

High-Quality Financial Advice Wanted!

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Abstract:

Many private investors rely on the recommendations of professional financial advisors when making investment decisions. However, financial advice is a credence good and its quality is notoriously difficult to assess even ex-post. This paper aims to shed light on financial advisor characteristics that might serve as quality indicators. We surveyed 260 German independent financial advisors (IFA) and obtain three main findings. Firstly, there is a high degree of heterogeneity in quality among financial advisors. Secondly, the extent to which advisors receive compensation in the form of fixed fees instead of sales commissions as well as the extent to which advisors exhibit a high degree of rationality in decision making are predictive of high-quality financial advice. Taking the compensation scheme and rationality into account when selecting a financial advisor might therefore improve the investment decisions of households.

Keywords: Portfolio choice, financial advice, independent financial advisors, credence goods

JEL-Classification: G11, G29

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1 Introduction

There is ample evidence that private investors make investment mistakes. For instance, investors do not participate in the stock market at all (see Guiso et al. (2003)), are under-diversified (see Calvet et al. (2007)), trade too much (see Barber and Odean (2000)) and overweight domestic equity in their portfolios (see Lewis (1999)). Usually the literature discusses inadequate modeling of preferences, cognitive errors and the cost of information acquisition as potential explanations (see Bluethgen and Hackethal (2007)). Given that professional financial advice is pervasive in most countries (e.g. DABbank (2004) reports that 80% of Germans consult a professional advisor before making an investment decision) professional advisors might also have a role to play in explaining why some households make more mistakes than others. In this case, households could improve their financial situation by taking more care with the selection of their financial advisor.

However, as financial advice is an expert service just as the ones provided by lawyers or doctors, the ordinary investor will hardly be able to determine the quality of the advice given even ex-post because the investor simply lacks the knowledge or the information to assess the quality of the advice. Goods with such characteristics are generally known as credence goods (see Emons (1997)). The apparent information asymmetry between advisor and client may provide incentives for opportunistic behavior by the advisor.

Recently, empirical studies point out that investors drawing on the support of financial professionals are on average better able to approximate the behavioural prescriptions of normative economic theory (see e.g. Shapira and Venezia (2001) and Bluethgen and Hackethal (2007)). However, a significant variation in the performance of portfolios of investors relying on financial advice can be assumed (see Hong et al. (2007)). Additionally, some papers have documented that more sophisticated, more experienced and less commission-incited (see Feng and Seasholes (2005); Krausz and Paroush (2002); Ottaviani (2000)) money managers behave more in line with standard economic models and achieve higher returns.

If investors had the possibility to assess the quality of a financial advisor on an ex-ante basis, the quality of investors' investment decisions would increase and with it the economic welfare. To the best of our knowledge no other paper has yet tested whether the adherence of independent financial advisors (IFAs) to normative theory, i.e. the quality of their advice, is related to their cognitive ability, personal experience, compensation scheme or business model.

This study presents results from a survey among 250 independent financial advisors (IFAs) that compiled data on many characteristics of financial advisors, among them the strategic orientation and sales approach of their firm as well as the analytical skills and financial knowledge of the advisors themselves. This study focuses exclusively on IFAs, because they, in contrast to bank employed advisors, are self-employed and are not influenced by an incentive system imposed by an employer. 64 IFAs participated in the survey. We find clear evidence that the quality of advice is strongly affected by the compensation scheme that advisors employ and by their ability in terms of rational decision making.

The study unfolds as follows: Section 2 briefly reviews literature on investment mistakes and derives quality measures for financial advice before turning to the literature elaborating on factors that might potentially allow the identification of high-quality financial advice ex-ante. Section 3 presents our dataset on financial advisors' characteristics, while section 4 presents the results and discusses them. Section 5 concludes.

2 Quality of Financial Advice and Personal Characteristics

2.1 High-Quality Financial Advice

High-quality financial advice should aim to enhance investor utility, possibly along the normative lines sketched out in Campbell and Viceira (2002). Although a recent study by Bluethgen and Hackethal (2007) indicates that advisee portfolios, on average, seem to be more commensurate with the prescriptions of normative theory than the portfolios of self-directed investors, considerable variation in advised portfolios can be assumed (see Hong et al. (2007)). This seems to imply that only high-quality financial advice helps investors avoid costly investment mistakes.

In this section we first survey the existing literature on investment mistakes in order to identify the most severe mistakes in terms of (risk-adjusted) return losses. Based on these insights, proxies for high-quality financial advice will be defined.

A phenomenon frequently observed when analyzing household portfolio compositions is that some households do not participate in stock markets at all despite a significant equity premium.¹ This finding is called the 'non-participation puzzle' (see Mankiw and

¹ For Germany, Guiso et al. (2007) find average stock market participation rates of approximately 22.9% (direct and indirect holdings) for 2004. This figure is relatively low in comparison to countries like the UK (31.5%) and the US (48.9%). However, neglecting the extreme case of Sweden (66.2%), more than 50 percent of households in all countries do not invest in stocks.

Zeldes (1991); Haliassos and Bertaut (1995)). Higher levels of risk-aversion might help explain comparably low equity shares. Yet, a coefficient of risk-aversion explaining zero equity holdings ought to be implausibly high (see Mehra and Prescott (1985); Mehra (2003)). Existing literature offers two not necessarily mutually exclusive explanations for non-participation. Firstly, actual or perceived information costs associated with entering the stock market might prevent individuals from directly or indirectly investing in stocks (see Vissing-Jorgensen (2003)). For an investor to participate, expected gains from participation have to exceed this threshold. Therefore, only relatively wealthy investors will enter the stock market.² Secondly, as pointed out by Guiso and Jappelli (2005), investors might simply be unaware of the existence of equity-type instruments.

Besides non-participation, individual investors fail to reduce unsystematic risk by means of diversification as recommended by traditional portfolio theory (see Markowitz (1952)). While Goetzmann and Kumar (2007) find significant efficiency losses induced by lack of diversification, Calvet et al. (2007) find that costs of under-diversification are quite modest for Swedish investors. But what might be the reasons for under-diversification? Firstly, fixed costs associated with obtaining information on many different stocks might prevent households from creating optimal portfolios. Secondly, as Statman (1987) points out, some individuals might simply be unaware of diversification benefits.

In addition to the general failure to diversify, households tend to invest a disproportionately large fraction of their money in assets of their home country; a phenomenon frequently called ‘home bias’ (see Lewis (1999)). Reasons for home bias might be grouped into the following broad categories: Firstly, potential information asymmetries might prevent investors from international investments. Hence, domestic households have (or at least perceive to have) informational advantages with regard to domestic companies. Secondly, national boundaries such as political or regulatory differences might play a significant role in investment decisions (see Coval and Moskowitz (1999)). Since globalization tends to mitigate national boundaries more and more, feelings of familiarity might explain home bias in today’s investment decisions. However, Huberman (2001) finds that familiarity is not necessarily related to superior

² Guiso et al. (2007) find that participation rates indeed increase by financial wealth quartile for all countries investigated. Nevertheless, even within the high-wealth clientele a reasonably large number of non-participators does exist.

information or at least not to information relevant to investment. Thus, investors presumably forgo benefits of international diversification due to cognitive errors.

Another observation in the analysis of household portfolios is that investors trade too often. As Odean (1999) points out: “Trading volume on the world’s markets seems high, perhaps higher than can be explained by models of rational markets.” (p. 1279). For investors, excessive trading reduces returns. Decreasing returns do not solely result from high transaction costs but also stem from purchasing stocks that underperform the stocks sold (see Odean (1999); Barber and Odean (2000)). Potential reasons for ‘wealth-exhaustive’ trading might be grouped into the following two categories: Firstly, investors might have investment-relevant private information on certain stocks but fail to correctly interpret that information. Secondly, investors might overstate the precision of their information, i.e. they are subject to overconfidence (see Guiso and Jappelli (2007)).

Gruber (1996) shows by surveying data on mutual funds in the period from 1984 to 1994 that, on average, actively managed mutual funds underperform passive index funds on longer investment horizons than three months, at least on a net-of-fee basis. However, shifting investments to the actively managed funds with highest past Alpha generates a positive abnormal return for a holding period of one year. But if shifting between funds is costly due to loads or taxation, switching to previously top-performing funds may no longer generate positive abnormal returns. Moreover, Malkiel (2003) compares the performance of actively managed mutual funds and passive investment strategies over a 10-year investment horizon and points out that in 8 out of 9 style categories, index funds outperform the respective mutual funds and finally concludes that investors should follow a passive indexing strategy.

As a consequence, we expect high-quality financial advisors to increase the likelihood of stock market participation, to give priority to (geographical) portfolio diversification, to be less prone to overconfidence and to recommend index funds rather than actively managed funds.

2.2 Personal Characteristics Potentially Affecting the Quality of Advice

It can be assumed that every investor seeking financial advice will be eager to find the best financial advice possible. Therefore, it would be desirable to have an informative signal of the advisor’s quality before making an investment decision. Track records of an advisor’s past performance are problematic in this context for at least three reasons.

Firstly, the data is hard to get since information on the performance of individual accounts is not available to the ordinary investor. Secondly, the costs for conducting such an analysis might be prohibitively high for the average investor. Thirdly, a track record published by a financial advisor is not necessarily trustworthy, since the investor has no clue about the input parameters or the performance of the relevant peer group that could serve as a benchmark.

To the best of our knowledge no paper has so far aimed at deriving factors that allow an assessment of the quality of financial advice before any investment decision is made. This paper is an extension of Ottaviani (2000) in that it provides an empirical perspective of the otherwise only theoretically discussed topic of professional (financial) advice. In order to derive hypotheses on factors that might be predictive of financial advisors' quality, two strands of literature need to be surveyed. The first strand circles around the question as to whether personal characteristics such as skills, knowledge or ability influence investment mistakes. The second strand of literature focuses on the principal-agent relationship between client and financial advisor to assess what kind of incentive scheme might prevent a financial advisor from exploiting her information advantage at the expense of the client.

Literature provides evidence for a relationship between skills, knowledge and investment behaviour. Lusardi and Mitchell (2007) show that the likelihood of saving for retirement decreases once people are unable to answer questions about investing. Moreover Graham et al. (2006) demonstrate that increased investor competence induces more internationally diversified portfolios. Benjamin et al. (2006) find that cognitive ability, measured by standardized tests administered in formative years, is predictive of the probability of participation in financial markets and of the accumulation of assets in individuals' subsequent professional life. Furthermore, by analyzing Chinese investors Feng and Seasholes (2005) provide evidence that investor sophistication and trading experience reduces investment mistakes approximated by the disposition effect. Most of these findings can also be extended to professional investment managers as the corresponding literature reveals. By surveying mutual fund managers Montier (2007) illustrates that behavioural biases are reduced, though not fully eliminated, with increasing sophistication as measured by the Cognitive Reflection Test (CRT) of Frederick (2005). Additionally, Frederick (2005) observes that even within a rather homogeneously educated group like fund managers CRT-scores still show significant variation. Chevalier and Ellison (1999) – also concentrating on mutual fund managers -

find that having attended a higher SAT-institution for undergraduate studies and being younger systematically increases risk-adjusted excess returns. Their study is based on data of mutual fund performance and managers' personal characteristics for the period between 1988 and 1995.

The review of the first strand of literature shows that sophistication, education and experience act as predictors of fund performance or prove to mitigate investment mistakes in experiments and surveys. Therefore, we hypothesize that more sophisticated (rational), better educated and more experienced financial advisors provide *ceteris paribus* higher-quality financial advice.

Although probably not independent from the previous discussion, the principal-agent relationship existing between an IFA and her client may further increase the likelihood of undesirable outcomes of the counseling. Ottaviani (2000) presents a theoretical model of an informed independent financial advisor (the agent) and an uninformed investor (the principal). The advisor is allowed to have a professional and a partisan objective. An advisor subject to a stronger partisan objective is assumed to be less likely to act in the client's best interest. Receiving a commission proportional to sales volume is shown to directly enter into the advisor's objective function and hence potentially cause or amplify the advisor's partisan bias. Obviously, receiving higher commission income is then negatively related to the quality of advice. This reasoning of a negative impact of commissions on the quality of financial advice is also supported by Krausz and Paroush (2002) applying simulation techniques. Moreover, they also point towards the distribution of market returns, regulation, and competition as factors acting as impediments to unbiased financial advice. According to the insights gained from the second strand of literature, we expect that advisors who receive a relatively low fraction of total income in the form of commissions will provide financial advice of a superior quality.

For the subsequent empirical analysis we hypothesize that the quality of financial advice increases when the advisor is more sophisticated (rational), more experienced, better educated, and less commission-driven.

Table 1: Overview on Expected Effects

The table gives an overview on our hypotheses concerning the influence of advisors' characteristics and their business models on several quality measures.

Explanatory variables:	Definition	Expected signs		
		Relative Confidence*	Index Funds	Stock Market Participation
Education	Measured in years spent in formal education	+	+	+
Experience	Measured in years of experience in financial advisory	+	+	+
Commission Income	Fraction of commission income in total income (in percent)	-	-	?
Irrationality	Measured by the Keynes' Beauty Contest.	-	-	-
Factor Compensation Rationality**	Measured as a factor combining rationality and proportion of commission income	-	-	?

* Note that lower values for the relative confidence measure indicate higher overconfidence.

** Note that a higher factor indicates higher commission income and lower rationality.

Additionally, it seems reasonable to assume that the quality of financial advice is also strongly influenced by a factor that subsumes rationality and commission income. This is due to the fact that recommending actively managed mutual funds and being overconfident is on the one hand a result of bounded rationality but it is also the more profitable strategy for a more commission-incited IFA, since e.g. commissions for actively managed mutual funds are higher than for index funds. For an overview on hypotheses and expected effects please refer to Table 1.

3 Data Sources and Measurement of Quality and Personal Characteristics

In order to obtain the data to measure the quality of financial advice and personal characteristics of the independent financial advisors (IFAs), we circulated a questionnaire among IFAs. We chose IFAs particularly because the absence of a large bank in the background simplifies the principal agent problem and lets IFAs freely choose their business models as well as their compensation schemes, allowing us to investigate all our hypotheses. The questionnaire consists of eight pages and is headed by a cover page explaining the aims of exploring the relationship between long-term business success and the quality of services provided. The questionnaire was mailed to 252 IFAs with a postage-paid return envelope. IFAs who had not answered within one month were contacted via telephone and provided with a duplicate questionnaire if they agreed to answer. All in all, 64 completed questionnaires (response rate 25 %) were finally received. By surveying every company only once we achieved a maximum independence in our data. To check for response bias we follow the method of Armstrong and Overton (1977) and cut the responses by date of receipt into halves and compare the two samples with respect to firm size, assets under management and experience. The comparison of means (not reported) indicates no statistically significant differences. Relying on survey data is, of course, associated with some disadvantages. It cannot be ensured that all respondents understand all the questions and answer them truthfully. It is also possible that there are issues related to the representativeness of the responses. However, the high response rate and the use of multi-item measures for crucial points should render these issues rather unproblematic.

The IFAs are on average 41 years old and employ 7 people in their company. The median for assets under management equals 61 Mio. Euro. On average, the respondents have received approximately 14 years of formal education and work in the financial advisory business for about 21 years. For further descriptive statistics on the characteristics of the IFAs and their business models please refer to Table 2.

To perform our empirical investigation we need to measure the following attributes of each advisor: propensity to recommend stocks even to highly risk-averse investors, degree of overconfidence, propensity to recommend index funds instead of actively managed funds, rationality, experience as a financial advisor, education, and the compensation scheme.

Table 2: Descriptive Statistics on IFA Characteristics

The table reports on IFA characteristics and on their businesses. The total number of observations is 64.

	Percent	Mean (Median)	Std. Dev.
Years of Education		14.20 (15)	5.04
Less than 13 (secondary education)	26.23%		
13 - 15 (University entrance diploma)	31.15%		
More than 15 (college education)	42.62%		
Years of Experience		21.01 (20)	8.03
Less than 10	15.87%		
11 - 20	34.92%		
21 - 30	38.10%		
31 - 40	11.11%		
CRT - Score		28.45 (24)	22.31
0	3.51%		
1 - 12.5	21.05%		
12.5 - 25	33.33%		
25 - 50	22.81%		
More than 50	19.30%		
Percentage of Commissions		31.31 (20)	0.30
0	9.52%		
1 - 19	34.92%		
20 - 39	41.27%		
40 - 59	11.11%		
60 - 79	3.17%		
80 - 100	0.00%		
Assets under management in Mio. €		160.02 (61.00)	

Our measures for the quality of advice are based on three questions. In the first one we asked IFAs to report their return expectations (including all revenues) for six common asset categories (cash, local bonds, foreign bonds, local stocks, foreign stocks, and real estate) for the upcoming twelve months. We requested estimates on the median return as well as for upper bounds (95%-percentiles) and lower bounds (5%-percentiles) of the return distribution. Table 3 summarizes the return expectations of the IFAs surveyed. To come up with the volatilities required to measure overconfidence, we apply a three

point estimator described by Keefer and Bodily (1983) to the relevant percentiles of the expected return distributions.

Table 3: Market Expectations

The table reports minimum, median, and maximum return expectations of 59 IFAs answering the questions about their market expectations for several asset categories.

		Minimum	Median	Maximum
Cash	Return	1.50%	3.00%	10.00%
	Std.-dev.		n/a	
Bonds denominated in Euro	Return	0.00%	3.75%	9.00%
	Std.-dev.		0.61%	
Bonds denominated in foreign currency	Return	0.00%	4.50%	15.00%
	Std.-dev.		1.22%	
Stocks of domestic companies	Return	-5.00%	8.00%	15.00%
	Std.-dev.		4.73%	
Stocks of foreign companies	Return	-10.00%	10.00%	20.00%
	Std.-dev.		4.73%	
Real Estate	Return	0.00%	4.00%	10.00%
	Std.-dev.		0.91%	

In the second question the IFAs are requested to recommend an asset allocation to three fictitious clients, of which one is very risk-averse (safe), another is medium risk-averse (balanced) and the last is least risk-averse (chance). In the third question IFAs were asked whether they would rather recommend an actively managed mutual fund or a passive index fund. Table 4 summarizes the portfolio recommendations of the IFAs.

As triggering stock market participation even for very risk-averse clients is one feature of high-quality financial advice, we examine the IFAs' recommended asset allocation for the most risk-averse fictitious client to see whether some weight is given to equity. Since the questionnaire does not provide specific risk-aversion coefficients for the fictitious clients, the exact allocation to equity is of no value. Hence, we code stock market participation as a binary variable that is one if an IFA recommends to hold at least some equity for the most risk-averse fictitious client and zero otherwise. The inspection of Panel A in Table 5 reveals that eight IFAs (14%) do not induce stock market participation among their most risk-averse clients.

Table 4: Asset Allocation Recommendations

The table reports the recommended asset allocation to three fictitious clients being very risk-averse (safe), medium risk-averse (balanced) and least risk-averse (chance) based on 59 responses.

Asset class	Portfolio	Minimum	Median	Maximum
Cash	safe	0.00%	10.00%	40.00%
	balanced	0.00%	10.00%	20.00%
	chance	0.00%	5.00%	20.00%
Bonds denominated in Euro	safe	0.00%	40.00%	80.00%
	balanced	0.00%	20.00%	60.00%
	chance	0.00%	5.00%	30.00%
Bonds denominated in foreign currency	safe	0.00%	10.00%	30.00%
	balanced	0.00%	10.00%	25.00%
	chance	0.00%	5.00%	30.00%
Stocks of domestic companies	safe	0.00%	10.00%	67.00%
	balanced	5.00%	23.00%	80.00%
	chance	5.00%	35.00%	80.00%
Stocks of foreign companies	safe	0.00%	5.00%	25.00%
	balanced	0.00%	20.00%	50.00%
	chance	0.00%	40.00%	70.00%
Real Estate	safe	0.00%	15.00%	75.00%
	balanced	0.00%	10.00%	50.00%
	chance	0.00%	0.00%	20.00%

As shown in the literature review, overconfidence can cause extensive trading which is costly for the investor. Hence, a high-quality financial advisor should exhibit no overconfidence. In contrast to other studies which approximate overconfidence via gender (see e.g. Barber and Odean (2001)), this paper is in line with Malmendier and Tate (2005) and Graham et al. (2006) who obtain measures for overconfidence directly from observable individual decisions.

By comparing estimated volatilities of stock returns to historical ones obtained from Thomson Financial Datastream, we find that IFAs' volatility estimates are always smaller than those inferred from the market data. Hence, all IFAs can be considered overconfident to a certain extent.³ To measure the individual degree of overconfidence, we use the relative confidence measure described in Kilka and Weber (2000).⁴ Using relative confidence is most appropriate for our purpose since this measure takes into account the width of the respective distribution independent of the magnitude of return estimates. Panel B of Table 5 presents descriptive statistics on the relative confidence measure of the IFAs surveyed.

³ This finding is in line with Biais et al. (2005), who also report that overconfidence is a pervasive phenomenon in financial decision making.

⁴ The relative confidence measure is calculated as $[X(0.95)-X(0.05)]/X(0.95)$, where $X(p)$ is the p -fractile of IFAs' expected return distribution.

Since high-quality financial advice should make use of index funds as investment vehicles, we need to find out whether an IFA actually prefers to recommend passive index funds in comparison to actively managed ones. In order to measure this preference IFAs were asked whether they would prefer to recommend an index fund or an actively managed mutual fund to a fictitious client. The answers are coded as a binary variable, in which 1 indicates the recommendation of a passive fund and 0 the recommendation of an actively managed fund. Of 61 IFAs only 14 (23%) recommended index funds, whereas all the other IFAs favored investing in actively managed mutual funds as Table 5 Panel C illustrates.

Table 5: Descriptive Statistics on Quality Measures

The table shows descriptive statistics on the quality measures analyzed in this study.

Panel A: Equity Share (N=59)		
	<i>Frequency</i>	<i>Percent</i>
No participation	8	13.56%
0%-5%	2	3.39%
5%-10%	7	11.86%
10%-15%	2	3.39%
15%-20%	17	28.81%
20%-25%	4	6.78%
25%-30%	8	13.56%
30%-35%	8	13.56%
and more	3	5.08%
Panel B: Relative Confidence (N=58)		
	<i>Frequency</i>	<i>Percent</i>
0.25 and less	2	3.45%
0.25-0.50	9	15.52%
0.50-0.75	10	17.24%
0.75-1.00	12	20.69%
1.00-1.25	4	6.90%
1.25-1.50	2	3.45%
1.50-1.75	10	17.24%
1.75-2.00	6	10.34%
2.00-2.25	2	3.45%
2.25-2.50	0	0.00%
2.50-2.75	0	0.00%
2.75 and more	1	1.72%
Panel C: Fund Recommendations (N=61)		
	<i>Frequency</i>	<i>Percent</i>
Index Fund	14	22.95%
Actively Managed Fund	47	77.05%

We use the following proxies for the attributes identified as being potential explanatory factors for the quality of financial advice. The optimal way to measure the rationality/sophistication of investors would be to include Frederick's CRT test (see

Frederick (2005)) in the questionnaire. Unfortunately, asking three questions that are obviously not related to the survey's stated objectives was not at all feasible as pre-tests revealed. Therefore, we choose an alternative method of measuring the rationality and sophistication of the IFAs and integrated a so-called 'Keynes Beauty Contest' into our questionnaire. In that contest the IFAs were offered the possibility of taking part in a competition for a bottle of good wine. In that competition the aim was to pick a number between 0 and 100. IFAs were informed that the winner would be the participant who chose the number closest to the half of the average number chosen. Solving this game by the method of 'iterated dominance' will eventually lead to the rational solution of this game which is zero. Montier (2007) demonstrates that although picking zero is not globally optimal, individuals with a higher CRT-score also pick lower numbers in the 'Keynes Beauty Contest'. Consequently, it is advisable to use the number picked as a proxy for the rationality/sophistication of the individual IFA. The lower the number chosen, the more rational/sophisticated the IFA is assumed to be. As in related studies, results among the IFAs surveyed vary quite significantly. As Table 2 indicates approximately 25% of IFAs carry out more than two rounds of strategic thinking and hence seem to be rather rational. By contrast, it seems that about 19% of respondents, by choosing numbers over 50, did not apply any strategic thinking at all when solving the game.

Moreover, better education as well as more experience as a financial advisor might induce financial advice of a higher quality. In order to obtain data on these two factors we asked the IFAs about the years spent in formal education and the years of training on the job. The IFAs in our sample are well educated: More than 42% have attended college. Moreover, the average IFA has 21 years of experience in the financial advisory business (see Table 2).

During our research efforts we additionally requested the IFAs to provide information about the sources (provisions, commissions, or others) of their income. The percentage value of commission income was used as proxy for the chosen compensation scheme. As already suggested, commission income might negatively affect the quality of financial advice given. A glance at Table 2 shows that the average IFA generates about 30% of his income from commissions. Two extreme scenarios have to be considered here: approximately 10% of the IFAs receive no commission income at all, while for more than 14% of the IFAs, commissions account for more than 40% of their income.

To round off our empirical investigation we include variables on the average wealth of IFA's customers weight by revenues (Average Client) and the number of employees (No of Employees) as control variables for the IFA's business model and company size respectively. Since Barber and Odean (2000) show that gender has a distinctive influence on investment behavior, a control variable for gender would be desirable. However, including a control for gender is not sensible, since almost all responding IFAs are male.

4 Analysis and Results

Using the survey data, we investigate the relationship between the quality of financial advice and advisors' observable characteristics as defined above. Table 6 reports univariate comparisons of quality measures with respect to the personal characteristics of the IFAs. In section 2 we hypothesized that greater experience and higher education, as well as more rationality and less commissions would be associated positively with the quality of the financial advice offered. The findings in Table 6 are supportive of most of our hypotheses. Significant variations in the quality of advice can be observed as advisors' personal characteristics change. Particularly the commission income and the rationality of an IFA seem to be predictive of quality of advice. When commission income decreases to less than 20 % (being the median commission income), the relative confidence measure increases from 0.98 to 1.28 (indicating alleviated overconfidence), the frequency of index fund recommendations increases from 12% to 37% and stock market participation is recommended in 88% of the cases compared to 85.29% in the other group. The differences for relative confidence and index fund recommendations are statistically significant at the 5%- level. No statistical difference could be determined for stock market participation, presumably as a consequence of an ambiguous effect of commission income in this respect (see Table 1). Comparable effects were found for rationality. For the group estimating the winning number in the beauty contest to be less than 24 (the median number chosen), less overconfidence, more index fund recommendations and a higher stock market participation could be determined. The findings for stock market participation and overconfidence are statistically significant at the 5% and 1%-level respectively. The difference in index fund recommendations is statistically not different from zero. Furthermore, having more employees, being more experienced and better educated does not seem to be conducive to high-quality financial advice, albeit the difference between more or less than 4 employees (the median value for employees) with respect to index fund

recommendations is statistically significant at the 5%-level, while the difference between a high level and a low level of experience with respect to index fund recommendations is statistically significant at the 10%-level.

Table 6: Univariate Comparisons of Personal Characteristics

The table reports univariate results on the relation between quality measures and IFAs' characteristics. We test the influence of characteristics by analyzing the differences in quality measures below and above the median value of each characteristic employing t-tests. The results remain unchanged when a non-parametric Mann-Whitney test is performed. Three stars (***) denote significance at 1% or less; two stars (**) significance at 5% or less; one star (*) significance at 10% or less.

	Relative Confidence*	No. of Obs.	Index Fund Recommendations	No. of Obs.	Stock Market Participation	No. of Obs.
All Advisors	1.11	58	23.00%	61	86.00%	59
Education						
<= 15	1.18	34	27.27%	33	88.24%	34
> 15	1.00	24	17.86%	28	84.00%	25
Experience						
<= 20	1.12	29	31.25%	32	86.21%	29
> 20	1.09	29	14.00%*	29	86.67%	30
Commission Income						
<= 0.2	1.28	24	37.00%	27	88.00%	25
> 0.2	0.98**	34	12.00%**	34	85.29%	34
Rationality						
<= 24	1.26	28	26.67%	30	100.00%	27
> 24	0.96**	30	19.35%	31	75.00%***	32
Average Client (in Mio. €)						
<= 0.85	1.04	28	20.00%	30	83.33%	30
> 0.85	1.16	30	25.81%	31	89.66%	29
No of Employees						
<= 4	1.10	30	34.00%	32	87.10%	31
> 4	1.11	28	13.00%**	29	85.71%	28
Factor Compensation Rationality**						
below median	1.33	26	35.71%	28	96.00%	25
above median	0.92***	32	12.12%**	33	79.41%**	34

* Note that lower values for the relative confidence measure indicate higher overconfidence.

** Note that a higher factor indicates higher commission income and lower rationality.

In order to test whether a factor combining CRT-score (rationality) and commission income possesses explanatory power we apply principal component analysis to group these variables into one composite factor. The Eigenvalue of 1.28 suggests communality between these two variables. 64% of the variance of the initial variables is retained by

the factor. Each individual variable has a loading of slightly above 0.8 in absolute value on the factor.

Looking at the bottom row of Table 6 clearly supports our hypothesis that an IFA who is simultaneously more rational and less commission-incited is more likely to provide high-quality financial advice. For any of our three quality measures univariate tests show that those advisors who are simultaneously less commission-incited and more rational are more likely to recommend index funds, are less subject to overconfidence and more likely to induce at least some stock market participation for the most risk-averse client. All differences are statistically significant at the 5%-level or below.

In order to gain further insights and to confirm the results from the univariate analyses, we perform multiple regression analyses. All in all, these analyses substantiate our findings that the commission income and the rationality of a financial advisor are particularly predictive of the quality of financial advice. Whereas the single factors are not always statistically significant, the factor grouping rationality and commission income proves again to be a significant explanatory variable.

For the detailed analysis we turn first to overconfidence. Let us recall that we measure overconfidence by the average relative confidence measure for return estimates on domestic and foreign stocks.⁵ In Table 7 we observe that both education and experience are statistically significant and exhibit negative signs, revealing that the better educated/more experienced an IFA the more he trusts in his own estimates. This observation is in line with findings of Graham et al. (2006), indicating that “[...] the likelihood that a person will invest according to her own judgements increases with her perceived knowledge about investing.” (p. 18). Furthermore, better educated investors are found to be “[...] more likely to perceive themselves as competent [...]” (p. 22). Additionally, the proportion of commission income is positively related to overconfidence. This finding turns out to be significant at the 5%- level.⁶ In column 2 of Table 7 we re-estimate our model using the factor combining rationality and commission income. As in the univariate setting, the explanatory power of the factor is more pronounced than those of the single variables for commission income and irrationality. Whereas the result for education remains unchanged when using the combined factor, the significance of experience diminishes.

⁵ Note that either applying the average confidence measure to all asset classes or to foreign and domestic stocks separately does not alter our results.

⁶ We also used IFAs’ volatility estimates directly as the dependent variable. While not reported here, results turned out to be similar in direction and significance.

To gain insights into the extent of overconfidence from which a financial advisor suffers, an investor should, according to the present analysis, pay most attention to commissions and rationality simultaneously, since standardized regression coefficients (not reported) reveal the joint effect of these two factors as being the strongest.

Table 7: Relative Confidence Measure

Coefficient estimates are those from a regression with the dependent variable being relative confidence of an IFA. Along with the coefficient estimates R-squared values, number of observations, and Prob>F are reported. Standard errors are in parentheses. Three stars (***) denote significance at 1% or less; two stars (**) significance at 5% or less; one star (*) significance at 10% or less.

	(1)	(2)
	Relative Confidence*	Relative Confidence*
Education (years)	-0.0446*** (0.015)	-0.0434*** (0.015)
Experience (years)	-0.0174* (0.010)	-0.0144 (0.0098)
Commission Income (%)	-0.732** (0.28)	
Irrationality	-0.00390 (0.0039)	
Factor (Compensation Rationality)**		-0.161*** (0.054)
Average Client	-0.0000224 (0.046)	0.00394 (0.046)
No of Employees	0.00156 (0.0083)	0.00201 (0.0082)
Constant	2.435*** (0.35)	2.003*** (0.33)
Observations	51	51
R-squared	0.32	0.31
Prob>F	1%	0%

* Note that lower values for the relative confidence measure indicate higher overconfidence.

** Note that a higher factor indicates higher commission income and lower rationality.

Next, we discuss drivers of index fund recommendations. As stated in section 1 high-quality financial advice is supposed to favour index fund investments over active mutual fund investments. Results from a probit-regression with a dummy for passive investment as the dependent variable are given in Panel A of Table 8. Column (1) indicates that the degree rationality/sophistication helps to explain the passive/active-decision. The sign of the irrationality (CRT-score) variable supports our hypothesis from section 2. Since lower values for CRT indicate enhanced rationality/sophistication, regression results confirm our expectation that more rational/sophisticated IFAs exhibit a higher probability of recommending index funds. However, in contrast to the univariate analysis, experience loses its significance. Furthermore, in contrast to our

expectations, neither extrinsic incentives (i.e. commissions) nor education or experience turn out to be statistically significant. Nevertheless, the direction of the effects remains unchanged in comparison to the univariate setting and to our analysis of advisor overconfidence. In column (2) we re-estimate the model testing if the combined effect of commission income and rationality explains the quality of advice as it did in the univariate setting and in the analysis of drivers of overconfidence. Indeed the factor is statistically significant at the five percent level. Thus, IFAs receiving a smaller portion of their income in the form of commissions while simultaneously exhibiting higher levels of sophistication/ rationality are more likely to recommend passive index fund investments than their less commission-incited/ less sophisticated counterparts.

Therefore, for index fund recommendations it also becomes obvious a joint factor combining sophistication/ rationality and the share of commission income serves well as proxy for high-quality financial advice.

Finally to round off the picture on proxies for quality of financial advice we turn to stock market participation. Results from a probit-regression with a dummy variable for participation in the stock market are given in panel B of Table 8. Probit-regressions cannot confirm the insights from the univariate statistics. Moreover, a chi-squared test proves that the joint effect of all variables is statistically insignificant. Neither is rationality as a separate variable nor is the joint term of commission income and rationality statistically significant. Columns (3) and (4) of Table 8 illustrate exactly these findings. We attribute the insignificant regression coefficients to the low number of IFAs who do not recommend any stock holdings to their most risk-averse client. However, the signs of the coefficients are all in line with the hypotheses and previous findings of this paper. More sophisticated and less commission-incited IFAs trigger stock market participation and thereby increase the quality of financial advice.

Table 8: Index Fund Recommendations and Stock Market Participation

Coefficient estimates are those from a probit regression with the dependent variable being (Panel A) a dummy that is one if the IFA recommends index funds and zero if this IFA recommends actively managed funds and (Panel B) a dummy that is one if the respective IFA triggers stock market participation for the most risk-averse client and zero otherwise. Along with the coefficient estimates Pseudo R-squared values, number of observations, and Prob>Chi² are reported. Standard errors are in parentheses. Three stars (***) denote significance at 1% or less; two stars (**) significance at 5% or less; one star (*) significance at 10% or less.

	Panel A		Panel B	
	(1)	(2)	(3)	(4)
	Dummy Index Funds		Dummy Participation	
Education (years)	-0.0398 (0.045)	-0.0433 (0.044)	-0.0315 (0.050)	-0.0314 (0.050)
Experience (years)	-0.0180 (0.034)	-0.0260 (0.032)	-0.0292 (0.036)	-0.0301 (0.035)
Commission Income (%)	-1.446 (1.05)		-0.750 (0.86)	
Irrationality	-0.0369* (0.019)		-0.0121 (0.012)	
Factor (Compensation Rationality)*		-0.621** (0.26)		-0.261 (0.16)
Average Client	-0.197 (0.16)	-0.207 (0.16)	0.185 (0.22)	0.186 (0.22)
No of Employees	-0.103 (0.088)	-0.106 (0.091)	0.0199 (0.048)	0.0196 (0.048)
Constant	2.144* (1.26)	0.943 (1.20)	2.551* (1.32)	1.993* (1.18)
Observations	52	52	50	50
Pseudo R-squared	0.30	0.29	0.15	0.15
Prob>Chi ²	1%	1%	43%	32%

* Note that a higher factor indicates higher commission income and lower rationality.

In summarizing the results of the quality measures it becomes obvious that a combination of a low fraction of commission income and a high level of sophistication seems to signal higher quality of financial advice. In most instances education and experience are statistically insignificant, and even if not, they seem likely to have a negative impact on the quality of financial advice. Therefore, an investor looking for high-quality financial advice should choose an IFA who is not commission-incited and as rational as possible. We admit that for an investor it is not easy to judge an IFA's rationality, but authors like Frederick or Montier propose tests which should enable the investor to get an impression of the rationality of an IFA by just asking a few simple but revealing questions.

5 Conclusion

Although the vast majority of private investors rely on the advice of a professional consultant when making investment decisions, research in household finance documents

that investors make (costly) investment mistakes. Unfortunately, financial advice is a credence good and investors seldom have the possibility to assess the quality of the advice given, either ex-ante or ex-post. The key task of this paper is to explore whether there are easily observable factors that signal high-quality financial advice on an ex-ante basis.

Thereby, high-quality financial advice should prevent investors from making the most common and most costly investment mistakes. Thus, the financial advisors' degree of overconfidence, the choice between index funds and actively managed mutual funds as well as the decision to foster stock market participation even when faced with a high level of risk-aversion are defined as quality measures. As potential explanatory variables, advisors' education, experience, share of commission income, and rationality are extracted from the literature.

The crucial finding of this paper is that when seeking high-quality financial advice, private investors should pay great attention to advisors' compensation scheme and their sophistication/ rationality as these two variables prove to be highly predictive in terms of the quality measures analysed in this paper. In contrast, solely focusing on advisor experience or advisor education might lead to adverse results.

This result proves that the call of Campbell (2006) for studying other means than financial education in order to enhance households' investment decisions is worth further exploration. If disclosure rules forced financial advisors to publish more information, investors would be enabled to follow this paper's recommendations more easily. Hence, a significant amelioration in the selection of a financial advisor could be achieved.

This paper constitutes a promising first step towards understanding how financial advice and particularly the characteristics of the financial advisor influence household investment decisions. However, further investigating into the factors that drive the outcome of financial advice seems to be highly promising. Without doubt, doing research on the person of the advisor himself, for example by surveying other groups of investment advisors from banks, insurance companies or mutual fund managers is a first step in further validating the findings of this paper. Another prospective direction for further research can be seen in determining to what extent, for instance, institutional constraints render financial advice sub-optimal.

References

- ARMSTRONG, J. S. and OVERTON, T. S. (1977): "Estimating Nonresponse Bias in Mail Surveys", in: *Journal of Marketing Research*, Vol. 14, No. 3, pp. 396-402.
- BARBER, B. M. and ODEAN, T. (2000): "Trading Is Hazardous to Your Wealth: The Common Stock Investment Performance of Individual Investors", in: *Journal of Finance*, Vol. 55, No. 2, pp. 773-806.
- BARBER, B. M. and ODEAN, T. (2001): "Boys Will Be Boys: Gender, Overconfidence and Common Stock Investment", in: *Quarterly Journal of Economics*, Vol. 116, No. 1, pp. 261-292.
- BENJAMIN, D. J., BROWN, S. A. and SHAPIRO, J. M. (2006): "Who Is 'Behavioral'?" Cognitive Ability and Anomalous Preferences", Working Paper, Harvard University and University of Chicago.
- BIAIS, B., HILTON, D., MAZURIER, K. and POUGET, S. (2005): "Judgemental Overconfidence, Self-Monitoring, and Trading Performance in an Experimental Financial Market", in: *Review of Economic Studies*, Vol. 72, No. 251, pp. 287-312.
- BLUETHGEN, R. and HACKETHAL, A. (2007): "Independent Financial Advisors and Household Portfolios", Working Paper, European Business School.
- CALVET, L. E., CAMPBELL, J. Y. and SODINI, P. (2007): "Down or Out: Assessing the Welfare Costs of Household Investment Mistakes", in: *Journal of Political Economy*, Vol. 115, No. 5, pp. 707-747.
- CAMPBELL, J. Y. (2006): "Household Finance", in: *Journal of Finance*, Vol. 61, No. 4, pp. 1553-1604.
- CAMPBELL, J. Y. and VICEIRA, L. (2002): "Strategic Asset Allocation - Portfolio Choice for Long-Term Investors", Oxford University Press Inc., New York.
- CHEVALIER, J. and ELLISON, G. (1999): "Are Some Mutual Fund Managers Better Than Others? Cross-Sectional Patterns in Behavior and Performance", in: *Journal of Finance*, Vol. 54, No. 8, pp. 875-899.
- COVAL, J. D. and MOSKOWITZ, T. (1999): "Home Bias at Home: Local Equity Preference in Domestic Portfolios", in: *Journal of Finance*, Vol. 54, No. 6, pp. 2045-2073.
- DABBANK (2004): "Faszination Wertpapier: Fakten Und Hintergründe Zum Anlegerverhalten in Deutschland", Munich.
- EMONS, W. (1997): "Credence Goods and Fraudulent Experts", in: *RAND Journal of Economics*, Vol. 28, No. 1, pp. 107-119.
- FENG, L. and SEASHOLES, M. S. (2005): "Do Investor Sophistication and Trading Experience Eliminate Behavioral Biases in Financial Markets?" in: *Review of Finance*, Vol. 9, No. 3, pp. 305-351.
- FREDERICK, S. (2005): "Cognitive Reflection and Decision Making", in: *Journal of Economic Perspectives*, Vol. 19, No. 4, pp. 25-42.
- GOETZMANN, W. N. and KUMAR, A. (2007): "Why Do Individual Investors Hold under-Diversified Portfolios?" Working Paper (forthcoming as "Equity Portfolio Diversification" in: *Review of Finance*, 2008).

- GRAHAM, J. R., HARVEY, C. R. and HUANG, H. (2006): "Investor Competence, Trading Frequency, and Home Bias", in: Working Paper, AFA 2006 Boston Meetings.
- GRUBER, M. J. (1996): "Another Puzzle: The Growth in Actively Managed Mutual Funds", in: *Journal of Finance*, Vol. 51, No. 3, pp. 783-810.
- GUIISO, L., HALIASSOS, M. and JAPPELLI, T. (2003): "Household Stockholding in Europe: Where Do We Stand and Where Do We Go?" in: *Economic Policy*, Vol. 18, No. 36, pp. 125-170.
- GUIISO, L. and JAPPELLI, T. (2005): "Awareness and Stock Market Participation", in: *Review of Finance*, Vol. 9, No. 4, pp. 537-567.
- GUIISO, L. and JAPPELLI, T. (2007): "Information Acquisition and Portfolio Performance", *Economics Working Papers*, ECO 2007/45, European University Institute.
- GUIISO, L., SAPIENZA, P. and ZINGALES, L. (2007): "Trusting the Stock Market", *ECGI – Finance Working Paper*, No. 170/2007.
- HALIASSOS, M. and BERTAUT, C. (1995): "Why Do So Few Hold Stocks?" in: *Economic Journal*, Vol. 105, No. 432, pp. 1110-1129.
- HONG, H., SCHEINKMAN, J. and XIONG, W. (2007): "Advisors and Asset Prices: A Model of the Origins of Bubbles", Working Paper, Princeton University.
- HUBERMAN, G. (2001): "Familiarity Breeds Investment", in: *Review of Financial Studies*, Vol. 14, No. 3, pp. 659-680.
- KEEFER, D. L. and BODILY, S. E. (1983): "Three-Point Approximations for Continuous Random Variables", in: *Management Science*, Vol. 29, No. 5, pp. 595-609.
- KILKA, M. and WEBER, M. (2000): "Home Bias in International Stock Return Expectations", in: *Journal of Psychology and Financial Markets*, Vol. 1, No. 3/4, pp. 176-192.
- KRAUSZ, M. and PAROUSH, J. (2002): "Financial Advising in the Presence of Conflicts of Interest", in: *Journal of Economics and Business*, Vol. 54, No. 1, pp. 55-71.
- LEWIS, K. K. (1999): "Trying to Explain Home Bias in Equities and Consumption", in: *Journal of Economic Literature*, Vol. 37, No. 2, pp. 571-608.
- LUSARDI, A. and MITCHELL, O. S. (2007): "Financial Literacy and Retirement Preparedness: Evidence and Implications for Financial Education", in: *Business Economics*, Vol. 42, No. 1, pp. 35-44.
- MALKIEL, B. G. (2003): "Passive Investment Strategies and Efficient Markets", in: *European Financial Management*, Vol. 9, No. 1, pp. 1-10.
- MALMENDIER, U. and TATE, G. (2005): "Ceo Overconfidence and Corporate Investment", in: *Journal of Finance*, Vol. 60, No. 6, pp. 2661-2700.
- MANKIW, N. G. and ZELDES, S. (1991): "The Consumption of Stockholders and Non-Stockholders", in: *Journal of Financial Economics*, Vol. 29, No. 1, pp. 97-112.
- MARKOWITZ, H. M. (1952): "Portfolio Selection", in: *Journal of Finance*, Vol. 7, No. 1, pp. 77-91.

- MEHRA, R. (2003): "The Equity Premium: Why Is It a Puzzle?" in: *Financial Analysts Journal*, Vol. 59, No. 1, pp. 54-69.
- MEHRA, R. and PRESCOTT, E. C. (1985): "The Equity Premium: A Puzzle", in: *Journal of Monetary Economics*, Vol. 15, No. 2, pp. 145-161.
- MONTIER, J. (2007): "Chapter 7: Behaving Badly", in: *Behavioural Investing: A Practitioners Guide to Applying Behavioural Finance*, John Wiley & Sons Ltd., West Sussex.
- ODEAN, T. (1999): "Do Investors Trade Too Much?" in: *American Economic Review*, Vol. 89, No. 5, pp. 1278-1298.
- OTTAVIANI, M. (2000): "The Economics of Advice", Working Paper, London Business School.
- SHAPIRA, Z. and VENEZIA, I. (2001): "Patterns of Behavior of Professionally Managed and Independent Investors", in: *Journal of Banking and Finance*, Vol. 25, No. 8, pp. 1573-1587.
- STATMAN, M. (1987): "How Many Stocks Make a Diversified Portfolio?" in: *Journal of Financial and Quantitative Analysis*, Vol. 22, No. 3, pp. 353-363.
- VISSING-JORGENSEN, A. (2003): "Perspectives on Behavioral Finance: Does "Irrationality" Disappear with Wealth? Evidence from Expectations and Actions", in: *NBER/Macroeconomics Annual*, Vol. 18, No. 1, pp. 139-194.