conducted by these clients independently rather than by trades executed on advice. To address this concern, we additionally compare the performance of advised and independent trades of the same client. We focus on trades in structured products as structured products are an asset class that is heavily promoted by financial advisors and for which we have sufficient data to calculate trade performance. We compute the performance of structured product trades as described in Appendix B. Results are reported in Table IA9 in the Internet Appendix. In Column 1, we find that advised trades in structured products underperform independently executed transactions, although the difference is not statistically significant. The effect gets markedly stronger once we focus on trades following advisor-initiated contacts (Columns 2 and 3). Using the same dataset, Hoechle et al. (2017) compare the performance of advised and independent stock trades. They find that advised stock picks significantly underperform independent stock picks. However, as shown in the previous section, direct equity investments are not the focus of profit-maximizing financial advice. Overall, the trade-level analysis confirms our findings from the portfolio-level analysis that advisor interventions tend to have an adverse effect on investor performance.

3.5.2 Managed accounts

Another way to identify the effect of advisor interventions on performance is to investigate the change in portfolio performance from before to after delegation of portfolio management. To do so, we calculate monthly net returns of an aggregate calendar-time portfolio consisting of all individual portfolios of investors that eventually switch to a managed account before

the switch and monthly net returns of an aggregate calendar-time portfolio of these investors' individual portfolios after the switch. We provide details of the performance calculation in Appendix B. To determine monthly alphas we use the seven-factor model described above.

Panel B of Table 9 presents the results. While the alpha before the switch and the alpha after the switch are both statistically insignificantly different from zero, the alpha decreases substantially from 0.093% per month before the switch (Column 1) to -0.167% per month after the switch (Column 2). The resulting difference in alphas amounts to 0.260% per month, or about 3.1% p.a. (Column 3), and is statistically significant at the 5% level, confirming our previous findings that advisor interventions have a negative effect on clients' overall portfolio performance.

In Table IA10 in the Internet Appendix, we perform the same set of robustness tests as for the performance analysis of advised and independent client portfolios in Table IA8. In all tests, we find the alpha after the switch to be lower than the alpha before the switch, indicating that the pattern we observe is robust to alternative specifications.

Taken together, our findings suggest that clients relying on financial advice achieve a worse after-cost performance than clients acting independently. This result is consistent with a number of empirical studies investigating the value of financial advice to individual investors (e.g., Hackethal et al., 2012; Chalmers and Reuter, 2015; Foerster et al., 2017; Hoechle et al., 2017). Overall, our evidence points to financial advisors' aiming at maximizing bank profits and thereby putting the interest of their employer before the interest of their clients. This result does not rule out the possibility that there might be other benefits advisors deliver for their clients, like helping them to feel confident about participating in financial markets (Gennaioli et al., 2015).

4 Conclusion

In this paper, we provide new insights into the profit generation process of banks by analyzing how financial advisors generate profits with individual investors. We find that transactions executed based on optional financial advice are generally associated with higher bank profits

than independently executed transactions of the same client. We also document that bank profits increase significantly upon full delegation of portfolio management to financial advisors. Our results further show that trades in own-bank mutual funds and structured products generate the highest transaction- and holding-related profits for the bank. Moreover, bank profits tend to increase with trade size. Consistent with the view that advisors mainly promote those trades that are more profitable to the bank, we find advised trades to be significantly larger and more likely to be trades in the bank's own mutual funds and structured products compared to independently executed trades of the same client. Similarly, trading activity and the share of own-bank funds and structured products increases significantly when clients switch from a self-managed to a bank-managed account. Finally, we show that our findings are not consistent with a win-win situation for clients and the bank: The after-cost performance of advised clients is worse than that of independent clients. Consistently, the portfolio performance of clients who switch to bank-managed accounts drops significantly after the switch. These findings suggest that financial advisors tend to put their employer's interest rather than their clients' interest first.

To the best of our knowledge, our paper is the first to document empirically that advisors induce transactions which are associated with above-average profits to banks. Thus, our results are of particular importance in light of the ongoing debate on commissions and fees paid in the financial services industry. As discussed in the introduction, regulatory steps taken so far might not be sufficient to address conflicts of interest of financial advisors employed at banks.

References

- Aebi, V., G. Sabato, and M. Schmid, 2012, Risk management, corporate governance, and bank performance in the financial crisis, *Journal of Banking and Finance* 36, 3213-3226.
- Agarwal, V., and N.Y. Naik, 2004, Risks and portfolio decisions involving hedge funds, *Review of Financial Studies* 17, 63-98.
- Albertazzi, U., and L. Gambacorta, 2009, Bank profitability and the business cycle, *Journal of Financial Stability* 5, 393-409.
- Albertazzi, U., and L. Gambacorta, 2010, Bank profitability and taxation, *Journal of Banking and Finance* 34, 2801-2810.
- Anagol, S., S. Cole, and S. Sarkar, 2017, Understanding the advice of commissions-motivated agents: Evidence from the Indian life insurance market, *Review of Economics and Statistics* 99, 1-15.
- Avery, D.R., P.F. McKay, S. Tonidandel, S.D. Volpone, and M.A. Morris, 2012. Is there method to the madness? Examining how racioethnic matching influences retail store productivity, *Personnel Psychology* 65, 167-199.
- Ayers, I., and P. Siegelman, 1995, Race and gender discrimination in bargaining for a new car, *American Economic Review* 85, 304-321.
- Bank for International Settlements, 2008, Customer suitability in the retail sale of financial products and services.
- Barber, B. M., Lyon, J. D., and Tsai, C., 1999, Improved methods for tests of long-run abnormal stock returns, *Journal of Finance* 54, 165-202.
- Barber, B.M., and T. Odean, 2000, Trading is hazardous to your wealth: The common stock investment performance of individual investors, *Journal of Finance* 55, 773-806.
- Barber, B.M., and T. Odean, 2001, Boys will be boys: Gender, overconfidence, and common stock investment, *Quarterly Journal of Economics* 116, 261-292.
- Barber, B.M., and T. Odean, 2002, Online investors: Do the slow die first?, *Review of Financial Studies* 15, 455-487.

- Barth, J.R., G. Capricio, and R. Levine, 2004, Bank regulation and supervision: What works best?, *Journal of Financial Intermediation* 13, 205-248.
- Becker, G.S., 1957, The economics of discrimination, University of Chicago Press, Chicago.
- Berger, A.N., 1995, The relationship between capital and earnings in banking, *Journal of Money, Credit and Banking* 27, 432-456.
- Berger, A.N., and C.H.S. Bouwman, 2013, How does capital affect bank performance during financial crises?, *Journal of Financial Economics* 109, 146-176.
- Berger, A.N., and L.J. Mester, 1997, Inside the black box: What explains differences in the efficiencies of financial institutions?, *Journal of Banking and Finance* 21, 895-947.
- Bergstresser, D., 2008, The retail market for structured notes: Issuance patterns and performance, 1995-2008, Working Paper, Harvard Business School.
- Bergstresser, D., J. Chalmers, and P. Tufano, 2009, Assessing the costs and benefits of brokers in the mutual fund industry, *Review of Financial Studies* 22, 4129-4156.
- Bertay, A.C., A. Demirgüç-Kunt, and H. Huizinga, 2013, Do we need big banks? Evidence on performance, strategy and market discipline, *Journal of Financial Intermediation* 22, 532-558.
- BlackRock, 2013, Investor Pulse Survey 2013,
<http://www.blackrock.ch/individual/en-ch/getting-started/investor-pulse>.
- Bolton, P., X. Freixas, and J. Shapiro, 2007, Conflicts of interest, information provision, and competition in the financial services industry, *Journal of Financial Economics* 85, 297-330.
- Burth, S., T. Kraus, and H. Wohlwend, 2001, The pricing of structured products in the Swiss market, *Journal of Derivatives* 9, 30-40.
- Byrne, D., 1971, The attraction paradigm, Academic Press, New York.
- Carhart, M.M., 1997, On persistence in mutual fund performance, *Journal of Finance* 52, 57-82.
- Chalmers, J., and J. Reuter, 2015, Is conflicted investment advice better than no advice?, Working Paper, University of Oregon.
- Chakrabarty, B., P.C. Moulton, and C. Trzcinka, 2017, The performance of short-term insti-

- tutional trades, *Journal of Financial and Quantitative Analysis* 52, 1403-1428.
- Chater, N., R. Inderst, and S. Huck, 2010, Consumer decision-making in retail investment services: A behavioural economics perspective, European Commission Directorate-General for Health and Consumers.
- Christoffersen, S.E.K., R. Evans, and D.K. Musto, 2013, What do consumers' fund flows maximize? Evidence from their brokers' incentives, *Journal of Finance* 68, 201-235.
- Demirgüç-Kunt, A., and H. Huizinga, 2001, The taxation of domestic and foreign banking, *Journal of Public Economics* 79, 429-453.
- Demirgüç-Kunt, A., and H. Huizinga, 2010, Bank activity and funding strategies: The impact on risk and returns, *Journal of Financial Economics* 98, 626-650.
- DeYoung, R., and K.P. Roland, 2001, Product mix and earnings volatility at commercial banks: Evidence from a degree of total leverage model, *Journal of Financial Intermediation* 10, 54-84.
- Dow, J., and G. Gorton, 1997, Noise trading, delegated portfolio management, and economic welfare, *Journal of Political Economy* 105, 1024-1050.
- Dwyer, S., O. Richard, and C.D. Shepherd, 1998, An exploratory study of gender and age matching in the salesperson-prospective customer dyad: Testing similarity-performance predictions, *Journal of Personal Selling and Sales Management* 18, 55-69.
- Ellul, A., and V. Yerramilli, 2013, Stronger risk controls, lower risk: Evidence from U.S. bank holdings companies, *Journal of Finance* 68, 1757-1803.
- Fama, E. F. and French, K. R., 1993, Common risk factors in the returns on stocks and bonds, *Journal of Financial Economics* 33, 3-56.
- Flannery, M.J., 1981, Market interest rates and commercial bank profitability: An empirical investigation, *Journal of Finance* 36, 1085-1101.
- Fisman, R., D. Paravisini, and V. Vig, 2017, Cultural proximity and loan outcomes, *American Economic Review* 107, 457-492.
- Foerster, S., J.T. Linnainmaa, B.T. Melzer, and A. Previtero, 2017, Retail financial advice: Does one size fit all?, *Journal of Finance* 72, 1441-1482.

- Gennaioli, N., A. Shleifer, and R. Vishny, 2015, Money doctors, *Journal of Finance* 70, 91-114.
- Gorton, G., and R. Rosen, 1995, Corporate control, portfolio choice, and the decline in banking, *Journal of Finance* 50, 1377-1420.
- Hackethal, A., M. Haliassos, and T. Jappelli, 2012, Financial advisors: A case of babysitters? *Journal of Banking and Finance* 36, 509-524.
- Heggstad, A.A., 1977, Market structure, risk and profitability in commercial banking, *Journal of Finance* 32, 1207-1216.
- Henderson, B.J., and N.D. Pearson, 2011, The dark side of financial innovation: A case study of the pricing of a retail financial product, *Journal of Financial Economics* 100, 227-247.
- Hoechle, D., S. Ruenzi, N. Schaub, and M. Schmid, 2017, The impact of financial advice on trade performance and behavioral biases, *Review of Finance* 21, 871-910.
- Ho, T.S.Y., and A. Saunders, 1981, The determinants of bank interest margins: Theory and empirical evidence, *Journal of Financial and Quantitative Analysis* 16, 581-600.
- Inderst, R., and M. Ottaviani, 2012, How (not) to pay for advice: A framework for consumer financial protection, *Journal of Financial Economics* 105, 393-411.
- Ivkovic, Z., C. Sialm, and S. Weisbenner, 2008, Portfolio concentration and the performance of individual investors, *Journal of Financial and Quantitative Analysis* 43, 613-656.
- Leonard, J.S., D.I. Levine, and A. Joshi, 2004, Do birds of a feather shop together? The effects on performance of employees' similarity with one another and with customers, *Journal of Organizational Behavior* 25, 731-754.
- Mullainathan, S., M. Noeth, and A. Schoar, 2012, The market for financial advice: An audit study, Working Paper, National Bureau of Economic Research.
- Odean, T., 1999, Do investors trade too much?, *American Economic Review* 89, 1279-1298.
- Richard, O.C., M.M. Stewart, P.F. McKay, and T.W. Sackett, 2017, The impact of store-unit-community racial diversity congruence on store-unit sales performance, *Journal of Management* 43, 2386-2403.
- Rhoades, S.A., and R.D. Rutz, 1982, Market power and firm risk: A test of the 'quite life' hypothesis, *Journal of Monetary Economics* 9, 73-85.

- Seasholes, M.S., and N. Zhu, 2010, Individual investors and local bias, *Journal of Finance* 65, 1987-2011.
- Stiroh, K.J., 2004, Diversification in banking: Is noninterest income the answer?, *Journal of Money, Credit and Banking* 36, 853-882.
- Stiroh, K.J., and P.E. Strahan, 2003, Competitive dynamics of deregulation: Evidence from U.S. banking, *Journal of Money, Credit, and Banking* 35, 801-828.
- Stoughton, N.M., Y. Wu, and J. Zechner, 2011, Intermediated investment management, *Journal of Finance* 66, 947-980.
- Swiss Federal Statistical Office, 2012, Vermögen der natürlichen Personen, <http://www.bfs.admin.ch/bfs/portal/de/index/themen/20/02/blank/key/vermoegen.html>.
- Tajfel, H., and J.C. Turner, J. C., 1986, The social identity theory of intergroup behavior, in S. Worschel, and W.G. Austin (editors): *Psychology of intergroup relations*, Nelson-Hall, Chicago, 7-24.
- Thomas D.A., and R.J. Ely, 1996, Making differences matter: A new paradigm for managing diversity, *Harvard Business Review* 74, 79-90.
- Wallmeier, M., and M. Diethelm, 2009, Market pricing of exotic structured products: The case of multi-asset barrier reverse convertibles in Switzerland, *Journal of Derivatives* 17, 59-72.

Tables

Table 1: Descriptive statistics

This table presents descriptive statistics on profit characteristics (Panel A), portfolio characteristics (Panel B), client characteristics (Panel C), and advisor characteristics (Panel D). For time-varying variables, either beginning-of-period values (*Client age*, *Length of relationship*, *Advisor age*) or averages over the sample period from January 2002 to June 2005 are reported (all profit and portfolio characteristics). Appendix A provides detailed descriptions of all variables used throughout the study.

	Mean	10%	Median	90%	St.Dev.	N
Panel A: Profit characteristics						
Avg. profit (CHF)	492.34	-18.79	180.43	1,161.36	1,259.13	20,411
Avg. revenues (CHF)	717.73	83.09	330.86	1,587.00	1,437.46	20,411
Avg. expenses (CHF)	225.39	80.79	148.07	451.14	248.62	20,411
Avg. sec. account fee (CHF)	83.00	3.71	35.50	193.14	167.62	20,411
Avg. sec. transaction income (CHF)	183.30	0.00	38.71	416.54	587.17	20,411
Avg. mgmt. fee (CHF)	40.58	0.00	0.00	0.00	305.38	20,411
Avg. other com./fee income (CHF)	178.74	7.64	95.75	410.71	331.27	20,411
Avg. interest income (CHF)	184.23	3.71	41.29	414.21	649.74	20,411
Panel B: Portfolio characteristics						
Avg. bank wealth (CHF)	307,187	70,689	165,881	584,769	702,225	20,411
Avg. securities account (CHF)	234,321	15,664	111,403	496,614	586,646	20,411
Avg. savings account (CHF)	37,645	0	11,439	100,873	79,025	20,411
Avg. retirement savings (CHF)	5,225	0	0	13,932	18,422	20,411
Avg. checking account (CHF)	29,995	-0	8,368	59,423	201,646	20,411
Avg. mortgage (CHF)	31,645	0	0	40,000	201,989	20,411
Avg. loan (CHF)	4,118	0	0	0	54,539	20,411
Avg. # trades	0.91	0.07	0.21	2.07	2.16	20,411
Avg. trading volume (CHF)	25,785	171	5,457	56,793	107,875	20,411
Panel C: Client characteristics						
Client male (d)	0.568	0.000	1.000	1.000	0.495	20,411
Client age (years)	58.88	37.00	60.00	79.00	15.60	20,406
Education (1-7)	3.74	3.00	3.00	7.00	1.54	4,335
Employment, employed (d)	0.622	0.000	1.000	1.000	0.485	16,360
Employment, retired (d)	0.321	0.000	0.000	1.000	0.467	16,360
Swiss (d)	0.724	0.000	1.000	1.000	0.447	20,411
Risk tolerance (1-3)	1.859	1.000	2.000	3.000	0.668	7,751
Length of relationship (years)	6.62	2.17	7.08	8.75	2.41	20,411
Panel D: Advisor characteristics						
Advisor male (d)	0.590	0.000	1.000	1.000	0.492	461
Advisor age (years)	34.47	21.00	33.00	51.00	11.16	371
Senior (d)	0.440	0.000	0.000	1.000	0.497	461

Table 2: Determinants of profits

This table presents the results from panel regressions with client-advisor and time fixed effects. The dependent variable is either the quarterly profit (Columns 1 to 3), the quarterly securities account fee (Column 4), the quarterly securities transaction income (Column 5), the quarterly management fee (Column 6), the quarterly other commission and fee income (Column 7), the quarterly interest income (Column 8), or the quarterly expenses per client (Column 9). Portfolio characteristics are denoted in Swiss Francs and scaled by 1,000 (except for the variable *At least one trade (d)*). In Columns 2 to 9, client and advisor characteristics are captured by client-advisor fixed effects. Appendix A provides detailed descriptions of all variables used throughout the study. Standard errors are clustered at the advisor level. t-statistics are provided in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

	Profit (CHF)			Securities account fee (CHF)	Securities transaction income (CHF)	Mgmt. fee (CHF)	Other com./fee income (CHF)	Interest income (CHF)	Expenses (CHF)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Advice characteristics									
% advised trades	252.016*** (8.32)	237.301*** (10.89)		0.956 (0.54)	153.059*** (7.83)	-9.341*** (-3.32)	20.017*** (3.46)	-4.886 (-1.34)	-17.248*** (-3.64)
% advisor-initiated			270.796*** (6.98)						
Managed account (d)	374.920*** (10.39)	382.703*** (5.37)	379.074*** (5.31)	-118.806*** (-9.11)	-145.605*** (-2.76)	895.724*** (13.03)	122.069*** (4.67)	0.584 (0.04)	305.791*** (17.79)
Portfolio characteristics									
Securities account	1.065*** (40.41)	0.798*** (13.75)	0.796*** (13.71)	0.286*** (24.83)	0.246*** (5.59)	0.178*** (6.27)	0.234*** (15.04)	0.084*** (4.54)	0.162*** (13.01)
Savings account	0.632*** (12.68)	0.803*** (8.49)	0.804*** (8.48)	0.051*** (5.13)	0.368*** (5.31)	-0.016 (-0.35)	0.002 (0.09)	0.485*** (12.59)	0.054*** (2.79)
Retirement savings	-0.776*** (-7.09)	-2.454*** (-8.28)	-2.462*** (-8.33)	-0.036 (-1.29)	-0.180 (-0.96)	-0.358*** (-2.97)	-0.132 (-1.28)	-1.460*** (-9.03)	0.173** (2.09)
Checking account	1.825*** (14.95)	1.801*** (17.28)	1.804*** (17.24)	0.031** (2.49)	0.740*** (7.15)	0.180*** (3.01)	0.081** (2.21)	0.829*** (16.86)	0.108*** (4.94)
Mortgage	2.142*** (47.59)	1.713*** (10.20)	1.711*** (10.20)	0.019*** (2.74)	0.120* (1.90)	-0.047 (-1.05)	-0.027 (-1.26)	1.398*** (11.98)	0.142*** (5.59)
Loan	1.487*** (8.28)	0.811*** (3.40)	0.811*** (3.39)	0.017 (0.70)	-0.044 (-0.26)	0.020 (0.18)	-0.079 (-0.99)	0.963*** (6.40)	-0.007 (-0.20)
At least one trade (d)	109.077*** (8.47)	117.998*** (9.52)	124.656*** (9.54)	1.915*** (5.60)	121.321*** (11.68)	-5.529*** (-2.65)	6.569*** (3.76)	-1.994* (-1.70)	74.477*** (40.22)
Trading volume	3.980*** (25.25)	3.431*** (21.99)	3.446*** (22.11)	0.013** (2.59)	4.812*** (23.97)	0.134*** (3.77)	-0.028 (-1.31)	0.160*** (9.89)	0.882*** (31.01)

[illegible]

Table 3: Determinants of transaction-related profits

This table presents the results from panel regressions with client-advisor and time fixed effects. The dependent variable is either the quarterly profit (Columns 1 and 4), the quarterly securities transaction income (Columns 2 and 5), or the quarterly expenses per client (Columns 3 and 6). We restrict the sample to self-managed accounts and to quarters with only one trade. The omitted base category is the transactions in Swiss bonds. In Columns 4 to 6, we additionally include the actual size of transactions denoted in Swiss Francs and scaled by 1,000. The variables *% advised trades*, *Securities account*, *Savings account*, *Retirement savings*, *Checking account*, *Mortgage*, and *Loan* are included as controls in all regressions but not reported. Appendix A provides detailed descriptions of all variables used throughout the study. Standard errors are clustered at the advisor level. t-statistics are provided in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

	Profit (CHF)	Sec. trans. income (CHF)	Expenses (CHF)	Profit (CHF)	Sec. trans. income (CHF)	Expenses (CHF)
	(1)	(2)	(3)	(4)	(5)	(6)
Foreign bond (d)	135.122*** (5.33)	101.382*** (8.03)	27.764*** (4.37)	25.930 (0.67)	18.339 (0.84)	24.350*** (3.05)
Swiss stock (d)	-11.183 (-0.48)	5.612 (0.34)	2.447 (0.38)	-60.134 (-1.63)	-48.572** (-2.11)	3.406 (0.41)
Foreign stock (d)	-17.736 (-0.59)	10.893 (0.79)	-1.598 (-0.18)	-61.026 (-1.28)	-16.225 (-0.67)	4.018 (0.35)
Bank's own fund (d)	144.591** (2.12)	192.341*** (5.17)	-2.405 (-0.12)	39.421 (0.31)	6.288 (0.12)	-10.704 (-0.40)
Partner fund (d)	-28.714 (-1.07)	-44.480** (-2.47)	-7.859 (-1.20)	-35.139 (-0.82)	-37.310 (-1.49)	-9.736 (-1.25)
Other fund (d)	18.526 (0.66)	-2.857 (-0.17)	-17.004* (-1.83)	-52.308 (-1.07)	-59.065** (-2.03)	-13.081 (-1.03)
Derivative (d)	-191.184*** (-7.60)	-165.848*** (-11.10)	19.108** (2.57)	-97.615** (-2.52)	-69.364*** (-3.04)	21.878** (2.54)
Structured product (d)	92.262*** (3.02)	121.017*** (5.23)	4.738 (0.53)	108.483*** (2.33)	50.468* (1.86)	7.489 (0.59)
Swiss bonds				3.391*** (3.77)	3.373*** (5.90)	0.053 (0.46)
Foreign bonds				5.366*** (16.51)	4.765*** (33.64)	0.119* (1.73)
Swiss stocks				9.271*** (12.50)	9.478*** (21.34)	0.055 (0.33)
Foreign stocks				10.962*** (5.35)	9.768*** (19.80)	-0.210 (-0.65)
Bank's own funds				9.149** (2.33)	11.959*** (7.61)	0.389 (0.95)
Partner funds				4.194*** (9.04)	3.722*** (15.63)	0.123** (2.38)
Other funds				6.320*** (6.52)	5.833*** (10.46)	-0.067 (-0.39)
Derivatives				17.122*** (3.94)	14.041*** (6.59)	-0.754 (-0.61)
Structured products				3.981*** (3.46)	6.253*** (9.67)	-0.010 (-0.04)
Portfolio characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Client-advisor fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²	0.675	0.424	0.547	0.713	0.637	0.547
N	34,360	34,360	34,360	34,360	34,360	34,360

Table 4: Determinants of holding-related profits

This table presents the results from panel regressions with client-advisor and time fixed effects. The dependent variable is either the quarterly profit (Column 1), the quarterly other commission and fee income (Column 2), or the quarterly expenses per client (Column 3). We restrict the sample to self-managed accounts and to quarters without any trades. Portfolio characteristics are denoted in Swiss Francs and scaled by 1,000. The variables *Savings account*, *Retirement savings*, *Checking account*, *Mortgage*, and *Loan* are included as controls in all regressions but not reported. Appendix A provides detailed descriptions of all variables used throughout the study. Standard errors are clustered at the advisor level. t-statistics are provided in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

	Profit (CHF)	Other com./fee income (CHF)	Expenses (CHF)
	(1)	(2)	(3)
Swiss bonds	0.156* (1.85)	0.135*** (5.62)	0.294*** (13.35)
Foreign bonds	0.212*** (3.59)	-0.031 (-1.49)	0.206*** (13.22)
Swiss stocks	0.258*** (4.03)	0.139*** (3.64)	0.257*** (10.85)
Foreign stocks	0.615*** (3.72)	-0.070 (-0.82)	0.278*** (6.03)
Bank's own funds	2.060*** (4.18)	1.421*** (6.70)	0.400** (2.19)
Partner funds	1.359*** (21.58)	1.258*** (35.03)	0.248*** (14.71)
Other funds	0.613*** (5.48)	0.387*** (5.72)	0.215*** (5.49)
Derivatives	1.469*** (3.80)	1.022*** (3.83)	0.652*** (7.50)
Structured products	0.294* (1.79)	-0.118* (-1.84)	0.252*** (7.48)
Portfolio characteristics	Yes	Yes	Yes
Client-advisor fixed effects	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes
Adj. R ²	0.717	0.584	0.522
N	200,444	200,444	200,444

Table 5: Univariate comparisons of advised and independent trades

This table presents univariate comparisons of trade characteristics of advised and independent trades. We restrict the sample to purchases of clients who never delegate account management to the bank. Appendix A provides detailed descriptions of all variables used throughout the study. Means of the subgroups are tested for equality using a standard t-test. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

	Advised	Independent	Difference	t-value	N
Trade size (CHF)	45,130	30,808	14,321***	16.64	83,567
Swiss bond (d)	0.017	0.016	0.000	0.21	83,567
Foreign bond (d)	0.249	0.163	0.087***	16.82	83,567
Swiss stock (d)	0.171	0.307	-0.137***	-21.69	83,567
Foreign stock (d)	0.159	0.147	0.012**	2.50	83,567
Bank's own fund (d)	0.025	0.008	0.017***	12.64	83,567
Partner fund (d)	0.140	0.148	-0.008	-1.54	83,567
Other fund (d)	0.026	0.041	-0.015***	-5.48	83,567
Derivative (d)	0.015	0.071	-0.056***	-16.33	83,567
Structured product (d)	0.183	0.078	0.105***	27.40	83,567

Table 6: Do financial advisors promote trades that are expected to maximize bank profits?

This table presents the results from OLS and logit regressions with client-advisor and time fixed effects. The dependent variable is either the logarithm of trade size (Column 1) or a dummy variable that equals one for trades in different asset classes (Columns 2 to 10). We restrict the sample to purchases of clients who never delegate account management to the bank. In Panel B, we restrict the sample to advisor-initiated advised purchases and independent purchases (dropping client-initiated advised purchases). The variables *Securities account*, *Savings account*, *Retirement savings*, *Checking account*, *Mortgage*, and *Loan* are included as controls in all regressions but not reported. Column 1 contains the dummy variables for trades in different asset classes as additional controls (not reported). Appendix A provides detailed descriptions of all variables used throughout the study. Standard errors are clustered at the advisor level. t-statistics are provided in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

Panel A: Advised trades

	Log(trade size)	Swiss bond (d)	Foreign bond (d)	Swiss stock (d)	Foreign stock (d)	Bank's own fund (d)	Partner fund (d)	Other fund (d)	Derivative (d)	Structured product (d)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Advised (d)	0.184*** (5.37)	-0.048 (-0.31)	0.055 (0.55)	0.096 (0.79)	0.119 (1.09)	0.568*** (2.69)	-0.261*** (-2.89)	-0.541*** (-2.90)	-1.680*** (-5.63)	0.515*** (3.92)
Portfolio characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Client-advisor fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²	0.641									
Pseudo R ²		0.043	0.011	0.008	0.006	0.213	0.020	0.082	0.079	0.080
N	81,935	10,014	32,898	48,373	36,142	8,747	27,590	18,751	26,949	27,590

Panel B: Advisor-initiated trades

	Log(trade size)	Swiss bond (d)	Foreign bond (d)	Swiss stock (d)	Foreign stock (d)	Bank's own fund (d)	Partner fund (d)	Other fund (d)	Derivative (d)	Structured product (d)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Advisor-initiated (d)	0.190*** (3.61)	-0.179 (-0.88)	-0.120 (-0.73)	-0.195 (-1.19)	0.084 (0.35)	0.476* (1.77)	-0.142 (-0.90)	-0.706* (-1.77)	-1.798*** (-7.43)	0.984*** (6.28)
Portfolio characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Client-advisor fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²	0.640									
Pseudo R ²		0.041	0.012	0.008	0.006	0.210	0.019	0.086	0.073	0.085
N	78,440	9,515	30,338	46,079	34,601	7,809	25,500	17,822	26,033	25,795

Table 7: Do financial advisors implement portfolios that are expected to maximize bank profits?

This table presents the results from panel regressions with client-advisor and time fixed effects. The dependent variable is either the quarterly portfolio turnover (Column 1) or the portfolio share in different asset classes at the end of the respective quarter (Columns 2 to 10). The variables *% advised trades*, *Securities account*, *Savings account*, *Retirement savings*, *Checking account*, *Mortgage*, and *Loan* are included as controls in all regressions but not reported. Columns 2 to 10 contain the variables *At least one trade (d)* and *Trading volume* as additional controls (not reported). Appendix A provides detailed descriptions of all variables used throughout the study. Standard errors are clustered at the advisor level. t-statistics are provided in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

	Turnover (%)	% Swiss bonds	% foreign bonds	% Swiss stocks	% foreign stocks	% bank's own funds	% partner funds	% other funds	% deriva- tives	% struc- tured products
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Managed account (d)	10.437*** (11.37)	-2.203*** (-3.30)	-4.272 (-1.50)	-5.008*** (-6.30)	-1.353*** (-4.27)	5.756*** (10.59)	-9.909*** (-3.83)	15.064*** (8.33)	-0.228*** (-5.07)	2.597*** (4.55)
Portfolio characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Client-advisor fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²	0.172	0.846	0.895	0.910	0.894	0.471	0.916	0.800	0.554	0.487
N	253,212	255,722	255,722	255,722	255,722	255,722	255,722	255,722	255,722	255,722

Table 8: Which clients, advisors, and client-advisor matches drive the results?

This table presents the results from panel regressions with client-advisor and time fixed effects. The dependent variable is the quarterly profit per client. The variables *% advised trades*, *Managed account (d)*, *Log(bank wealth)*, *Securities account*, *Savings account*, *Retirement savings*, *Checking account*, *Mortgage*, *Loan*, *At least one trade (d)*, and *Trading volume* are included as controls in all regressions but not reported. Appendix A provides detailed descriptions of all variables used throughout the study. Standard errors are clustered at the advisor level. t-statistics are provided in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

	Profit (CHF)			
	(1)	(2)	(3)	(4)
% advised trades $\times$ Log(bank wealth)	113.714*** (7.44)	115.749*** (7.46)	111.371*** (6.56)	110.261*** (6.41)
% advised trades $\times$ Risk tolerance = 3 (d)		68.232** (2.32)		
% advised trades $\times$ Log(client age)			-29.378 (-0.50)	-111.832 (-1.45)
% advised trades $\times$ Log(advisor age)			93.215 (1.12)	144.598* (1.86)
% advised trades $\times$ Different age (d)			82.539* (1.86)	
% advised trades $\times$ Client older (d)				127.381** (2.53)
% advised trades $\times$ Advisor older (d)				-65.276 (-0.87)
Portfolio characteristics	Yes	Yes	Yes	Yes
Client-advisor fixed effects	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes
Adj. R ²	0.775	0.764	0.776	0.776
N	273,044	103,443	262,835	262,835

Table 9: Portfolio performance

This table presents the risk-adjusted portfolio performance of advised and independent clients (Panel A) and the risk-adjusted portfolio performance of clients around switches to managed accounts (Panel B). In Panel A, the dependent variable is either the monthly excess return of an aggregate calendar-time portfolio consisting of all individual portfolios of advised clients (Column 1), the monthly excess return of an aggregate calendar-time portfolio consisting of all individual portfolios of independent clients (Column 2), or the monthly return difference between these two aggregate portfolios (Column 3). In Panel B, the dependent variable is either the monthly excess return of an aggregate calendar-time portfolio consisting of all individual portfolios of clients that eventually switch to a managed account before the switch (Column 1), the monthly excess return of an aggregate calendar-time portfolio consisting of all individual portfolios of clients that switched to a managed account after the switch (Column 2), or the monthly return difference between these two aggregate portfolios (Column 3). Individual portfolios are value-weighted. In Panel A, returns are net of commissions and bid-ask spreads. In Panel B, returns are net of commissions and bid-ask spreads before the switch and net of the management fee and bid-ask spreads after the switch. Monthly alphas are estimated based on a multi-factor model that includes the Swiss Performance Index (SPI) and the MSCI World Index, the Swiss SMB factor, the Swiss HML factor, and the Swiss momentum factor from Andrea Frazzini's data library, the Swiss Bond Index (SBI), and the iBoxx Euro Corporate Bond Index. Factor returns are in excess of the Swiss 3-month LIBOR (except for the Swiss SMB factor, the Swiss HML factor, and the Swiss momentum factor). Appendix B provides further details on how we calculate the portfolio performance of advised and independent clients and the portfolio performance of clients around switches to managed accounts. Standard errors are adjusted for heteroskedasticity. t-statistics are provided in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

Panel A: Portfolio performance of advised and independent clients

	Monthly portfolio excess return net of transaction costs (%)		
	Advised clients	Independent clients	Difference portfolio (Advised - Independent)
	(1)	(2)	(3)
Alpha (%)	-0.061 (-1.27)	0.020 (0.33)	-0.081** (-2.14)
Adj. R ²	0.987	0.977	0.496
N	42	42	42

Panel B: Portfolio performance of clients around switches to managed accounts

	Monthly portfolio excess return net of transaction costs (%)		
	Before switch	After switch	Difference portfolio (After - Before)
	(1)	(2)	(3)
Alpha (%)	0.093 (1.14)	-0.167 (-1.37)	-0.260** (-2.06)
Adj. R ²	0.954	0.917	0.041
N	36	36	36

Figures

Figure 1: Number of trades around advisory contacts

This figure shows the number of trades around advisory contacts. The contact between the client and the advisor takes place on day $t = 0$. There are 154,846 trades in self-managed accounts in total between January 2002 and June 2005, of which 10,105 transactions take place within the time period from $t = 0$ to $t = 4$ after an advisory contact.

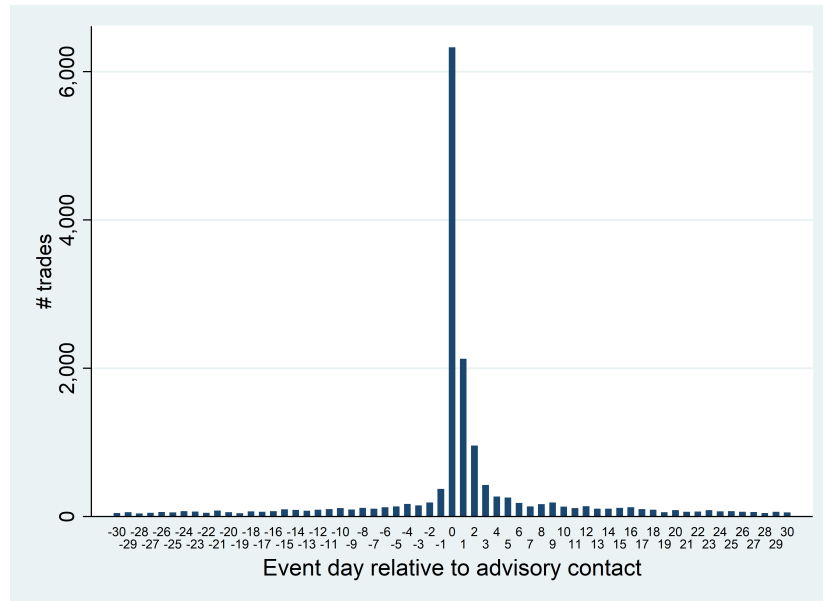
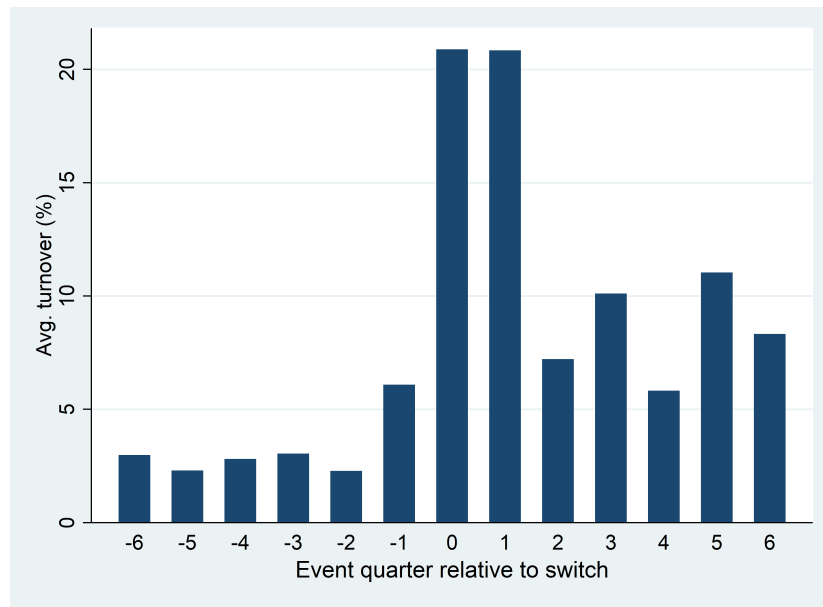


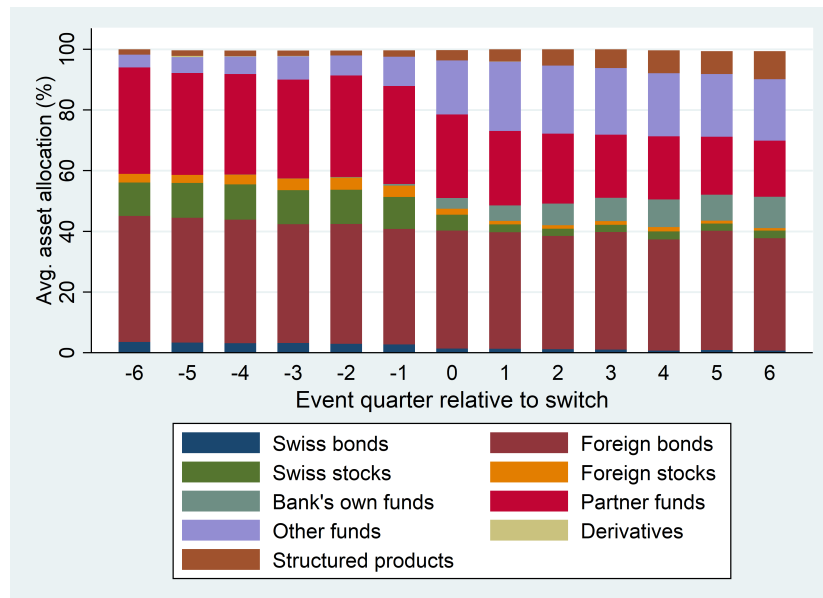
Figure 2: Turnover and asset allocation around switches to managed accounts

This figure shows the average quarterly portfolio turnover ratio per client (Panel A) and the average asset allocation per client at the end of the respective quarter (Panel B) around switches to managed accounts. Clients delegate account management to the bank in quarter $t = 0$. There are 371 clients that switch to a managed account during our investigation period from January 2002 to June 2005.

Panel A: Turnover around switches to managed accounts



Panel B: Asset allocation around switches to managed accounts



Appendix

Appendix A: Variable descriptions

This table defines the variables used throughout the study. The table also provides the source of the data and the observation frequency of the variable (in parentheses). Client and advisor characteristics are time-invariant as they are collected by the bank on the date of the account opening and overwritten if new information is provided either by clients or advisors.

Variable	Description	Source (frequency)
Profit characteristics		
Profit	Profit the bank generates with each individual client defined as revenues minus expenses (in Swiss Francs)	Bank (quarterly)
Revenues	Contains all revenues that can be assigned to a client (in Swiss Francs). This includes the securities account fee, the securities transaction income, the management fee, other commission and fee income, interest income, and other income	Bank (quarterly)
Expenses	Contains all costs that can be assigned to a client (in Swiss Francs). This includes labor costs of financial advisors and third-party charges	Bank (quarterly)
Securities account fee	Contains the fees the client pays for the securities account (in Swiss Francs)	Bank (quarterly)
Securities transaction income	Contains all commissions and fees from securities transactions (in Swiss Francs). This includes the commissions and fees directly charged by the bank and transaction-related payments the bank receives from product providers	Bank (quarterly)
Management fee	Contains the fees the client pays when delegating account management to the bank (in Swiss Francs)	Bank (quarterly)
Other commission and fee income	Contains all commissions and fees other than the securities account fee, the securities transaction income, and the management fee (in Swiss Francs). This includes recurring payments the bank receives from product providers, fees for account keeping, fees for payment transactions, and fees for credit cards	Bank (quarterly)
Interest income	Contains the net interest income from savings, mortgages, and loans calculated according to the market interest rate method (in Swiss Francs). The market interest rate method assumes that assets and liabilities are refinanced at current market conditions	Bank (quarterly)
Advice characteristics		
Advised (d)	Dummy variable that equals one for trades executed within five days of an advisory contact, that is, between $t = 0$ and $t = 4$, and zero otherwise	Bank (daily)
Advisor-initiated (d)	Dummy variable that equals one for advised trades that follow a contact that was initiated by the advisor, and zero otherwise	Bank (daily)
% advised trades	Number of advised trades per quarter / Total number of trades per quarter	Bank (quarterly)

% advisor-initiated	Number of trades that follow advisor-initiated contacts per quarter / Total number of trades per quarter	Bank (quarterly)
Managed account (d)	Dummy variable that equals one for client-quarters in which clients delegate account management to the bank, and zero otherwise	Bank (quarterly)

Portfolio characteristics

Bank wealth	Total wealth a client holds at our bank (in Swiss Francs). This position is not netted against mortgages and loans	Bank (quarterly)
Log(bank wealth)	Natural logarithm of bank wealth	Bank (quarterly)
Securities account	Value of securities portfolio of a client (in Swiss Francs)	Bank (quarterly)
Savings account	Amount of money a client holds in the savings account (in Swiss Francs). This does not include retirement savings	Bank (quarterly)
Retirement savings	Amount of money a client holds in the retirement savings account (in Swiss Francs). The Swiss pension system is based on three pillars: the state pension system, occupational pension provisions, and private pension provisions. Private pension provisions typically take the form of retirement saving accounts that offer higher interest rates than normal savings accounts as well as tax benefits	Bank (quarterly)
Checking account	Amount of money a client holds in the checking account (in Swiss Francs)	Bank (quarterly)
Mortgage	Outstanding mortgage balance of a client (in Swiss Francs)	Bank (quarterly)
Loan	Outstanding loan balance of a client (in Swiss Francs)	Bank (quarterly)
At least one trade (d)	Dummy variable that equals one for client-quarters in which clients execute at least one trade, and zero otherwise	Bank (quarterly)
# trades	Number of trades a client executes per quarter	Bank (quarterly)
Trading volume	Value of all transactions executed by a client in a specific quarter (in Swiss Francs)	Bank (quarterly)
Turnover	$\frac{1}{2}$ (Value of all purchases executed by a client in a specific quarter + Value of all sales executed by a client in a specific quarter) / Value of securities portfolio of a client at the beginning of the quarter	Bank (quarterly)
Swiss bonds	Value of securities in the respective asset class (in Swiss Francs; Table 4)	Bank (quarterly)
Foreign bonds		
Swiss stocks		
Foreign stocks		
Bank's own funds		
Partner funds		
Other funds		
Derivatives		
Structured products		

% Swiss bonds	Value of securities in the respective asset class / Value of securities portfolio of a client (Table 7)	Bank (quarterly)
% foreign bonds		
% Swiss stocks		
% foreign stocks		
% bank's own funds		
% partner funds		
% other funds		
% derivatives		
% structured products		

Client characteristics

Client male (d)	Dummy variable that equals one for male clients and zero for female clients	Bank (time-invariant)
Client age	Client's age (in years)	Bank (yearly)
Log(client age)	Natural logarithm of client age	Bank (yearly)
Education	Client's education (1: unskilled; 2: semi-skilled; 3: apprenticeship/ vocational education; 4: high-school degree; 5: higher vocational education; 6: technical college degree; 7: university degree)	Bank (time-invariant)
Employment, employed (d)	Dummy variable that equals one for employed clients, and zero otherwise	Bank (time-invariant)
Employment, retired (d)	Dummy variable that equals one for retired clients, and zero otherwise	Bank (time-invariant)
Swiss (d)	Dummy variable that equals one for clients living in Switzerland and zero for clients living abroad	Bank (time-invariant)
Risk tolerance	Client's risk tolerance (1: low; 2: medium; 3: high). The risk tolerance is assessed in an in-person meeting with the advisor at the start of the bank relationship based on a set of pre-defined questions	Bank (time-invariant)
Risk tolerance = 3 (d)	Dummy variable that equals one for clients with the highest level of risk tolerance, and zero otherwise	Bank (time-invariant)
Length of relationship	Number of years since account was opened (in years). This variable is missing for some clients in our sample that opened their account before December 1995. We assume that these customers opened their account in December 1995	Bank (yearly)
Log(length of relationship)	Natural logarithm of length of relationship	Bank (yearly)

Advisor characteristics

Advisor male (d)	Dummy variable that equals one for male advisors and zero for female advisors	Bank (time-invariant)
Advisor age	Advisor's age (in years)	Bank (yearly)
Log(advisor age)	Natural logarithm of advisor age	Bank (yearly)
Senior (d)	Dummy variable that equals one for advisors that have reached a certain hierarchical level within the bank, and zero otherwise	Bank (time-invariant)

Client-advisor matching characteristics		
Different age (d)	Dummy variable that equals one for client-advisor pairs with an age difference of more than 10 years, and zero otherwise	Bank (yearly)
Client older (d)	Dummy variable that equals one for client-advisor pairs where the client is more than 10 years older than the advisor, and zero otherwise	Bank (yearly)
Advisor older (d)	Dummy variable that equals one for client-advisor pairs where the advisor is more than 10 years older than the client, and zero otherwise	Bank (yearly)
Trade characteristics		
Trade size	Trade size (in Swiss Francs)	Bank (daily)
Log(trade size)	Natural logarithm of trade size	Bank (daily)
Swiss bond (d)	Dummy variable that equals one for transactions in the respective asset class, and zero otherwise (Tables 3, 5, and 6)	Bank (daily)
Foreign bond (d)		
Swiss stock (d)		
Foreign stock (d)		
Bank's own fund (d)		
Partner fund (d)		
Other fund (d)		
Derivative (d)		
Structured product (d)		
Swiss bonds	Size of transactions in the respective asset class (in Swiss Francs; Table 3)	Bank (daily)
Foreign bonds		
Swiss stocks		
Foreign stocks		
Bank's own funds		
Partner funds		
Other funds		
Derivatives		
Structured products		

Appendix B: Performance calculation

This appendix provides details of our approach to calculating the portfolio performance of advised and independent clients (B.1), the performance of structured product trades (B.2), and the portfolio performance of clients around switches to managed accounts (B.3).

B.1 Portfolio performance of advised and independent clients

To calculate the monthly portfolio performance net of trading costs, we apply the methodology of Barber and Odean (2000). We collect monthly (gross) return data on individual securities from Thomson Reuters Datastream. If no data are available from Datastream, we rely on the return information provided by our bank. For each transaction, we estimate the transaction costs as the sum of the commissions and the bid-ask spread component. While the bank provides us with the commissions, we have to estimate the bid-ask spread component. We determine the bid-ask spread component as the percentage difference between the security's closing price on the day of the transaction and the actual transaction price. We then adjust the monthly gross returns of individual securities using the estimated transaction costs. The monthly net portfolio returns are calculated as the value-weighted average of monthly net returns of individual securities held in the portfolio using beginning-of-month portfolio holdings. Finally, we build an aggregate calendar-time portfolio consisting of all individual portfolios of advised clients and an aggregate calendar-time portfolio consisting of all individual portfolios of independent clients. Individual portfolios are value-weighted in the aggregate portfolios. When constructing the aggregate portfolio of advised clients, we only include clients as of the point in time of the first trade on advice in order not to introduce a look-ahead bias.

B.2 Performance of structured product trades

To determine net returns of structured product trades, we first compute the percentage change between the purchase price and the sales price. If we do not observe the sale, we assume that the client holds the product until maturity and use the last quoted price before maturity as

the sales price. If the product matures outside of our investigation period, we use the last price quoted within our sample period to compute the performance. We obtain quoted prices on structured products from the SIX Swiss Exchange. If structured products pay coupons, we add accrued interest to the trade performance. We then adjust the trade performance using the commissions paid upon purchase and sale. If we do not observe the sale of a product, we assume the commissions paid when the position is closed to be the same as the commissions paid upon purchase.³⁰ Finally, we annualize net returns of structured product trades to make the performance comparable across different holding periods.

B.3 Portfolio performance of clients around switches to managed accounts

To determine the monthly portfolio performance around switches to managed accounts, we employ an approach similar to that of Barber and Odean (2002), who analyze the change in performance of individual investors who switch to online trading. We use the group of 371 clients who switch to a managed account during our sample period. Since the first investors switch in the first quarter of 2002 and the last in the second quarter of 2005, our sample spans the time period from April 2002 to March 2005. Before switching, monthly net portfolio returns are calculated using the approach described in Appendix B.1. After switching, trade commissions are usually covered by the fixed management fee clients pay to the bank. Thus, to determine monthly portfolio returns net of trading costs after switching, we deduct the management fee instead of commissions.³¹ We then construct an aggregate calendar-time portfolio consisting of all individual portfolios of investors that eventually switch to a managed account before the switch and an aggregate calendar-time portfolio of these individual investors' portfolios after the switch. Individual portfolios are value-weighted when forming aggregate portfolios.

³⁰If we alternatively assume that there are no commissions to be paid upon closing of the position (e.g., because the product is held until maturity and settled in cash), our results even get slightly stronger.

³¹In our robustness tests, we find similar (but slightly weaker) results when using gross portfolio returns rather than net returns, suggesting that the treatment of fees is not driving our findings.

Internet Appendix to
“Financial Advice and Bank Profits”

Table IA1: Determinants of profits – robustness tests

This table presents the results from panel regressions with client-advisor and time fixed effects. The dependent variable is the quarterly profit per client. In Column 1, we use all client-advisor contacts to identify advised trades rather than only contacts explicitly classified as advisory contacts as in the main paper. In Column 2, trades executed within four weeks of an advisory contact are classified as advised transactions rather than trades carried out within five days of an advisory contact. In Column 3, only trades that take place on the day of the advisory contact are classified as advised transactions. In Column 4, the quarterly profit and portfolio characteristics are winsorized at the 10% level and the 90% level rather than at the 1% level and the 99% level. In Column 5, we perform a median regression instead of an OLS (mean) regression. Portfolio characteristics are denoted in Swiss Francs and scaled by 1,000 (except for the variable *At least one trade (d)*). In Column 5, rather than using client-advisor fixed effects, we include the variables *Client male (d)*, *Log(client age)*, *Swiss (d)*, *Log(length of relationship)*, *Advisor male (d)*, *Log(advisor age)*, and *Senior (d)* as additional controls (not reported). Appendix A in the main paper provides detailed descriptions of all variables used throughout the study. Standard errors are clustered at the advisor level. t-statistics are provided in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

	Profit (CHF)				
	All client- advisor contacts	Advised trades = Trades within four weeks of advisory contact	Advised trades = Trades on day of advisory contact	Winsorized at 10% and 90% level	Median regression
	(1)	(2)	(3)	(4)	(5)
Advice characteristics					
% advised trades	122.700*** (9.58)	240.713*** (11.10)	263.371*** (9.28)	104.302*** (9.28)	175.290*** (8.45)
Managed account (d)	388.625*** (5.48)	383.602*** (5.38)	380.428*** (5.33)	87.277*** (5.32)	339.710*** (12.80)
Portfolio characteristics					
Securities account	0.799*** (13.71)	0.799*** (13.74)	0.798*** (13.74)	0.484*** (15.61)	0.804*** (41.15)
Savings account	0.801*** (8.48)	0.802*** (8.49)	0.803*** (8.49)	0.618*** (13.72)	0.489*** (22.10)
Retirement savings	-2.452*** (-8.28)	-2.453*** (-8.30)	-2.463*** (-8.31)	-1.646*** (-8.55)	-0.756*** (-11.51)
Checking account	1.804*** (17.22)	1.801*** (17.33)	1.802*** (17.30)	2.035*** (21.45)	1.360*** (20.09)
Mortgage	1.712*** (10.22)	1.713*** (10.20)	1.712*** (10.20)	1.305*** (20.93)	2.449*** (96.07)
Loan	0.812*** (3.40)	0.811*** (3.40)	0.811*** (3.40)	0.781*** (7.62)	2.252*** (19.37)
At least one trade (d)	105.568*** (8.12)	116.564*** (9.51)	121.685*** (9.52)	70.893*** (11.03)	6.987 (1.15)
Trading volume	3.437*** (22.21)	3.427*** (22.02)	3.438*** (22.09)	2.729*** (22.75)	5.390*** (41.91)
Client-advisor fixed effects	Yes	Yes	Yes	Yes	No
Client and advisor characteristics	No	No	No	No	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes
Adj. R ²	0.774	0.775	0.774	0.728	
R ²	0.800	0.800	0.800	0.759	0.664
N	273,044	273,044	273,044	273,044	262,835

Table IA2: Determinants of transaction-related profits – all quarters with at least one transaction

This table presents the results from panel regressions with client-advisor and time fixed effects. The dependent variable is either the quarterly profit (Columns 1 and 4), the quarterly securities transaction income (Columns 2 and 5), or the quarterly expenses per client (Columns 3 and 6). We restrict the sample to self-managed accounts and to quarters with at least one trade (rather than exactly one trade as in the main paper). In Columns 1 to 3, we use the number of trades in each asset class as independent variables. In Columns 4 to 6, the independent variables are the trading volumes in each asset class denoted in Swiss Francs and scaled by 1,000. The variables *% advised trades*, *Securities account*, *Savings account*, *Retirement savings*, *Checking account*, *Mortgage*, and *Loan* are included as controls in all regressions but not reported. Appendix A in the main paper provides detailed descriptions of all variables used throughout the study. Standard errors are clustered at the advisor level. t-statistics are provided in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

	Profit (CHF)	Sec. transac- tion income (CHF)	Expenses (CHF)	Profit (CHF)	Sec. transac- tion income (CHF)	Expenses (CHF)
	(1)	(2)	(3)	(4)	(5)	(6)
# Swiss bond trades	248.078*** (8.13)	251.596*** (12.00)	50.612*** (12.95)			
# foreign bond trades	399.537*** (23.63)	380.611*** (21.44)	77.490*** (29.17)			
# Swiss stock trades	129.415*** (11.06)	166.529*** (16.53)	42.629*** (31.33)			
# foreign stock trades	158.513*** (9.39)	184.589*** (13.21)	53.591*** (27.65)			
# bank's own fund trades	483.917*** (9.45)	419.470*** (9.54)	14.935 (1.64)			
# partner fund trades	190.154*** (14.06)	180.784*** (14.29)	38.803*** (21.62)			
# other fund trades	166.011*** (6.54)	166.733*** (8.23)	43.981*** (12.28)			
# derivative trades	45.151*** (3.78)	90.191*** (9.96)	48.801*** (18.46)			
# structured product trades	319.729*** (7.93)	348.285*** (9.51)	53.553*** (10.65)			
Swiss bonds				3.827*** (8.21)	3.766*** (9.81)	0.630*** (7.51)
Foreign bonds				5.281*** (13.05)	4.962*** (17.56)	0.716*** (12.58)
Swiss stocks				6.136*** (20.17)	6.800*** (26.68)	0.992*** (12.54)
Foreign stocks				7.265*** (10.66)	7.353*** (12.99)	1.440*** (13.79)
Bank's own funds				10.220*** (4.28)	10.318*** (6.40)	0.344* (1.66)
Partner funds				4.789*** (23.28)	4.182*** (22.81)	0.382*** (8.77)
Other funds				6.359*** (7.94)	5.957*** (10.11)	0.895*** (7.64)
Derivatives				8.360*** (7.66)	11.911*** (12.81)	3.692*** (8.44)
Structured products				5.863*** (10.30)	6.234*** (10.82)	0.568*** (3.93)
Portfolio characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Client-advisor fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²	0.736	0.680	0.673	0.792	0.772	0.594
N	60,171	60,171	60,171	60,171	60,171	60,171

Table IA3: Determinants of transaction-related profits – robustness tests

This table presents the results from panel regressions with client-advisor and time fixed effects. The dependent variable is the quarterly profit per client. We restrict the sample to self-managed accounts and to quarters with only one trade. The omitted base category is the transactions in Swiss bonds. In Column 1, the quarterly profit and portfolio characteristics are winsorized at the 10% level and the 90% level rather than at the 1% level and the 99% level as in the main paper. In Column 2, we perform a median regression instead of an OLS (mean) regression. The variables *% advised trades*, *Securities account*, *Savings account*, *Retirement savings*, *Checking account*, *Mortgage*, and *Loan* are included as controls in all regressions but not reported. In Column 2, rather than using client-advisor fixed effects, we include the variables *Client male (d)*, *Log(client age)*, *Swiss (d)*, *Log(length of relationship)*, *Advisor male (d)*, *Log(advisor age)*, and *Senior (d)* as additional controls (not reported). Appendix A in the main paper provides detailed descriptions of all variables used throughout the study. Standard errors are clustered at the advisor level. t-statistics are provided in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

	Profit (CHF)	
	Winsorized at 10% and 90% level	Median regression
	(1)	(2)
Foreign bond (d)	81.681*** (5.62)	160.307*** (12.96)
Swiss stock (d)	-25.284 (-1.50)	-16.918* (-1.82)
Foreign stock (d)	-20.946 (-1.06)	47.672*** (3.77)
Bank's own fund (d)	131.466*** (3.21)	353.435*** (6.32)
Partner fund (d)	-37.623** (-2.00)	36.012*** (3.04)
Other fund (d)	-16.099 (-0.87)	32.758*** (2.65)
Derivative (d)	-166.465*** (-9.79)	-98.252*** (-8.43)
Structured product (d)	51.408*** (2.63)	152.846*** (9.38)
Client-advisor fixed effects	Yes	No
Client and advisor characteristics	No	Yes
Time fixed effects	Yes	Yes
Adj. R ²	0.644	
R ²	0.839	0.551
N	34,360	33,349

Table IA4: Determinants of holding-related profits – robustness tests

This table presents the results from panel regressions with client-advisor and time fixed effects. The dependent variable is the quarterly profit per client. We restrict the sample to self-managed accounts and to quarters without any trades. In Column 1, the quarterly profit and portfolio characteristics are winsorized at the 10% level and the 90% level rather than at the 1% level and the 99% level as in the main paper. In Column 2, we perform a median regression instead of an OLS (mean) regression. Portfolio characteristics are denoted in Swiss Francs and scaled by 1,000. The variables *Savings account*, *Retirement savings*, *Checking account*, *Mortgage*, and *Loan* are included as controls in all regressions but not reported. In Column 2, rather than using client-advisor fixed effects, we include the variables *Client male (d)*, *Log(client age)*, *Swiss (d)*, *Log(length of relationship)*, *Advisor male (d)*, *Log(advisor age)*, and *Senior (d)* as additional controls (not reported). Appendix A in the main paper provides detailed descriptions of all variables used throughout the study. Standard errors are clustered at the advisor level. t-statistics are provided in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

	Profit (CHF)	
	Winsorized at 10% and 90% level	Median regression
	(1)	(2)
Swiss bonds	0.091* (1.91)	0.034* (1.70)
Foreign bonds	0.128*** (3.02)	0.553*** (45.51)
Swiss stocks	0.220*** (3.57)	0.366*** (21.45)
Foreign stocks	0.582*** (3.58)	0.921*** (20.04)
Bank's own funds	1.538*** (5.25)	3.351*** (16.07)
Partner funds	1.153*** (28.57)	2.152*** (66.85)
Other funds	0.312*** (3.77)	0.865*** (27.31)
Derivatives	1.041*** (4.37)	1.253*** (5.13)
Structured products	0.291*** (3.12)	0.645*** (8.45)
Client-advisor fixed effects	Yes	No
Client and advisor characteristics	No	Yes
Time fixed effects	Yes	Yes
Adj. R ²	0.674	
R ²	0.722	0.596
N	200,444	191,940

Table IA5: Determinants of trade size – alternative specification

This table presents the results from an OLS regression with client-advisor and time fixed effects. The dependent variable is the logarithm of trade size. We restrict the sample to purchases of clients who never delegate account management to the bank. The dummy variables for trades in different asset classes are included in the regression but not reported. The regression contains the variables *Securities account*, *Savings account*, *Retirement savings*, *Checking account*, *Mortgage*, and *Loan* as additional controls (not reported). Appendix A in the main paper provides detailed descriptions of all variables used throughout the study. Standard errors are clustered at the advisor level. t-statistics are provided in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

	Log(trade size)
	(1)
Advised (d) $\times$ Swiss bond (d)	0.251*** (2.90)
Advised (d) $\times$ Foreign bond (d)	0.183*** (3.76)
Advised (d) $\times$ Swiss stock (d)	0.164*** (3.67)
Advised (d) $\times$ Foreign stock (d)	0.298*** (4.59)
Advised (d) $\times$ Bank's own fund (d)	0.061 (0.63)
Advised (d) $\times$ Partner fund (d)	0.166*** (3.14)
Advised (d) $\times$ Other fund (d)	0.024 (0.32)
Advised (d) $\times$ Derivative (d)	-0.084 (-0.24)
Advised (d) $\times$ Structured product (d)	0.122** (2.36)
Portfolio characteristics	Yes
Client-advisor fixed effects	Yes
Time fixed effects	Yes
Adj. R ²	0.642
N	81,935

Table IA6: Do financial advisors promote trades that are expected to maximize bank profits? – robustness tests

This table presents the results from OLS and logit regressions with time fixed effects. The dependent variable is either the logarithm of trade size (Column 1) or a dummy variable that equals one for trades in different asset classes (Columns 2 to 10). We restrict the sample to purchases of clients who never delegate account management to the bank. The variables *Securities account*, *Savings account*, *Retirement savings*, *Checking account*, *Mortgage*, *Loan*, *Client male (d)*, *Log(client age)*, *Swiss (d)*, *Log(length of relationship)*, *Advisor male (d)*, *Log(advisor age)*, and *Senior (d)* are included as controls in all regressions but not reported. Column 1 contains the dummy variables for trades in different asset classes as additional controls (not reported). Appendix A in the main paper provides detailed descriptions of all variables used throughout the study. In Columns 2 to 10, we report marginal effects. Standard errors are clustered at the advisor level. t-statistics are provided in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

	Log(trade size)	Swiss bond (d)	Foreign bond (d)	Swiss stock (d)	Foreign stock (d)	Bank's own fund (d)	Partner fund (d)	Other fund (d)	Derivative (d)	Structured product (d)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Advised (d)	0.269*** (6.69)	0.002 (0.97)	0.042** (2.54)	-0.085*** (-4.43)	0.003 (0.12)	0.006*** (3.59)	-0.024** (-2.53)	-0.010** (-2.57)	-0.037*** (-6.09)	0.074*** (2.62)
Portfolio characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Client and advisor characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²	0.412									
Pseudo R ²		0.073	0.057	0.084	0.060	0.110	0.094	0.089	0.100	0.091
N	80,472	80,472	80,472	80,472	80,472	80,472	80,472	80,472	80,472	80,472

**Table IA7: Which clients, advisors, and client-advisor matches drive the results?
– univariate comparisons of advised trades**

This table presents univariate comparisons of advised trades of clients with high/low bank wealth (Panel A), univariate comparisons of advised trades of clients with a high/low level of risk tolerance (Panel B), and univariate comparisons of advised trades of clients that are older/younger than the advisor (Panel C). We restrict the sample to advised purchases of clients who never delegate account management to the bank. Appendix A in the main paper provides detailed descriptions of all variables used throughout the study. Means of the subgroups are tested for equality using a standard t-test. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

Panel A: Univariate comparisons of advised trades of clients with high/low bank wealth

	Bank wealth $\geq 150,000$	Bank wealth $< 150,000$	Difference	t-value	N
Trade size (CHF)	47,456	22,154	25,301***	8.31	5,614
Bank's own fund (d)	0.027	0.006	0.022***	3.08	5,614
Structured product (d)	0.192	0.110	0.081***	4.67	5,614

Panel B: Univariate comparisons of advised trades of clients with a high/low level of risk tolerance

	Risk tolerance = 3	Risk tolerance $\neq 3$	Difference	t-value	N
Trade size (CHF)	40,124	63,771	-23,647***	-10.75	5,618
Bank's own fund (d)	0.028	0.014	0.014***	2.80	5,618
Structured product (d)	0.201	0.119	0.082***	6.46	5,618

Panel C: Univariate comparisons of advised trades of clients that are older/younger than the advisor

	Client older (d)	Advisor older (d)	Difference	t-value	N
Trade size (CHF)	42,218	71,947	-29,730***	-5.55	4,509
Bank's own fund (d)	0.025	0.012	0.013	1.04	4,509
Structured product (d)	0.206	0.099	0.107***	3.34	4,509

Table IA8: Portfolio performance of advised and independent clients – robustness tests

This table presents the risk-adjusted portfolio performance of advised and independent clients. The dependent variable is either the monthly excess return of an aggregate calendar-time portfolio consisting of all individual portfolios of advised clients (Column 1), the monthly excess return of an aggregate calendar-time portfolio consisting of all individual portfolios of independent clients (Column 2), or the monthly return difference between these two aggregate portfolios (Column 3). Row 1 reports monthly alphas that are estimated based on the CAPM with the Swiss Performance Index (SPI) as market factor. Individual portfolios are value-weighted and returns are net of commissions and bid-ask spreads. Row 2 reports monthly alphas that are estimated based on our multi-factor model augmented by two option factors. The multi-factor model includes the Swiss Performance Index (SPI) and the MSCI World Index, the Swiss SMB factor, the Swiss HML factor, and the Swiss momentum factor from Andrea Frazzini's data library, the Swiss Bond Index (SBI), and the iBoxx Euro Corporate Bond Index. The two option factors are constructed as in Agarwal and Naik (2004) using at-the-money European call and put options on the Swiss Market Index (SMI). Factor returns are in excess of the Swiss 3-month LIBOR (except for the Swiss SMB factor, the Swiss HML factor, and the Swiss momentum factor). Individual portfolios are value-weighted and returns are net of transaction costs. Row 3 reports monthly alphas that are estimated based on our multi-factor model. Individual portfolios are again value-weighted, but returns are gross of transaction costs. Row 4 reports monthly alphas that are estimated based on our multi-factor model. In this specification, individual portfolios are equal-weighted and returns are net of transaction costs. Appendix B in the main paper provides further details on how we calculate the portfolio performance of advised and independent clients. Standard errors are adjusted for heteroskedasticity. t-statistics are provided in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

	Advised clients	Independent clients	Difference portfolio (Advised - Independent)
	(1)	(2)	(3)
Alpha (%) from...			
CAPM	0.132 (1.07)	0.178* (1.76)	-0.046 (-1.08)
Multi-factor model incl. option factors	-0.106* (-1.99)	-0.025 (-0.40)	-0.081* (-1.90)
Multi-factor model, gross returns	-0.028 (-0.58)	0.041 (0.69)	-0.069* (-1.83)
Multi-factor model, equal-weighted portfolio	-0.022 (-0.39)	0.184 (1.42)	-0.207** (-2.14)

Table IA9: Performance of structured product trades

This table presents the results from OLS regressions with client-advisor and product category fixed effects. The dependent variable is the annualized return of trades in structured product. Returns are net of commissions and bid-ask spreads. We restrict the sample to purchases of structured products for which we know the product category and to clients who never delegate account management to the bank. In Column 2, we focus on advisor-initiated advised purchases and independent purchases (dropping client-initiated advised purchases). Appendix B in the main paper provides further details on how we calculate the performance of structured product trades. Standard errors are clustered at the advisor level. t-statistics are provided in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

	Annualized return net of transaction costs (%)		
	(1)	(2)	(3)
Advised (d)	-0.527 (-0.38)		2.122 (1.17)
Advisor-initiated (d)		-1.952 (-1.12)	-4.440** (-1.99)
Client-advisor fixed effects	Yes	Yes	Yes
Product category fixed effects	Yes	Yes	Yes
Adj. R ²	0.322	0.331	0.323
N	4,657	4,322	4,657

Table IA10: Portfolio performance around switches to managed accounts – robustness tests

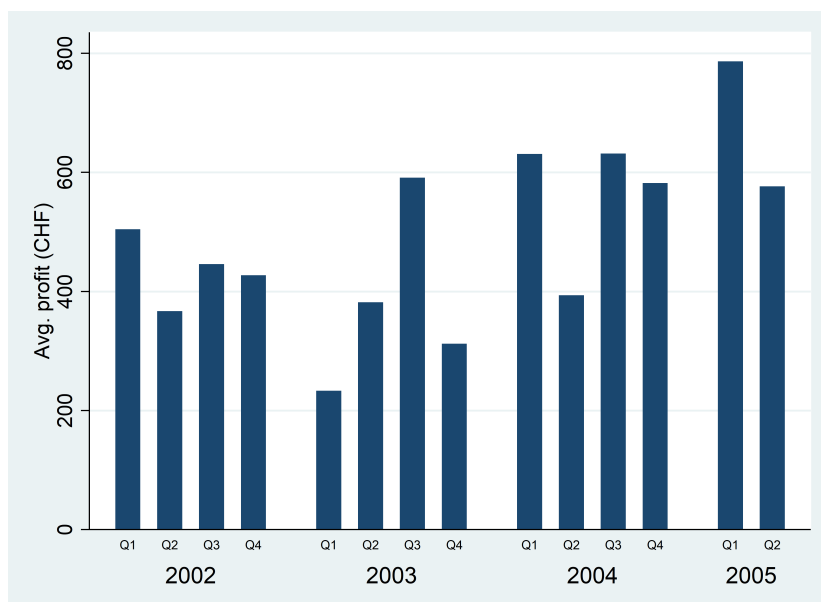
This table presents the risk-adjusted portfolio performance of clients around switches to managed accounts. The dependent variable is either the monthly excess return of an aggregate calendar-time portfolio consisting of all individual portfolios of clients that eventually switch to a managed account before the switch (Column 1), the monthly excess return of an aggregate calendar-time portfolio consisting of all individual portfolios of clients that switched to a managed account after the switch (Column 2), or the monthly return difference between these two aggregate portfolios (Column 3). Row 1 reports monthly alphas that are estimated based on the CAPM with the Swiss Performance Index (SPI) as market factor. Individual portfolios are value-weighted and returns are net of commissions and bid-ask spreads before the switch and net of the management fee and bid-ask spreads after the switch. Row 2 reports monthly alphas that are estimated based on our multi-factor model augmented by two option factors. The multi-factor model includes the Swiss Performance Index (SPI) and the MSCI World Index, the Swiss SMB factor, the Swiss HML factor, and the Swiss momentum factor from Andrea Frazzini's data library, the Swiss Bond Index (SBI), and the iBoxx Euro Corporate Bond Index. The two option factors are constructed as in Agarwal and Naik (2004) using at-the-money European call and put options on the Swiss Market Index (SMI). Factor returns are in excess of the Swiss 3-month LIBOR (except for the Swiss SMB factor, the Swiss HML factor, and the Swiss momentum factor). Individual portfolios are value-weighted and returns are net of transaction costs. Row 3 reports monthly alphas that are estimated based on our multi-factor model. Individual portfolios are again value-weighted, but returns are gross of transaction costs. Row 4 reports monthly alphas that are estimated based on our multi-factor model. In this specification, individual portfolios are equal-weighted and returns are net of transaction costs. Appendix B in the main paper provides further details on how we calculate the portfolio performance of clients around switches to managed accounts. Standard errors are adjusted for heteroskedasticity. t-statistics are provided in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% level.

	Before switch	After switch	Difference portfolio (After - Before)
	(1)	(2)	(3)
Alpha (%) from...			
CAPM	0.269** (2.06)	0.047 (0.31)	-0.222** (-2.21)
Multi-factor model incl. option factors	0.088 (0.91)	-0.276** (-2.34)	-0.364*** (-2.93)
Multi-factor model, gross returns	0.139* (1.72)	-0.089 (-0.73)	-0.227* (-1.86)
Multi-factor model, equal-weighted portfolio	-0.096* (-1.85)	-0.181** (-2.38)	-0.084 (-1.24)

Figure IA1: Profit and revenues over time

This figure shows the average quarterly profit per client (Panel A) and the average quarterly revenues by profit center and client (Panel B) between January 2002 and June 2005.

Panel A: Profit over time



Panel B: Revenues over time

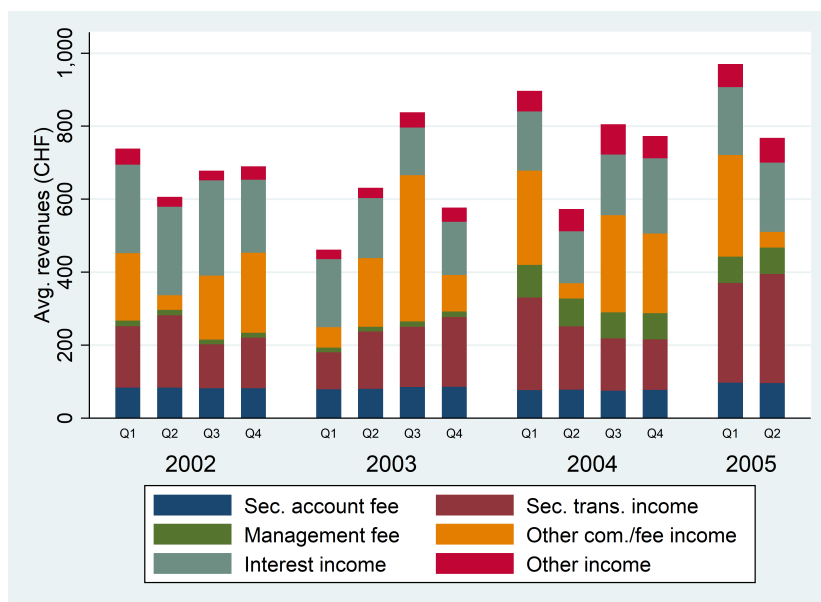


Figure IA2: Mutual fund allocation around switches to managed accounts

This figure shows the average mutual fund allocation per client at the end of the respective quarter around switches to managed accounts. We restrict the sample to the clients' holdings in mutual funds and exclude holdings in all other asset classes. Clients delegate account management to the bank in quarter $t = 0$. There are 371 clients that switch to a managed account during our investigation period from January 2002 to June 2005.

