Investor Sophistication – A Case to Consider

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Abstract

In this unique empirical investigation investors need to decide whether or not to allow their fund manager to receive a portion of their managed portfolio transaction fees. This arrangement can cause the manager to increase the volume of trade thus increase his income and lower investor's return. Though common-sense and financial literature suggest investors should not agree evidence show most of the investors in the sample (88.7%) agreed. We differentiate between sophisticated and unsophisticated investors using two different proxies: professional occupations vs. non-professionals and firms vs. private clients. We find consenting investors to underperform 4% in the year following the decision. Under the two definitions sophisticated investors tend not to agree relative to other investors.

INTRODUCTION

The basis of financial economics assumes individual's behavior is rational. Nonetheless, in recent years a wide range of empirical and experimental evidence in the field of behavioral finance demonstrates this assumption does not always hold, according to this literature investors do not necessarily behave in a rational and economically optimizing manner. Variation in investor's trading behavior, decision making, financial analysis and other aspects of investor's behavior is attributed to investor information and sophistication. Sophisticated investors have superior information processing capabilities compared with unsophisticated investors, thus, they demonstrate superior performance.

In this study we analyze the response of actively managed portfolio owners to a request by their fund manager. Due to a ruling by the Israeli Securities Authority, fund manager had to get the clients consent in writing to receive a portion of the transaction fees associated with their portfolio from the broker executing the trades. This optional income, obviously, is in addition to the usual managing fee charged by the fund manager. Interestingly, though agreeing to this arrangement may cause an avoidable loss due to access trading the overwhelming majority of investors consented. We seek to study the differences between consenting and disapproving investors using a verity of variables regarding their characteristics and portfolio including their professional occupation, gender and ownership composition, age, portfolio size, past return, exposure to equity allowed and others.

There is a wide empirical and experimental evidence of differences between sophisticated and unsophisticated investors. For example, sophisticated investors are more likely to engage in private information production and become informed (Indjejikian 1991, Bushman et al. 1996,

Fischer and Verrecchia 1999). As a result, sophisticated investors concentrate their trading in stocks with higher levels of information asymmetry and less liquidity whereas unsophisticated investors concentrate in firms with increased levels of press dissemination (kalay 2010). Sophisticated investors also show less mispricing of cash-flows than unsophisticated investors (Barone and Magilke 2009) and incorporate the implications of current earnings components into future earnings in a more sufficient manner (Kao 2007). In addition, trader's sophistication was found to be negatively correlated with the degree of narrow framing implying this factor reduces investor's behavioral bias (Liu, Wang, Zhao 2010). In a controlled experiment environment Victoravich (2010) showed unsophisticated investors affective reaction to positive earnings announcement are more influential on their price judgments compared with sophisticated investors.

Because rationality is directly linked to information processing capabilities it is sensible investor's rationality can be explained by degree of sophistication. Allee, Bhattacharya, Black and Christensen (2007) found that less sophisticated investors rely more on the pro forma figure when it is placed before the GAAP earnings number in a press release, while more sophisticated investors' trading is not affected by the relative placement. Dhar and Zhu (2006) used demographic and socioeconomic variables as proxies for sophistication and found individuals employed in professional occupations to exhibit less disposition effect (investor's tendency to hold their loosing investments and sell their winning investments).

We hypothesize differences will be found between sophisticated and unsophisticated portfolio owners. There could be more than one way to differentiate between sophisticated and unsophisticated investors. In this study we will use two different proxies for investor sophistication. The first, like in Dhar and Zhu (2006) is professional occupations. Individuals

with professional occupations and implied high education level are seen as sophisticated investors and non-professionals as unsophisticated. The second is firms as sophisticated investors and private investors as unsophisticated.

An analysis of the investor's return in the years before and after this decision reveals that indeed the minority of disapproving investors earn higher returns relative to those who consented. In addition sophisticated investors are less likely to agree to the fee repayment request under the two different proxies for sophistication. The investor sophistication effects found are two different effects in the sense that the first is differentiating within private investors only and the latter is differentiating between different types of private investors and firms. Moreover, we also found clients who pay lower managing fees and thus probably have higher motivation for bargaining and better skills to disagree to fee repayments relative to other clients.

Case Description

Fund managers operating in Israel typically received a portion of the transaction costs paid by their clients. Obviously, this fee repayment arrangement may induce the fund manager to trade more intensely for his clients thereby generating more revenues. The excess trading is most likely inconsistent with the best interest of these clients.

On March 2009 the Israeli securities authority issued a ruling in which it obligates portfolio management companies to get the clients consent in writing allowing them to receive part of the transaction fees paid from the broker executing the trades.

In this study we use a unique dataset provided to us by one of Israel's largest financial institutions, hereof referred to as 'Company XYZ'. Among other financial activities XYZ has an investment management business in which it provides personal portfolio management for private customers and firms.

In our empirical investigation investors need to make a unique investment decision regarding their portfolio. The investors had to decide whether or not XYZ, their portfolio manager, could or could not receive part of the portfolio transaction fees. Table 1 exhibits a letter sent by XYZ to all existing clients with actively managed portfolios. The letter is a request to receive part of the transaction fees associated with the managed portfolio. It details a list of different assets (stocks, bonds and so on), their corresponding Buy / Sell fee the broker charges from the client and the percentage XYZ would be entitled to receive from the broker.

It is important to emphasize that the actual transaction costs paid by the clients are not affected by their decision. The decision can however affect the trading strategy of XYZ and in particular the volume of trade. In addition, XYZ added this document to its new client investment portfolio

agreement after June 2009 making it another page in a more complicated and larger agreement. In this study we are not investigating these new clients, but rather focus on existing clients who received this specific letter.

The investor's dilemma

Given this unique situation the investor needs to make a decision. Should he grant his broker the privilege to enjoy this extra income? Or maybe should he disagree even though the transaction fee he is paying is not affected by this decision? Next we will present two opponent hypotheses. The first supports agreement to fee repayments and the second opposes this decision.

Hypothesis 1: fee repayments as a motivational device

It could be argued that the investor entrusts his assets and savings in the hands of XYZ because of their specific skills. In return for this professional's services XYZ receives compensation in the form of management fees charged monthly from the investor's account. However, approving fee repayments can be used by the investor as a motivational tool. The investor may perceive this as an opportunity to grant XYZ higher compensation for its services motivating it to devote more attention to the portfolio and consequently increase his return.

Moreover, since the fees charged from the investor per transaction are the same either way, he might view denying the fund manager a portion of the transaction cost as petty or ungrateful. This is an act the investor could want to avoid given that the decision to invest with the company involves trust. According to this hypothesis the investor would agree to fee repayments and in return would expect higher portfolio return.

Hypothesis 2: fee repayments and portfolio turnover

Allowing XYZ to receive part of the transaction fees motivates the company to increase the volume of trade of its consenting clients. This can cause frequent buying and selling of assets not necessarily in the client's best interest. According to this hypothesis the investors should not agree to fee repayments thereby avoiding needless transactions and improving their net return. These investors do not associate more attention by the fund manager with better return.

The two hypotheses and the rational decision

The basis of the first hypothesis relies on the usual relation between production and compensation. The investor trusts XYZ to do better in return for higher compensation. In contrast, there is extensive literature supporting the claim that a passive portfolio yields higher return than a managed portfolio (Jensen 68, Gruber 96, Carhart 97). According to this evidence fund managers on average cannot bit the market. Consequently, we should expect more active portfolios to yield lower net returns. Following the empirical evidence of an almost efficient capital market a rational investor should not allow XYZ to receive fee repayments from the portfolio transaction fees. Agreeing to fee repayments will cause these investors to underperform relative to those who objected. In conclusion, our hypotheses are as follows:

Hypotheses:

1. We hypothesize that consenting investors will underperform relative to other clients.
2. We hypothesize that Sophisticated investors will be less likely to agree to fee repayments than unsophisticated investors.

Data and Method

The dataset includes all of the portfolios the company managed as of June 2010 not including those opened after June 2009, a total of 1260 portfolios. Portfolios opened after June 2009 were left out because as of this date the fee repayments agreement became an integral part of the new client agreement. In contrast clients who had portfolios before June 2009 received a special letter from XYZ (see Table 1) in which they were asked to give their consent for the fund manager to receive a part of the transaction fees from the broker.

For all the portfolios, we have the following data: A dummy variable for Investor consent to fee repayments, one if he didn't agree and zero if he agreed, this dummy variable is our main dependent variable. Out of the entire sample 1118 (88.7%) agreed for the managing company to receive a part of the transaction fees from the broker. Only 142 of them (11.3%) didn't agree. The distribution between the two groups is shown in Table 2.

In addition our data includes portfolio size (the shekel amount) on June 2009 around the time the investors made their decision regarding fee repayments and portfolio size for June 2010. We estimate the investor risk aversion by the maximum percentage equity holdings allowed by the investor. The data includes portfolio monthly management fees (as a percentage of the portfolio) and the time period during which the portfolio was managed by XYZ.

We also have portfolio return for the following periods: year 2008, Q1 2009, Q2 2009, year 2010. However, we don't have the returns for all portfolios for all dates. For example 2008 returns are not available for portfolios opened on 2009. We also know each of the owner's gender and date of birth and whether or not it's a firm. We distinguished between five categories of investors: male, female, couple, firm, and other. "Couple" means that the portfolio belongs to

two individuals (a male and a female) and "other" is all the rest. For example, three males or two females. Using the date of birth we also calculated the average investor age for each of the portfolios.

In the sample, 364 (29%) are males, 159 (12.7%) are females, 587 (46.8%) are couples, 62 (4.9%) are firms, 81 (6.5%) are other combinations and 7 missing values. The average age for a portfolio is 59.3 with S.D. of 11.26. This data is shown in Table 2.

Out of the 1260 portfolios we have the following additional information for 498 portfolios: the investor's declared occupation. Investor occupation was used as a proxy for investor sophistication. Investors with professional occupations (occupations that require a high level of education) are classified as sophisticated investors and investors with non-professional occupations are regarded as unsophisticated. Some of the declared occupations were impossible to associate to one of the groups (most of them pensioners) and are therefore regarded as unknown and will be excluded in the following analysis. Out of the 498 cases, 162 (32.4%) are sophisticated, 165 (33.0%) are unsophisticated and 171 (34.2%) are unknown. The sample of classified investors includes 327 (see Table 3). The distribution between the three types for all cases is displayed in Table 4.

Before we investigate investor consent to fee repayments we want to verify our hypothesis that agreeing to return part of the transaction fees to the fund manager induces him to increase his trading activity in order to increase his effective managing fees without adding any incremental value to the investor's portfolio. This explanation dictates that a rational decision is not to agree to this arrangement.

We analyze the 2010 full year returns. Specifically, we regress the 2010 portfolio returns on fee repayment dummy, controlling for portfolio risk level (the investor exposure to equity), portfolio management fees and portfolio size (which is the shekel amount on June 2010). The regression specification is as follows:

$$Return\ 2010 = \alpha + \beta 1\ fee\ repayment + \beta 2\ exposure\ to\ equity + \beta 3\ management\ fees + \beta 4\ portfolio\ size + u$$

We then seek to study the effect of investor sophistication as well as other variables on the decision to agree to fee repayment. Next we will regress fee repayment on investor sophistication and the other explanatory variables described.

We will run the following probit regression:

$$Fee\ repayment = \alpha + \beta 1\ sophistication + \beta 2\ portfolio\ size + \beta 3\ exposure\ to\ equity + \beta 4\ portfolio\ age + \beta 5\ return2008 + \beta 6\ returnQ1\_2009 + \beta 7\ returnQ2\_2009 + \beta 8\ management\ fees + \beta 9\ Average\ investor\ age + u$$

Unfortunately, we do not have investor sophistication for all the observations. This is quite restrictive because the above regression takes into account only 321 cases. We do however have investor type and all the other explanatory variables for most of the 1260 observations. We created five dummy variables corresponding to the five possible client types: male, female, couple, firm and other. For example, client_firm takes the value of 1 if the portfolio belongs to a firm and 0 otherwise. client_couple takes the value of 1 if the portfolio belongs to two

individuals one male and one female and 0 otherwise and so on. Using these variables we will run the following regression on 1118 observations:

$$Fee\ repayment = \alpha + \beta 1\ Average\ investor\ age + \beta 2\ portfolio\ size + \beta 3\ exposure\ to\ equity + \beta 4\ portfolio\ age + \beta 5\ return2008 + \beta 6\ returnQ1\_2009 + \beta 7\ returnQ2\_2009 + \beta 8 management\ fees + \beta 9\ client\ male + \beta 10\ client\ female + \beta 11\ client\ firm + \beta 12\ client\ couple + u$$

The last regression does not include investor sophistication under the definition we have used so far, i.e. using professional occupations. However, the last equation also separates between sophisticated and unsophisticated investors in a similar sense through the use of the client type dummy variables.

In the cases of a firm, usually there is more than one person with authority to communicate with the broker and make decisions regarding the portfolio. These individuals are the senior management of the firm including the chairman, board members, CEO's and CFO's. It is more than reasonable to assume most if not all of these individuals are highly educated professionals (Some of them even have significant financial knowledge) and thus a sophisticated group compared with the other groups.

It is important to emphasize that for all the 498 cases for which we have investor occupation the portfolios belong to private customers and not firms. This means that any effect found for investor sophistication using professional occupations as a proxy is completely different and independent of an investor sophistication effect using firms as a proxy for sophisticated investors and individuals as unsophisticated. In other words, the former definition for investor

sophistication is differentiating within private investors only and the latter is differentiating between different types of private investors and firms.

Lastly, in order to get the most out of our data and because there is a significant number of observations for which we have missing returns (as explained earlier, we don't have the returns for all time periods for all the portfolios) we will drop the returns variables and run the regression again. The equation specification is:

$$Fee\ repayment = \alpha + \beta 1\ Average\ investor\ age + \beta 2\ portfolio\ size + \beta 3\ exposure\ to\ equity + \beta 4\ portfolio\ age + \beta 5 management\ fees + \beta 6\ client\ male + \beta 7\ client\ female + \beta 8\ client\ firm + \beta 9\ client\ couple + u$$

Results

Our first objective was to test whether consent to fee repayments has an effect on the investor's future return. Our initial hypothesis was that agreeing to return part of the transaction fees to XYZ should have a negative effect on the investor's return.

The results confirm our hypothesis (Table 5). Regressing the 2010 portfolio return on the fee repayment consent dummy variable and the control variables shows that not allowing the fund manager to receive part of the transaction fees has a positive effect on the portfolio future returns. The result is not only significant statistically but also economically. With a coefficient of 4.08 the interpretation is that not allowing fee repayments increases the return by 4% in average all else held constant.

In addition, the coefficients for all the other independent variables, namely management fee, portfolio size and exposure to equity have significant effects on the 2010 return in the expected direction. Specifically, a higher portfolio management fee means lower return for the investor. Higher exposure to equity increases portfolio return. Every increment of 10% exposure raises the yearly return 1.6% on average. We also found an effect for portfolio size though it's economically insignificant. An increment of 100K NIS to the portfolio raises the return 0.02% on average.

Having found empirical support that allowing the fund manager to receive fee repayments is the "wrong" decision we then tested our second hypothesis. We hypothesize that Sophisticated investors will be less likely to agree to fee repayments than unsophisticated investors.

The results confirm this hypothesis (Table 6). We regressed the fee repayment dummy variable on the investor sophistication dummy and the portfolio manage fee, size, exposure to equity,

portfolio age, 2008 return, Q1 2009 and Q2 2009 return and the investor average age. Investor sophistication has a significant effect on fee repayments. Sophisticated investors were more likely not to agree to fee repayments than unsophisticated investors. The probability not to agree (fee repayment=1) is more than 2.5 larger if you are sophisticated than non-sophisticated (to get this interpretation we reran a logit regression and calculated the coefficient's exponent). In addition, there is a significant effect for investor's average age. Younger investors were more likely not to agree to fee repayments than older investors. Nonetheless, we point out that the age difference between the groups is not large. The average age in the entire sample for consenting clients was 59.8 and for those who didn't agree 56.1. The manage fee coefficient was close to significance and its general direction is the lower the portfolio manage fees the more likely the investor not to agree to fee repayments. In this regression there are 321 observations, in the following analysis we will show this result is much more significant on the entire sample.

We didn't get an effect for the return variables implying that two last quarters past return and the previous year return did not play a role in the investor's decision. The Investors didn't tend to "award" the fund manager with fee repayments based on previous performance. Interestingly, portfolio age, the time period during which the fund manager managed the portfolio was also not significant. This variable which can be interpreted as the investor's faithfulness to the fund manager also didn't play a role in the investor decision nor did exposure to equity which is a risk aversion measure.

Next we analyzed a similar regression. Fee repayment is still the dependent variable. We left out investor sophistication and included the investor type dummy variables for the four groups: male, female, couple and firm (the fifth group was not included to avoid multicolinearity problems). We left out investor sophistication for two reasons. First, occupation is typically an individual's

characteristic, we don't have occupation information for any of the firms (for this reason running a regression with sophistication and firm dummy is methodically impossible). The second is to increase sample size from 321 to 1118 portfolios.

We know the decision makers in firms are highly educated professionals and thus sophisticated in the same sense we used so far. As a consequence, we hypothesized firms will be more likely not to agree to fee repayments than not firms and no difference will be found for the other types of private investors.

The results partly support the hypothesis (Table 7). The firm coefficient general direction is the same as we hypothesized, suggesting firms are more likely no to agree to fee repayments, the coefficient is close to significance. The other investor types, as expected, did not yield any results. In the next regression we will further increase sample size and the difference between firms and not firms will emerge.

Regarding the other independent variables, the larger sample emphasized our previous results. Again we found an effect for investor age. Younger investors are more likely not to agree to fee repayments than older investors. In addition, we have a highly significant effect for portfolio management fees. Portfolios with lower manage fees were also more likely not to agree to fee repayments. This suggests individuals who tend to bargain for lower fees and protect themselves in advance also refuse to agree to fee repayments. None of the other variables including the past returns, exposure to equity and portfolio age were significant.

Lastly, we left out the three past return variables for 2008, Q1 2009 and Q2 2009 and ran the last regression again. This allows us to further increase the sample to 1178 portfolios and get more accurate estimators. The results support our hypothesis (Table 8). Firms are found to be more

likely not to agree to fee repayments than not firms. We should emphasize this is true after controlling for portfolio manage fees, which is negatively correlated with firm. Typically firms in the sample have larger portfolios then other types of investors and lower fees. If we had dropped the manage fee variable the coefficient for firm is much more significant. Regarding the other types of investors, as expected, no significant difference was found. In addition, the previous results regarding investor average age and management fees are again found in this regression. None of the other variables yield any results.

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Table 1: Fee repayments request letter sent to company's XYZ clients.

The following document is the translated request letter sent to all clients with existing portfolio managed by company XYZ. The purpose of this letter is to get the client's consent to allow XYZ to receive part of the transaction fees associated with the portfolio from the Bank (Market Maker who carried out the transactions). The tables below detail the exact percentage XYZ is entitled to from a Buy/Sell transaction for different assets.

Client name

Bank name

Account number

Branch

Addendum to investment portfolio management agreement regarding fee repayment from a Bursa member

I hereby confirm I am aware that company XYZ is entitled to receive from a bursa member, in which the account is managed (hereof "bursa member" or "bank"), repayment in the basis of fees the bank charges from the client's accounts, according to the bank rate and in accordance with the agreement between the bank and the client, due to transactions made by XYZ in the client accounts, as described in the financial investment portfolio agreement signed between myself and XYZ and in this addendum.

In accordance with the agreement between XYZ and the bursa member, to apply from 31.03.2009, XYZ is entitled to receive from the bursa member repayment of part of the charged fee from the client by the bursa member according to the following detail:

Fee sort	Repayment to XYZ of any amount above
Local equities	0.1% of the transaction
Local bonds	0.1% of the transaction
Israeli government notes (Makam)	0.05% of the transaction
Options	3.5 Shekels per option
Foreign Equities	0.1% of the transaction
Foreign Bonds	0.1% of the transaction

Consequence of the above, hereby a detail of the fees charged from the client by the bank and the repayment to XYZ out of them:

	Fee paid by the client to the bank	Repayment to XYZ
Buy/Sell fee local stocks	0.2%	0.1%
Buy/Sell fee local bonds	0.2%	0.1%
Buy/Sell fee Makam	0.12%	0.07%
Options fee	-	-
Buy/Sell fee foreign stocks	0.2%	0.1%
Buy/Sell fee foreign bonds	0.2%	0.1%

* XYZ is not entitled to receive a part of a minimum fee

The parties approve with their signature below the details in this addendum and the client gives his approval with his signature for XYZ to receive fee repayment from the bursa member.

Client signature	date	XYZ
Client signature	date	XYZ

Table 2:

This table describes the response of 1260 investors to XYZ's request letter, the investor type and average portfolio size on June 2009 in Shekels. Of the 1260 only 142 didn't agree to fee repayments.

	Agreed to fee repayments			Didn't agree to fee repayments			
Investor type	**Sum of investors**	**Average age**	**Average portfolio size**	**Sum of investors**	**Average age**	**Average portfolio size**	**Total sum of investors**
Male	318	58.0	673,347	46	52.4	1,151,721	364
Female	144	61.5	595,330	15	54.4	810,149	159
Firm	46	56.6	10,197,573	16	57.3	16,372,402	62
Couple	531	60.8	865,897	56	58.8	888,514	587
Other	75	58.3	888,812	6	60.1	1,046,177	81
Missing	4	56.1	6,005,179	3		4,771,353	7
Grand Total	1118	59.8	1,162,329	142	56.1	2,798,857	1260

Table 3: This table describes the response distribution to the letter among 327 investors with / without professional occupations and their average managing fee.

	Didn't agree to repay fees		Agreed to repay fees		
	Average monthly manage fees	# of investors	Average monthly manage fees	# of investors	Total
Unsophisticated investors	0.090%	10	0.094%	155	165
Sophisticated investors	0.085%	23	0.095%	139	162
Total	0.087%	33	0.095%	294	327

Table 4: This table details classification of 498 investors into two classes: Sophisticated and Unsophisticated based on professional occupations.

Sophisticated Investor		Unsophisticated Investor				Unknown Investor	
Professional Occupations	**Freq.**	**Non-Professional Occupations**	**Freq.**	**Non-Professional Occupations**	**Freq.**	**Unknown**	**Freq.**
agronomist	2	air conditioning	1	picture framer	2	100% disability	1
accountant	5	air field representative	1	police	1	acquisition manager	1
air conditioning engineer	1	aircraft mechanic	1	police officer	1	advertisement manager	1
architect	2	assistant	1	practical engineer	1	advisor	1
architecture professor	1	automobile mechanic	2	practical mechanical engineer	2	aerospace industry	2
banker	3	automobile tinsmiths	1	printing press	1	airline worker	1
biochemistry	1	bank clerk	2	private coacher	1	business development manager	1
biochemistry professor	1	bank employee	2	production worker	1	business man	3
Biology PhD.	1	bookkeeping	9	public servant	1	business manager	1
chemistry PhD	1	boutique owner	1	refurbishing contractor	1	business owner	1
Chief Executive Officer	5	car assessor	1	restaurateur	2	credit centralizer	1
Chief financial Officer	1	carpenter	2	sales	1	detective	1
Chief development officer	1	city council employee	1	sales manager	2	diamond merchant	4
civil engineer	4	clerk	1	secretary	10	education	2
computer engineer	2	computerization manager	1	security	1	interior research	1
computers	7	construction contractor	2	shoes distributer	1	factory owner	1
dentist	2	Construction Manager	1	shopkeeper	1	family therapist	1

Sophisticated Investor		Unsophisticated Investor				Unknown Investor	
development	1	construction work manager	1	snacks shop owner	1	firm owner	1
doctor (MD)	11	contractor	2	social security manager	1	food industry	1
economist	5	control manager	1	spare parts manager	1	government office worker	1
electrical engineering PhD	1	crane driver	1	state employee	2	IDF (Israel defense forces)	1
electronic engineer	6	customs officer	1	store salesman	2	IDF disabled	1
engineer	23	driver	2	student	2	internal controller	1
factory manager	2	driving instructor	3	suppliers manager	1	management	2
firm manager	6	education management	1	swimming trainer	1	manager	2
hardware engineer	1	electrician	6	teacher	8	managerial advisor	1
head of emergency room	1	errands manager	1	technician	6	marketing manager	2
high-tech	2	farmer	9	tin cutter	1	media advisor	1
history lecturer	1	fashion	1	tourist guide	1	medicine	1
history professor	1	Feldenkrais instructor	1	traffic consultant	1	metals firm owner	1
industrial engineer	1	foreign trade	1	translator	1	pensioner	107
industrialist	2	forester	1	traveling agent	1	production line manager	1
information manager	1	graphic artist	1	TV lab manager	1	project executor	1
information system	1	handy man	1	warehouseman	1	project manager	2
lawyer	6	high school headmaster	1			psychotherapy	1
lecturer	10	house painter	1			real estate advisor	1
Chief marketing Officer	1	housefather	1			regional advisor	1
mathematician	2	housewife	4			self employed	9
mechanical engineer	2	human resources	2			store manager	2

Sophisticated Investor		Unsophisticated Investor				Unknown Investor	
microbiologist	1	importer	1			store owner	2
money manager	2	infant's craft teacher	1			unemployed	4
orthodontist	1	instructor	1				
pharmacist	1	insurance	1				
PhD in psychology	1	insurance agent	2				
psychologist	2	jeweler	2				
physicist	1	kindergarten teacher	1				
Pilot	1	laundry	1				
Play-writer	1	learning advisor	1				
programmer	2	librarian	1				
psychiatrist	3	logistic manager	1				
psychology professor	1	machinist	2				
Rabbi	1	maintenance	1				
reporter	1	maintenance man	1				
scientist	1	marketing and surveys	1				
social worker	2	marketing control	1				
software design	1	masseuse	1				
software engineer	4	merchant	1				
software manager	1	Ministry of defense	1				
special education teacher	1	musician	1				
surgeon	1	nurse	2				
system analyst	1	nursemaid	1				
technical engineer	1	painter	2				

Sophisticated Investor		Unsophisticated Investor				Unknown Investor	
textile engineer	1	pastry-cook	1				
veterinarian	2	perfume (self employed)	1				
Total	**162**		**165**				**171**

Table 5: Explaining the 2010 returns

Regression where the dependent variable is the 2010 returns on four independent variables: Fee repayments dummy variable takes the value of 1 if the investor didn't agree to repayment of part of the transaction fee to the fund manager and 0 if he agreed, portfolio monthly management fees, portfolio size on June 2010 in thousand shekels and portfolio risk estimated by the maximum exposure to equity chosen by the investor. Number of portfolios in this regression: 1114.

Independent Variable	Coefficient	t-Statistic	Prob.
Fee Repayment	4.087484	2.039778	0.0416
Managing Fee	-123.7583	-5.079518	0.0000
Portfolio size	0.000243	3.179910	0.0015
Exposure to equity	0.160899	4.355003	0.0000
C	13.93365	5.994326	0.0000

Dependent variable: 2010 return

F= 17.89 p <.0001

Table 6: The effect of Investor sophistication on Fee repayments consent.

This table contains a probit regression where the fee repayments dummy is a dependent variable. It takes the value of 1 if the investor didn't agree to a repayment of part of the transaction fee to the fund manager and 0 if she agreed. The independent variables are Investor sophistication, portfolio monthly managing fees, portfolio size on June 2009 in thousand shekels, portfolio exposure to equity, portfolio returns for the periods preceding the fee repayment decision and the average age of the investors who own the portfolio. The number of observations in this regression is 321, out of which 289 agreed to repayment of transaction fees to the fund manager.

Independent Variable	Coefficient	Std. Error	z-Statistic	Prob.
Investor sophistication	0.489667	0.217922	2.246982	0.0246
Management fee	-9.039210	5.442521	-1.660850	0.0967
Portfolio size	9.38E-08	1.78E-07	0.528293	0.5973
Exposure to equity	-0.011889	0.013653	-0.870766	0.3839
Portfolio age	0.062098	0.039925	1.555337	0.1199
2008 return	-0.041720	0.026566	-1.570428	0.1163
Q1 2009 return	-0.062757	0.080627	-0.778364	0.4364
Q2 2009 return	-0.042448	0.118738	-0.357491	0.7207
Investor average age	-0.023749	0.010964	-2.166023	0.0303
C	0.683962	0.915697	0.746931	0.4551

Dependent variable: Fee repayment

LR= 21.69 $p < .01$

Table 7:

This table contains a probit regression where the fee repayment consent dummy is the dependent variable, on the independent variables detailed below. The number of observations in this regression is 1118, out of them 990 consented to fee repayment and 128 did not.

Independent Variable	Coefficient	Std. Error	z-Statistic	Prob.
2008 return	-0.010532	0.011446	-0.920078	0.3575
Q1 2009 return	-0.022311	0.022182	-1.005842	0.3145
Q2 2009 return	-0.013695	0.037653	-0.363720	0.7161
Investor average age	-0.016291	0.004699	-3.466999	0.0005
Couple	0.136168	0.230078	0.591833	0.5540
Female	0.189221	0.263807	0.717272	0.4732
Firm	0.540094	0.320689	1.684165	0.0921
Male	0.301818	0.236980	1.273602	0.2028
Manage fee	-8.811886	2.042734	-4.313771	0.0000
Portfolio size	-5.57E-09	8.29E-09	-0.672336	0.5014
Portfolio age	0.014828	0.018663	0.794488	0.4269
Exposure to equity	-0.001157	0.004926	-0.234870	0.8143
C	0.365971	0.412888	0.886370	0.3754

Dependent variable: Fee repayment

LR= 45.14 p <.0001

Table 8:

This table contains a probit regression where the fee repayment consent dummy is the dependent variable, on the independent variables detailed below. The number of observations in this regression is 1178 of which 1048 agreed to fee repayment.

Independent Variable	Coefficient	Std. Error	z-Statistic	Prob.
Investor average age	-0.015894	0.004582	-3.469187	0.0005
Couple	0.162440	0.226545	0.717029	0.4734
Female	0.195829	0.259522	0.754575	0.4505
Firm	0.590959	0.309222	1.911119	0.0560
Male	0.316059	0.232757	1.357892	0.1745
Manage fee	-8.054085	1.974433	-4.079189	0.0000
Portfolio size	-1.54E-09	6.32E-09	-0.243976	0.8072
Portfolio age	0.029608	0.017530	1.688984	0.0912
Exposure to equity	-0.000797	0.003177	-0.250793	0.8020
C	0.018708	0.375274	0.049851	0.9602

Dependent variable: Fee repayment

LR= 46.71 p <.0001