# Online Appendix

Ambiguity Preferences and Portfolio Choices: Evidence from the Field

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## 1 Ambiguity Aversion and Other Traits

	Ί	able 1: Am	biguity Ave	ersion			
Dep Variable	Ambig Aversion						
	(1)	(2)	(3)	(4)	(5)	(6)	
Dislike Uncertainty		$0.096 \\ (0.048)^{**}$					
Risk Aversion			-0.048 (0.043)				
Compute Interest				$0.104 \\ (0.106)$			
Confident					-0.009 (0.036)		
Hyperbolic						-0.144 (0.129)	
Education	$0.003 \\ (0.033)$	$\begin{array}{c} 0.001 \\ (0.033) \end{array}$	$0.008 \\ (0.033)$	-0.002 (0.033)	$0.002 \\ (0.033)$	$\begin{array}{c} 0.005 \ (0.033) \end{array}$	
Married	-0.039 (0.132)	-0.037 (0.132)	-0.027 (0.131)	-0.038 (0.132)	-0.039 (0.132)	-0.033 (0.132)	
Age	-0.159 $(0.076)^{**}$	-0.158 $(0.076)^{**}$	-0.157 $(0.076)^{**}$	-0.164 (0.076)**	-0.162 (0.077)**	-0.162 (0.076)**	
Female	-0.150 (0.105)	-0.144 (0.105)	-0.200 (0.106)*	-0.133 (0.105)	-0.15 (0.105)	-0.138 (0.105)	
Income	0.141 (0.046)***	0.139 $(0.046)^{***}$	0.133 $(0.046)^{***}$	0.142 (0.046)***	0.141 (0.046)***	0.137 (0.046)***	
Wealth	0.043 (0.026)	0.040 (0.026)	0.042 (0.026)	0.041 (0.026)	0.043 (0.026)	0.044 (0.026)*	
Observations R-squared	$457 \\ 0.069$	$\begin{array}{c} 458 \\ 0.072 \end{array}$	$457 \\ 0.076$	$458 \\ 0.071$	$458 \\ 0.069$	$458 \\ 0.072$	

Table 1: Ambiguity Aversion

NOTE: This table reports the results of OLS regressions. A detailed description of all the variables appears in Section 8.1 in the main text. Robust standard errors are in brackets. \*, \*\* and \*\*\* denotes significance at 10%, 5% and 1% level, respectively.

### 2 Robustness Checks

In Table 2, we collect our main results so as to facilitate the comparison; in the subsequent tables we report the results of our tests.

#### Representativeness

As we only observe clients' behaviors within the company, one may question whether our effects are informative about households' behaviors in their overall portfolios. As a way to address this question, we exploit the information collected in our survey on households' financial assets and total wealth, and check whether the effects of ambiguity and risk preferences are different for those who have invested a lot vs. little of their wealth in the company. We build the variable *Fraction* as the value of the portfolio held in the company as of August 2010 (around the time when the survey was conducted) and the client's total wealth, which we estimate as the midpoint in the reported interval.<sup>1</sup> *Fraction* takes values between 0.01% and 67.8%, with average equal to 10.3%. We first observe that this fraction is not related to ambiguity preferences. In Table 3, we observe that our estimates do not vary systematically with the fraction of wealth invested in the company.

#### **Delegated Portfolio Management and Fiscal Gains**

The management of assurance vie contracts can be delegated. Clients could mandate the company to automatically rebalance their contracts in order to keep the fraction of uc funds relative to euro funds constant over time (so as to fully compensate passive changes in the risky share); alternatively, they could mandate the company to automatically increase the share of euro funds in the portfolio (so as to turn to safer portfolios as the age of retirement approaches). In both cases, automatic rebalancing is done once per year and clients can freely opt in or out. In our sample, about 10% of the clients have subscribed one such option in at least one of their contracts. We first observe that the propensity to opt in one these options is not related to ambiguity preferences. We then replicate our main results omitting clients who have opted for delegated management in at least one contract. Results appear in Table 4, and show no significant difference with the results in the main analysis.

Another distinct feature of *assurance vie* contracts is that clients benefit from reduced taxes on capital gains if they keep their contract for at least 8 years. While there should be no mechanical relation between tax advantages and the patterns analyzed in our main analysis, we report here results for the subsamples of clients who have no contract younger than 8 years. While

<sup>&</sup>lt;sup>1</sup>For the highest interval, where clients report wealth of 1 million euros or above, we consider the minimum of the interval. Results are insensitive to choosing other point estimates within the range, the value of portfolios in nearby months, as well as the value of the portfolio relative to the client's financial assets.

the sample size drops significantly (to about half of the original sample), we observe in Table 5 that our main results are not substantially affected.

#### Other measures of ambiguity aversion and behavioral traits

We have constructed a dummy Ambig Averse which is equal to 1 if Ambig Aversion is 4 (that is, if the subject prefers 1000 euros with 40% chance than with unknown probability) and zero otherwise. Accordingly, 70% of our subjects are coded as ambiguity averse. In Table 6, we revise our main results by employing this alternative variable and observe that Ambig Averse has very similar effects to our main variable Ambig Aversion.

Our survey also contains questions with lotteries involving losses, and based on these questions we can define the 1-4 index Ambig Aversion(Loss).<sup>2</sup> In Table 7, we observe that preferences over losses have a different impact, but often not statistically significant. The effects of our main measures are however unchanged.

The literature suggests that ambiguity preferences may be related to behavioral traits such as sophistication, confidence, and time preference. While investigating the effects of all these traits on portfolio choices remains beyond the scope of the present analysis, we here take a more limited task and show that our coefficients of interest are not affected by the inclusion of these extra variables (see Table 8).

#### Standard Errors

Since we expect some persistence over time in household behaviors and since our variable of interest *Ambig Aversion* varies by individuals and not over time, we have clustered standard errors at the individual level in our main analysis. The error structure we have in mind is one in which observations are independent in any given cross section but not necessarily so for a given individual over time. To confirm the validity of this assumption, we repeat our regressions on returns in Table 4 in the main text (column 1) without using the time dimension. We run a cross-sectional regression in which the dependent variable is the average returns experienced by each client over our sample period. We observe that our estimates are remarkably in line with those reported in the main text (see column 3 of Table 10).

We also notice that this choice of clustering is rather conservative, it would be easier to find statistically significant effects by adopting different specifications. To see this, in Table 9, we report two alternative clustering

<sup>&</sup>lt;sup>2</sup>Ambig Aversion(Loss) is based on: "You have two options: (a) lose 1000 euros with a completely unknown probability vs. (b) lose 1000 euros with 50% chance and zero otherwise." If (a) is chosen, (c) lose 1000 euros with unknown probability vs. (d) lose 1000 euros with 40% chance and zero otherwise. If (b) is chosen, (e) lose 1000 euros with unknown probability vs. (f) lose 1000 euros with 60% chance and zero otherwise. The variable takes values 1 if (a) and (c) are chosen, 2 if (a) and (d) are chosen, 3 if (b) and (e) are chosen, and 4 if (b) and (f) are chosen.

of standard errors. In columns 1-3, we cluster by time in order to account for cross-sectional correlation of returns and show that standard errors are considerably lower in this case. The effect is even more dramatic when one considers rather persistent behaviors such as risk taking. In columns 4-6, we employ a double clustering by client and by time following the method developed by Petersen (2009). We observe that our results are basically unchanged.

#### Sample Selection

As mentioned in the main text, our analysis is based on a sample of clients who had an *assurance vie* contract in the company at the end of 2010. These contracts were opened at possibly different points in time, and this creates a variation across clients in the number of periods in which they appear in our sample.<sup>3</sup> This variation is not random. For example, older clients are more likely to have opened their account earlier and so to appear in our sample for a longer period.

We do not believe however that survivorship bias is driving our results. First, we are mostly exploiting the cross-sectional variation and not the time series dimension in our data. Our estimates would in fact be very similar (though sometimes less precise) if, instead of estimating equation (1), we would run simple cross-sectional regressions using as dependent variable  $\bar{y}_i$ , the sample average of  $y_{i,t}$ . We report these estimates in Table 10 (columns 1-4).

Second, we can restrict our sample to those clients who appear for more than 100 periods (the median duration in our sample). Of course, this is an even more selected sample, but our coefficients of interest are consistent (though sometimes noisier) with those reported in the main analysis (see Table 11).

Third, we can apply inverse probability weighting. Let  $s_i$  denote the number of periods in which client *i* appears in our sample,  $X_i^0$  a set of explanatory variables,  $Z_i$  a set of auxiliary variables and let  $X_i \equiv X_i^0 \cup Z_i$ . We define the inverse probability weight as  $p_i = \hat{s}_i^0/\hat{s}_i$ , where  $\hat{s}_i$  is the predicted value of  $s_i$  given  $X_i$  and  $\hat{s}_i^0$  is the predicted value of  $s_i$  given  $X_i^0$ . In our simplest specification,  $Z_i$  includes the client's age, which is the main determinant of  $s_i$ , and  $X_i^0$  includes all other demographic variables (gender, education, marital status, income and wealth) as well as ambiguity and risk aversion. In this way,  $p_i$  applies larger weights to younger clients, whose predicted probability to be included in the full sample is lower. Results of weighted regressions are reported in Table 12, and they are very much in line with those observed in the main analysis.

While this method only accounts for selection along observables, and

 $<sup>^{3}</sup>$ The number of months for which our clients appear in the sample varies between 11 and 104, with mean equal to 78 and median equal to 100.

one may question which variables should be included in  $X_i^0$  and  $Z_i$ , our estimates have proven robust across various specifications. If anything, our effects become stronger as we consider additional auxiliary variables. We believe that our baseline specifications provide conservative estimates of our coefficients of interest.

#### Other specification tests

We have asked our subjects if their education, age, income and wealth fall within pre-specified intervals. For simplicity, in our main analysis, we have included the corresponding categorical variables as controls. There are no strong reasons to impose that any change in these variables would have the same effect. As we show in Table 13, however, our results would be unchanged if we were to add these controls as a series of dummy variables instead.

We measure ambiguity attitudes at one point in time, towards the end of our sample period. In order to explore whether the effects we identify are rather stable over time, we estimate our regressions by restricting to the first half of our sample period, from September 2002 to December 2006. As shown in Table 14, estimates are noisier but comparable in magnitude to our baseline specification.

Finally, while in Tables 2 and 3 in the main text we consider measures of risk exposure based on past returns, investors may be forward-looking. Accordingly, we build the standard deviation of their returns and their betas using returns in the *next* 12 months (as opposed to returns in the past 12 months). As shown in Table 15, results are very similar to the ones reported in our main analysis.

		Table 2. Man	1 1000 ulto			
Dep Variable	Std Dev	$\beta(F) - \beta(W)$	Ret	urns	Tot Change	Act Change
	(1)	(2)	(3)	(4)	(5)	(6)
Ambig Aversion	0.043 $(0.019)^{**}$	0.007 $(0.002)^{***}$	0.012 (0.006)**	-0.042 (0.023)*	-0.017 (0.011)	0.001 (0.002)
$AvgRet^*Ambig$				$0.142 \\ (0.059)^{**}$		
Ambig * Change Pass Share					-0.241 (0.059)***	
Change Pass Share					1.300 (0.244)***	
Ambig * Pass Change						-0.048 (0.022)**
Pass Change						-0.498 (0.081)***
Number of Obs	34672	35578	31265	31265	12477	27395
Number of Clusters	457	457	456	456	284	449
R-squared	0.11	0.165	0.232	0.236	0.166	0.457

Table 2: Main Results

NOTE: This table reports the results of OLS regressions (columns 1-4 and 6) and IV regressions (column 5). In column 1, the dependent variable is the standard deviation of the returns in the previous 12 months. In column 2, the dependent variable is the difference between Beta(F) and Beta(W). Controls include the sum of Beta(F) and Beta(W). In columns 3-4, the dependent variable is the monthly returns of the portfolio in percentage points. Controls include the standard deviation, Beta(F), the skewness and the coskewness of the returns. AvgRet is the average returns across all portfolios at time t. In column 5, the dependent variable is the total change in the log risky share. Change Pass Share is the passive change in the log risky share. The instrument is the zero-rebalancing (log) passive change. In column 6, the dependent variable is the active change in the risky share. Passive Change is the passive change in the risky share. All regressions also include time fixed effects and standard controls (risk aversion, age, gender, education, marital status, income and wealth). Robust standard errors, clustered at the individual level, are in brackets. \*, \*\* and \*\*\* denotes significance at 10%, 5% and 1% level, respectively.

Dep Variable	Table 3: Representativeness         Std Dev $\beta(F) - \beta(W)$ Returns			Tot Change	Act Change	
Dep variable	(1)	$\frac{\beta(F) - \beta(W)}{(2)}$	(3)	(4)	(5)	(6)
Ambig Aversion	0.06	0.005	0.014	-0.051	0.001	0.003
	$(0.032)^*$	$(0.003)^*$	$(0.006)^{**}$	(0.034)	(0.017)	(0.002)
Ambig <sup>*</sup> Fraction	-0.191	0.021	-0.006	0.105	-0.106	-0.014
	(0.17)	(0.019)	(0.004)	(0.177)	(0.075)	(0.013)
Fraction	0.124	-0.101	0.021	0.134	0.347	0.06
	(0.535)	$(0.058)^*$	(0.015)	(0.534)	(0.265)	(0.042)
AvgRet*Ambig				0.191		
0 0				$(0.085)^{**}$		
AvgRet*Ambig*Fraction				-0.457		
0 0				(0.456)		
Ambig *Change Pass Share					-0.308	
0 0					$(0.070)^{***}$	
Ambig*Change Pass*Fraction					0.077	
					(0.102)	
Change Pass Share					1.452	
					$(0.275)^{***}$	
Ambig <sup>*</sup> Pass Change <sup>*</sup> Fraction						0.192
						(0.118)
Ambig <sup>*</sup> Pass Change						-0.065
						$(0.031)^{**}$
Passive Change						-0.418
- 0						$(0.164)^{**}$
Number of Obs	32700	33571	31003	29532	11502	25768
Number of Clusters	429	429	447	428	267	424
R-squared	0.123	0.175	0.233	0.245	0.167	0.466

 Table 3: Representativeness

NOTE: This table reports the results of OLS regressions (columns 1-4 and 6) and IV regressions (column 5). Fraction is the value of the portfolio within the company over the total value of reported wealth. In column 1, the dependent variable is the standard deviation of the returns in the previous 12 months. In column 2, the dependent variable is the difference between Beta(F) and Beta(W). Controls include the sum of Beta(F) and Beta(W). In columns 3-4, the dependent variable is the monthly returns of the portfolio in percentage points. Controls include the standard deviation, Beta(F), the skewness and the coskewness of the returns. AvgRet is the average returns across all portfolios at time t. In column 4, AvgRet\*Fraction is included. In column 5, the dependent variable is the total change in the log risky share. Change Pass Share is the passive change in the log risky share. The instrument is the zero-rebalancing (log) passive change. Change Pass Share\*Fraction is also included. In column 6, the dependent variable is the active change in the risky share. Passive Change is the passive change in the risky share. Passive Change\*Fraction is also included. All regressions also include time fixed effects and standard controls (risk aversion, age, gender, education, marital status, income and wealth). Robust standard errors, clustered at the individual level, are in brackets. \*, \*\* and \*\*\* denotes significance at 10%, 5% and 1% level, respectively.

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Dep Variable	Std Dev	$\beta(F) - \beta(W)$	Reti		Tot Change	Act Change
	(1)	(2)	(3)	(4)	(5)	(6)
Ambig Aversion	$0.033 \\ (0.019)^*$	0.006 $(0.002)^{***}$	0.014 (0.006)**	-0.024 (0.024)	-0.015 (0.012)	0.001 (0.002)
AvgRet*Ambig				$0.099 \\ (0.059)^*$		
Ambig * Change Pass Share					-0.288 $(0.062)***$	
Change Pass Share					1.455 (0.246)***	
Ambig * Pass Change						-0.058 $(0.029)^{**}$
Pass Change						-0.424 (0.104)***
Number of Obs	31215	31971	27927	27927	11477	24921
Number of Clusters R-squared	$\begin{array}{c} 433 \\ 0.069 \end{array}$	$\begin{array}{c} 433 \\ 0.12 \end{array}$	$\begin{array}{c} 432 \\ 0.203 \end{array}$	$\begin{array}{c} 432 \\ 0.205 \end{array}$	$\begin{array}{c} 251 \\ 0.185 \end{array}$	$\begin{array}{c} 418 \\ 0.369 \end{array}$

Table 4: Delegated Portfolio

NOTE: This table reports the results of OLS regressions (columns 1-4 and 6) and IV regressions (column 5). The sample is restricted to clients who have no contract with delegated management. In column 1, the dependent variable is the standard deviation of the returns in the previous 12 months. In column 2, the dependent variable is the difference between Beta(F) and Beta(W). Controls include the sum of Beta(F) and Beta(W). In columns 3-4, the dependent variable is the monthly returns of the portfolio in percentage points. Controls include the standard deviation, Beta(F), the skewness and the coskewness of the returns. AvgRet is the average returns across all portfolios at time t. In column 5, the dependent variable is the total change in the log risky share. Change Pass Share is the passive change in the log risky share. The instrument is the zero-rebalancing (log) passive change. In column 6, the dependent variable is the active change in the risky share. Passive Change is the passive change in the risky share. All regressions also include time fixed effects and standard controls (risk aversion, age, gender, education, marital status, income and wealth). Robust standard errors, clustered at the individual level, are in brackets. \*, \*\* and \*\*\* denotes significance at 10%, 5% and 1% level, respectively.

Dep Variable	Std Dev	$\beta(F) - \beta(W)$	Ret	turns	Tot Change	Act Change
	(1)	(2)	(3)	(4)	(5)	(6)
Ambig Aversion	$0.045 \ (0.021)^{**}$	0.011 (0.006)*	$0.008 \\ (0.007)$	-0.035 (0.026)	-0.026 (0.014)*	-0.001 (0.002)
AvgRet*Ambig				$0.099 \\ (0.059)^*$		
Ambig * Change Pass Share					-0.32 (0.047)***	
Change Pass Share					1.494 (0.176)***	
Ambig * Pass Change						-0.127 $(0.042)^{***}$
Pass Change						-0.172 (0.154)
	10505	15050	15040	1×040	45.00	14010
Number of Obs	16797	17058	15648	15648	6523	14813
Number of Clusters	262	263	258	258	153	259
R-squared	0.109	0.097	0.215	0.221	0.29	0.379

Table 5: Tax Advantage

NOTE: This table reports the results of OLS regressions (columns 1-4 and 6) and IV regressions (column 5). The sample is restricted to clients who have no contract younger than 8 years. In column 1, the dependent variable is the standard deviation of the returns in the previous 12 months. In column 2, the dependent variable is the difference between Beta(F) and Beta(W). Controls include the sum of Beta(F) and Beta(W). In columns 3-4, the dependent variable is the monthly returns of the portfolio in percentage points. Controls include the standard deviation, Beta(F), the skewness and the coskewness of the returns. AvgRet is the average returns across all portfolios at time t. In column 5, the dependent variable is the total change in the log risky share. Change Pass Share is the passive change in the log risky share. The instrument is the zero-rebalancing (log) passive change. In column 6, the dependent variable is the active change in the risky share. Passive Change is the passive change in the risky share. All regressions also include time fixed effects and standard controls (risk aversion, age, gender, education, marital status, income and wealth). Robust standard errors, clustered at the individual level, are in brackets. \*, \*\* and \*\*\* denotes significance at 10%, 5% and 1% level, respectively.

Dep Variable	Std Dev	$\beta(F) - \beta(W)$	B	eturns	Tot Change	Act Change
	(1)	$\frac{\beta(\mathbf{r}) \beta(\mathbf{r})}{(2)}$	(3)	(4)	(5)	(6)
Ambig Averse	$\begin{array}{c} 0.119 \\ (0.052)^{**} \end{array}$	0.016 (0.005)***	0.02 (0.014)	-0.142 (0.055)***	0.002 (0.004)	-0.05 (0.030)*
$AvgRet^*Ambig$				0.423 (0.137)***		
Ambig * Change Pass Share					-0.502 $(0.100)^{***}$	
Change Pass Share					0.81 (0.109)***	
Ambig * Pass Change						-0.14 (0.062)**
Pass Change						-0.543 (0.057)***
Number of Obs	34672	35578	31265	31265	27395	12477
Number of Clusters	457	457	456	456	449	284
R-squared	0.112	0.165	0.231	0.237	0.458	0.191

Table 6: Ambiguity Averse Dummy

NOTE: This table reports the results of OLS regressions (columns 1-4 and 6) and IV regressions (column 5). Ambig Averse is a dummy equal to 1 if Ambig Aversion is 4 and zero otherwise. In column 1, the dependent variable is the standard deviation of the returns in the previous 12 months. In column 2, the dependent variable is the difference between Beta(F) and Beta(W). Controls include the sum of Beta(F) and Beta(W). In columns 3-4, the dependent variable is the monthly returns of the portfolio in percentage points. Controls include the standard deviation, Beta(F), the skewness and the coskewness of the returns. AvgRet is the average returns across all portfolios at time t. In column 5, the dependent variable is the total change in the log risky share. Change Pass Share is the passive change in the log risky share. The instrument is the zero-rebalancing (log) passive change in the risky share. All regressions also include time fixed effects and standard controls (risk aversion, age, gender, education, marital status, income and wealth). Robust standard errors, clustered at the individual level, are in brackets. \*, \*\* and \*\*\* denotes significance at 10%, 5% and 1% level, respectively.

Dep Variable	Std Dev	$\beta(F) - \beta(W)$	Ret	urns	Tot Change	Act Change
	(1)	(2)	(3)	(4)	(5)	(6)
Ambig Aversion	0.044 (0.021)**	0.007 (0.002)***	0.011 (0.006)**	-0.043 (0.023)*	-0.015 (0.012)	0.001 (0.002)
$\operatorname{Ambig}(\operatorname{loss})$	-0.012 (0.023)	0.001 (0.002)	$0.011 \\ (0.006)^*$	$0.03 \\ (0.025)$	$0.001 \\ (0.011)$	-0.001 (0.002)
$AvgRet^*Ambig$				$0.142 \\ (0.058)^{**}$		
${\rm AvgRet}^*{\rm Ambig}({\rm loss})$				-0.05 (0.064)		
Ambig *Change Pass Share					-0.218 $(0.068)^{***}$	
Ambig(loss)*Ch Pass Share					$0.055 \\ (0.030)^*$	
Change Pass Share					0.999 $(0.300)^{***}$	
Ambig*Pass Change						-0.05 (0.021)**
Ambig(loss)*Pass Change						$0.017 \\ (0.017)$
Passive Change						-0.537 $(0.091)^{***}$
Number of Obs Number of Clusters R-squared	$34672 \\ 457 \\ 0.111$	$35578 \\ 457 \\ 0.165$	$31265 \\ 456 \\ 0.232$	$31265 \\ 456 \\ 0.236$	12477 284 0.193	$27395 \\ 449 \\ 0.458$

 Table 7: Preferences over Losses

NOTE: This table reports the results of OLS regressions (columns 1-4 and 6) and IV regressions (column 5). Ambig(loss) is a measure of ambiguity aversion elicited with lotteries involving losses. In column 1, the dependent variable is the standard deviation of the returns in the previous 12 months. In column 2, the dependent variable is the difference between Beta(F) and Beta(W). Controls include the sum of Beta(F) and Beta(W). In columns 3-4, the dependent variable is the monthly returns of the portfolio in percentage points. Controls include the standard deviation, Beta(F), the skewness and the coskewness of the returns. AvgRet is the average returns across all portfolios at time t. In column 5, the dependent variable is the total change in the log risky share. Change Pass Share is the passive change in the log risky share. The instrument is the zero-rebalancing (log) passive change. In column 6, the dependent variable is the active change in the risky share. Passive Change is the passive change in the risky share. All regressions also include time fixed effects and standard controls (risk aversion, age, gender, education, marital status, income and wealth). Robust standard errors, clustered at the individual level, are in brackets. \*, \*\* and \*\*\* denotes significance at 10%, 5% and 1% level, respectively.

		Table 6: Otr	ier frans			
Dep Variable	Std Dev	$\beta(F) - \beta(W)$	Ret	urns	Tot Change	Act Change
	(1)	(2)	(3)	(4)	(5)	(6)
Ambig Aversion	0.041 (0.021)*	$0.01 \\ (0.005)^*$	0.012 (0.006)**	-0.042 (0.023)*	-0.016 (0.012)	0.001 (0.002)
AvgRet*Ambig				0.141 (0.059)**		
Ambig * Change Pass Share					-0.261 $(0.061)^{***}$	
Change Pass Share					1.3 (0.244)***	
Ambig * Pass Change						-0.048 (0.022)**
Pass Change						-0.498 $(0.081)^{***}$
Compute Interest	$0.068 \\ (0.051)$	0.015 (0.012)	0.013 (0.017)	0.013 (0.017)	-0.013 (0.025)	0.001 (0.004)
Confident	0.014 (0.02)	$0.002 \\ (0.005)$	$0.002 \\ (0.004)$	$0.002 \\ (0.004)$	0.001 (0.009)	0.001 (0.001)
Hyperbolic	0.013 (0.057)	$\begin{array}{c} 0.001 \\ (0.014) \end{array}$	-0.015 (0.016)	-0.014 (0.016)	$0.002 \\ (0.03)$	-0.002 (0.005)
Number of Obs	34672	35759	31265	31265	12477	27395
Number of Clusters	457	458	456	456	284 0.166	449
R-squared	0.113	0.13	0.232	0.236	0.166	0.457

Table 8: Other Traits

NOTE: This table reports the results of OLS regressions (columns 1-4 and 6) and IV regressions (column 5). Compute Interest is a dummy equal to one if the subject could correctly compute compound interests. Confident is a 1-7 index based the perception of whether financial risk can be mastered. Hyperbolic is a dummy equal to one if the subject reported hyperbolic time preferences. In column 1, the dependent variable is the standard deviation of the returns in the previous 12 months. In column 2, the dependent variable is the difference between Beta(F) and Beta(W). Controls include the sum of Beta(F) and Beta(W). In columns 3-4, the dependent variable is the monthly returns of the portfolio in percentage points. Controls include the standard deviation, Beta(F), the skewness and the coskewness of the returns. AvgRet is the average returns across all portfolios at time t. In column 5, the dependent variable is the total change in the log risky share. Change Pass Share is the passive change in the log risky share. The instrument is the zero-rebalancing (log) passive change in the risky share. All regressions also include time fixed effects and standard controls (risk aversion, age, gender, education, marital status, income and wealth). Robust standard errors, clustered at the individual level, are in brackets. \*, \*\* and \*\*\* denotes significance at 10%, 5% and 1% level, respectively.

Dep Variable	UC Share	Monthly Returns		UC Share	Monthly	Returns			
	(1)	(2)	(3)	(4)	(5)	(6)			
Ambig Aversion	0.007 $(0.001)^{***}$	0.012 $(0.004)^{***}$	-0.042 $(0.009)^{***}$	$0.007 \\ (0.011)$	0.012 (0.006)**	-0.042 (0.024)*			
Risk Aversion	-0.006 $(0.001)^{***}$	-0.002 (0.003)	-0.002 (0.003)	-0.006 (0.011)	-0.002 (0.006)	-0.002 (0.006)			
$AvgRet^*Ambig$			0.141 (0.013)***			$0.141 \\ (0.059)^{**}$			
Number of Obs	35578	31265	31265	35578	31265	31265			
Number of Clusters	104	103	103	104/457	103/456	103/456			
R-squared	0.074	0.232	0.236	0.074	0.232	0.236			

 Table 9: Clustering of Standard Errors

NOTE: This table reports the results of OLS regressions. In columns 1-3, standard errors are clustered by time (month\*year). In columns 4-6, standard errors are clustered by client and time (double clustering). In columns 1 and 4, the dependent variable is the value of uc funds over the total value of the portfolio. In columns 2,3,5 and 6, the dependent variable is the monthly returns of the portfolio in percentage points. Controls include the standard deviation, Beta(F), the skewness and the coskewness of the returns. AvgRet is the average returns across all portfolios at time t. All regressions also include time fixed effects and standard controls (risk aversion, age, gender, education, marital status, income and wealth). Robust standard errors are in brackets. \*, \*\* and \*\*\* denotes significance at 10%, 5% and 1% level, respectively.

	10010 10.	Sample Hierages	and morn	1001011 10000	00		
Dep Variable	Avg Std Dev	g Std Dev Avg $\beta(F) - \beta(W)$		Avg Monthly Returns		IR (MSCI)	
	(1)	(2)	(3)	(4)	(5)	(6)	
Ambig Aversion	$\begin{array}{c} 0.032 \\ (0.022) \end{array}$	0.004 (0.002)*	0.017 $(0.007)^{**}$	-0.325 $(0.179)^*$	0.003 (0.001)**	$0.003 \\ (0.001)^{**}$	
AvgRet*Ambig				$0.939 \\ (0.447)^{**}$			
Controls	Yes	Yes	No	Yes	Yes	Yes	
Time Dummies	Yes	Yes	No	Yes	Yes	Yes	
Number of Obs	457	457	486	434	33561	33561	
Number of Clusters					457	457	
R-squared	0.121	0.623	0.013	0.043	0.967	0.96	

Table 10: Sample Averages and Information Ratios

NOTE: This table reports the results of OLS regressions. In column 1, the dependent variable is the average standard deviation of the returns of the client over the sample period. In column 2, the dependent variable is the difference between the average Beta(F) and the average Beta(W) of the client over the sample period. Controls include the sum of the average Beta(F) and the average Beta(W). In columns 3-4, the dependent variable is the average monthly returns of the client portfolio over the sample period. Controls include the average Beta(F), the average skewness and the average coskewness of the returns. AvgRet is the average returns across all portfolios at time t. In column 5, the dependent variable is the information ratio relative to the CAC40 index, defined as the ratio of the difference between the monthly returns of the client and that of CAC40 over the standard deviation of this difference. In columns 6, the dependent variable is the information ratio relative to the MSCI index, defined as the ratio of the difference between the monthly returns of the client and that of MSCI over the standard deviation of this difference. Controls include risk aversion, age, gender, education, marital status, income and wealth. Robust standard errors, clustered at the individual level in columns 5-6, are in brackets. \*, \*\* and \*\*\* denotes significance at 10\%, 5\% and 1\% level, respectively.

Table 11. Datafield Sample								
Dep Variable	Std Dev	$\beta(F) - \beta(W)$	Ret	urns	Tot Change	Act Change		
	(1)	(2)	(3)	(4)	(5)	(6)		
Ambig Aversion	0.034 (0.023)	0.008 $(0.002)^{***}$	0.01 (0.007)	-0.029 (0.027)	-0.016 (0.013)	0.001 (0.002)		
AvgRet*Ambig				$\begin{array}{c} 0.101 \\ (0.066) \end{array}$				
Ambig * Change Pass Share					-0.302 $(0.056)^{***}$			
Change Pass Share					1.494 (0.228)***			
Ambig * Pass Change						-0.087 $(0.039)^{**}$		
Pass Change						-0.305 $(0.142)^{**}$		
Number of Obs	23070	23495	21145	21145	9192	19649		
Number of Clusters	232	232	232	232	155	232		
R-squared	0.077	0.112	0.211	0.214	0.227	0.374		

 Table 11: Balanced Sample

NOTE: This table reports the results of OLS regressions (columns 1-4 and 6) and IV regressions (column 5). The sample is restricted to clients who appear in the sample for more than 100 periods. In column 1, the dependent variable is the standard deviation of the returns in the previous 12 months. In column 2, the dependent variable is the difference between Beta(F) and Beta(W). Controls include the sum of Beta(F) and Beta(W). In columns 3-4, the dependent variable is the monthly returns of the portfolio in percentage points. Controls include the standard deviation, Beta(F), the skewness and the coskewness of the returns. AvgRet is the average returns across all portfolios at time t. In column 5, the dependent variable is the total change in the log risky share. Change Pass Share is the passive change in the log risky share. The instrument is the zero-rebalancing (log) passive change. In column 6, the dependent variable is the active change in the risky share. Passive Change is the passive change in the risky share. All regressions also include time fixed effects and standard controls (risk aversion, age, gender, education, marital status, income and wealth). Robust standard errors, clustered at the individual level, are in brackets. \*, \*\* and \*\*\* denotes significance at 10%, 5% and 1% level, respectively.

	Tabl	e 12. weighte	u negressi	0115		
Dep Variable	Std Dev	$\beta(F) - \beta(W)$	Ret	urns	Tot Change	Act Change
	(1)	(2)	(3)	(4)	(5)	(6)
Ambig Aversion	0.043 $(0.022)^{**}$	0.007 $(0.002)^{***}$	0.013 (0.006)**	-0.041 (0.024)*	-0.018 (0.011)	0.001 (0.002)
$AvgRet^*Ambig$				$0.142 \\ (0.061)^{**}$		
Ambig * Change Pass Share					-0.256 $(0.061)^{***}$	
Change Pass Share					1.276 (0.242)***	
Ambig * Pass Change						-0.046 (0.021)**
Pass Change						-0.506 $(0.080)^{***}$
Number of Obs	34672	35578	31265	31265	12477	27395
Number of Clusters R-squared	$\begin{array}{c} 457\\ 0.114\end{array}$	$\begin{array}{c} 457\\ 0.171\end{array}$	$\begin{array}{c} 456 \\ 0.235 \end{array}$	$\begin{array}{c} 456 \\ 0.239 \end{array}$	$\begin{array}{c} 284 \\ 0.163 \end{array}$	$\begin{array}{c} 449 \\ 0.462 \end{array}$

Table 12: Weighted Regressions

NOTE: This table reports the results of Least Squares regressions (columns 1-4 and 6) and 2SLS regressions (column 5) in which observations are weighted by inverse probability weights. In column 1, the dependent variable is the standard deviation of the returns in the previous 12 months. In column 2, the dependent variable is the difference between Beta(F) and Beta(W). Controls include the sum of Beta(F) and Beta(W). In columns 3-4, the dependent variable is the monthly returns of the portfolio in percentage points. Controls include the standard deviation, Beta(F), the skewness and the coskewness of the returns. AvgRet is the average returns across all portfolios at time t. In column 5, the dependent variable is the total change in the log risky share. Change Pass Share is the passive change in the log risky share. The instrument is the zero-rebalancing (log) passive change. In column 6, the dependent variable is the active change in the risky share. Passive Change is the passive change in the risky share. All regressions also include time fixed effects and standard controls (risk aversion, age, gender, education, marital status, income and wealth). Robust standard errors, clustered at the individual level, are in brackets. \*, \*\* and \*\*\* denotes significance at 10%, 5% and 1% level, respectively.

	Tab	de 15. Control	s as Duim	mes		
Dep Variable	Std Dev	$\beta(F) - \beta(W)$	Ret	urns	Tot Change	Act Change
	(1)	(2)	(3)	(4)	(5)	(6)
Ambig Aversion	$0.042 \\ (0.022)^*$	0.008 $(0.002)^{***}$	0.014 (0.006)**	-0.04 $(0.024)*$	-0.02 (0.012)	0.001 (0.002)
AvgRet*Ambig				$0.141 \\ (0.059)^{**}$		
Ambig * Change Pass Share					$-0.266$ $(0.060)^{***}$	
Change Pass Share					1.317 (0.239)***	
Ambig * Pass Change						-0.047 (0.021)**
Pass Change						-0.493 (0.080)***
Number of Obs	34672	35578	31265	31265	12477	27395
Number of Clusters	457	457	456	456	284	449
R-squared	0.144	0.171	0.233	0.237	0.176	0.462

Table 13: Controls as Dummies

NOTE: This table reports the results of OLS regressions (columns 1-4 and 6) and IV regressions (column 5). In column 1, the dependent variable is the standard deviation of the returns in the previous 12 months. In column 2, the dependent variable is the difference between Beta(F) and Beta(W). Controls include the sum of Beta(F) and Beta(W). In columns 3-4, the dependent variable is the monthly returns of the portfolio in percentage points. Controls include the standard deviation, Beta(F), the skewness and the coskewness of the returns. AvgRet is the average returns across all portfolios at time t. In column 5, the dependent variable is the total change in the log risky share. Change Pass Share is the passive change in the log risky share. The instrument is the zero-rebalancing (log) passive change. In column 6, the dependent variable is the active change in the risky share. Passive Change is the passive change in the risky share. All regressions also include time fixed effects and standard controls (risk aversion, age, gender, education, marital status, income and wealth). For age, education, income and wealth, we include a series of dummies variables instead of categorical variables as in the baseline regressions. Robust standard errors, clustered at the individual level, are in brackets. \*, \*\* and \*\*\* denotes significance at 10%, 5% and 1% level, respectively.

	Tabl	le 14. Initial S	ampie i e	nou		
Dep Variable	Std Dev	$\beta(F) - \beta(W)$	Ret	turns	Tot Change	Act Change
	(1)	(2)	(3)	(4)	(5)	(6)
Ambig Aversion	$0.046 \\ (0.024)^*$	$0.004 \\ (0.002)^*$	$0.015 \\ (0.009)^*$	$-0.08$ $(0.039)^{**}$	0.033 $(0.015)^{**}$	$0.003 \\ (0.002)^*$
AvgRet*Ambig				0.201 (0.079)**		
Ambig * Change Pass Share					-0.526 $(0.200)^{***}$	
Change Pass Share					2.301 (0.707)***	
Ambig * Pass Change						-0.071 (0.036)*
Pass Change						-0.464 (0.135)***
Number of Obs	14137	14577	12812	12812	4370	9975
Number of Clusters R-squared	$\begin{array}{c} 346 \\ 0.084 \end{array}$	$\begin{array}{c} 352 \\ 0.196 \end{array}$	$\begin{array}{c} 344 \\ 0.212 \end{array}$	$\begin{array}{c} 344 \\ 0.217 \end{array}$	$\begin{array}{c} 179 \\ 0.176 \end{array}$	$\begin{array}{c} 323 \\ 0.449 \end{array}$
i squarou	0.001	0.100	0.212	0.211	0.110	0.115

#### Table 14: Initial Sample Period

NOTE: This table reports the results of OLS regressions (columns 1-4 and 6) and IV regressions (column 5). The sample is restricted to the first half of our sample period, from September 2002 to December 2006. In column 1, the dependent variable is the standard deviation of the returns in the previous 12 months. In column 2, the dependent variable is the difference between Beta(F) and Beta(W). Controls include the sum of Beta(F) and Beta(W). In columns 3-4, the dependent variable is the monthly returns of the portfolio in percentage points. Controls include the standard deviation, Beta(F), the skewness and the coskewness of the returns. AvgRet is the average returns across all portfolios at time t. In column 5, the dependent variable is the total change in the log risky share. Change Pass Share is the passive change in the log risky share. The instrument is the zero-rebalancing (log) passive change. In column 6, the dependent variable is the active change in the risky share. Passive Change is the passive change in the risky share. All regressions also include time fixed effects and standard controls (risk aversion, age, gender, education, marital status, income and wealth). Robust standard errors, clustered at the individual level, are in brackets. \*, \*\* and \*\*\* denotes significance at 10%, 5% and 1% level, respectively.

Table 15. Future variables						
Dep Variable	Std Dev		Beta(F)		Beta(F)- $Beta(W)$	
	(1)	(2)	(3)	(4)	(5)	(6)
Ambig Aversion	0.056 (0.024)**	0.049 (0.023)**	0.013 $(0.005)^{***}$	0.01 (0.005)**	0.009 $(0.003)^{***}$	0.007 $(0.002)^{***}$
Beta(F) + Beta(W)						0.235 $(0.014)^{***}$
Controls	No	Yes	No	Yes	Yes	Yes
Time Dummies	No	Yes	No	Yes	Yes	Yes
Number of Obs	39541	35272	40083	35759	35578	29842
Number of Clusters	511	458	511	458	457	450
R-squared	0.008	0.123	0.007	0.142	0.061	0.215

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Table	15:	Future	Variables

NOTE: This table reports the results of OLS regressions. In columns 1-2, the dependent variable is the standard deviation of the returns in the next 12 months. In columns 3-4, the dependent variable Beta(F) is obtained by regressing the returns in the next 12 months on the French stock market index CAC40. In columns 5-6, the dependent is the difference between Beta(F) and Beta(W), which is obtained by regressing the returns in the next 12 months on the world stock market index MSCI. In column 6, Beta(F)+Beta(W) is the sum of Beta(F) and Beta(W). Controls include risk aversion, age, gender, education, marital status, income and wealth. Robust standard errors, clustered at the individual level, are in brackets. \*, \*\* and \*\*\* denotes significance at 10%, 5% and 1% level, respectively.

## References

Petersen, M. A. (2009), 'Estimating standard errors in finance panel data sets: Comparing approaches', *Review of Financial Studies* 22(1), 435– 480.