

Can Risk Averse Households Make Risky Investments? The Role of Trust in Others

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- Portfolio allocation in risky financial assets is widely heterogeneous in the population
- It is related to risk attitude according to the mean-variance framework (Markowitz, 1952)
- The empirical literature also finds correlation with age, gender, education, health, etc. (e.g., Dohmen et al., 2011)
- Recently, a link was established also between portfolio allocation and (generalized) trust in others (Guiso et al., 2008; Georgarakos and Pasini, 2011)

- We want to empirically explore the correlation of portfolio choice with risk attitude and trust in others
 - Are risk tolerance and trust **complements**, i.e, are both necessary to induce risky financial behavior?
 - Are risk tolerance and trust **substitutes**, i.e, may a high level of trust compensate for the absence of risk tolerance and be enough for risky financial decisions to occur?

- The paper most closely related to ours is Guiso et al. (2008)
- Key differences:
 - We disentangle the role played by risk attitude and trust in portfolio decisions
 - We use a measure of risk attitude in the financial domain
 - We exploit the heterogeneity across European countries

- **Survey of Health, Ageing and Retirement in Europe (SHARE)**
- Waves 2 (year 2006) and 5 (year 2013), run on 11 European countries
- The two waves contain information on portfolio choice as well as self-assessed measures of risk attitude and trust in others
- Sample size: 36,445 observations

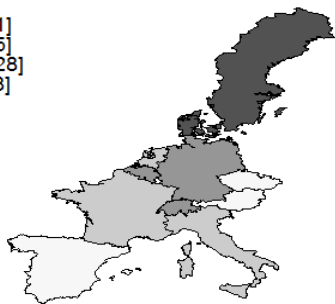
Summary statistics

	Mean	SD	Min	Max
Age	63.969	8.486	50	80
Female	.528	.499	0	1
Foreign	.065	.246	0	1
High school	.343	.475	0	1
College	.214	.410	0	1
Worker	.307	.461	0	1
Good health	.260	.438	0	1
Married	.705	.456	0	1
With children	.874	.332	0	1
Home owner	.862	.345	0	1
Income (k euros)	32.008	51.146	.003	8,783.368
Net worth (k euros)	316.114	498.842	10.009	1,530.000
Year 2013	.526	.499	0	1

Risky asset holdings and share

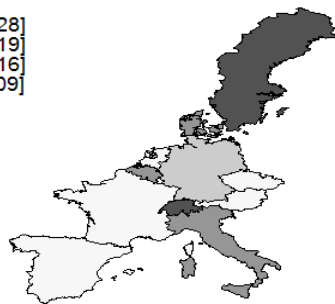
Risky asset holdings

- (.5,.71]
- (.28,.5]
- (.18,.28]
- [.1,.18]



Risky asset share

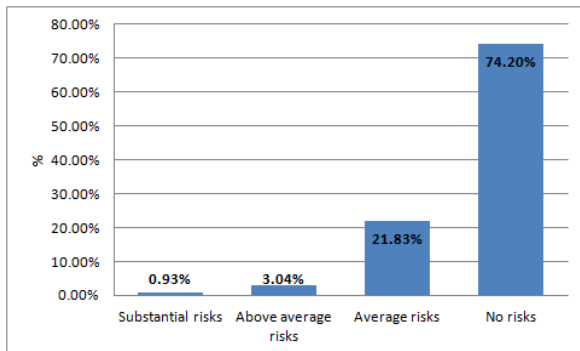
- (.19,.28]
- (.16,.19]
- (.09,.16]
- [.03,.09]



"When people invest their savings they can choose between assets that give low return with little risk to lose money, for instance a bank account or a safe bond, or assets with a high return but also a higher risk of losing, for instance stocks and shares. Which of the statements on the card comes closest to the amount of financial risk that you are willing to take when you save or make investments?"

- Take substantial financial risks expecting to earn substantial returns
- Take above average financial risks expecting to earn above average returns
- Take average financial risks expecting to earn average returns
- Not willing to take any financial risks"

- In the sample 74.20% report the last option

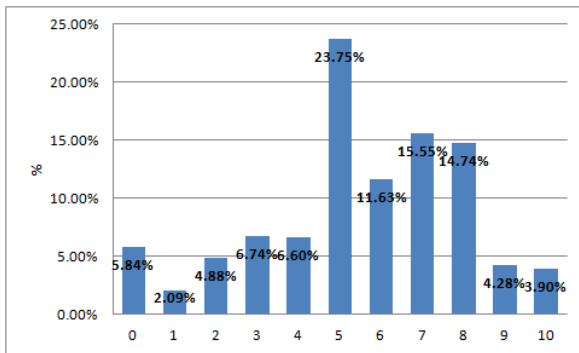


- We consider a dummy =0 if not willing to take any risk, and =1 otherwise

"I would now like to ask a question about how you view other people. Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people? Please tell me on a scale from 0 to 10, where 0 means that you can't be too careful and 10 means that most people can be trusted."

Trust in others

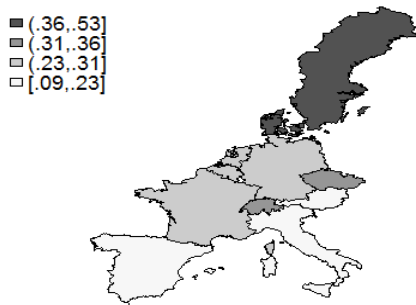
- In the sample 65.67% declare a trust between 5 and 8, with a mode on 5



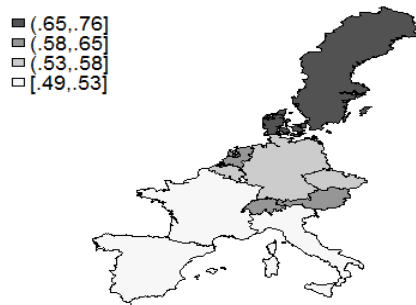
- We consider the raw variable divided by 10

Risk tolerance and trust in others

Risk tolerance



Trust in others



At first glance

- We split the countries in 4 groups based on their ranking for aggregate risk tolerance and trust:
 - *Risk tolerance and high trust*
Denmark, Sweden
 - *Risk tolerance and low trust*
Belgium, Czech Republic, Germany
 - *Risk aversion and high trust*
Austria, Netherlands, Switzerland
 - *Risk aversion and low trust*
France, Italy, Spain

	Risky holding	Risky share	Risk tolerance	Trust
Risk tolerance and high trust	.629	.237	.516	.715
Risk tolerance and low trust	.359	.155	.316	.554
Risk aversion and high trust	.280	.115	.285	.636
Risk aversion and low trust	.214	.115	.197	.518
Total	.286	.133	.258	.551

- **Risky asset holding:** logit model
- **Risky asset share:** fractional response logit model estimated with Bernoulli quasi maximum likelihood as in Papke and Woolridge (1996)
- We use sampling weights and standard errors clustered at the country level
- The specifications include country dummies and other control variables (on marital status, family composition and year)

Asset holding (average marginal effects x100)

	(1)	(2)	(3)	(4)
Risk tolerance			19.590***	23.788***
Trust		5.884***	3.840***	
Trust with risk tol.				-1.265
Trust with risk aver.				6.029***
Age/10	-.929*	-.985*	0.192	.227
Female	-3.304***	-3.348***	-.974	-.968
Foreign	-2.835	-2.856	-2.127	-2.117
High school	5.341***	5.143***	3.798***	3.802***
College	7.917***	7.504***	4.862***	4.915***
Worker	-2.592***	-2.678***	-2.675***	-2.639***
Good health	3.130***	2.873***	2.227**	2.242**
Home owner	-17.316***	-17.257***	-14.734***	-14.728***
Income (ln)	3.761***	3.699***	2.795***	2.782***
Net worth (ln)	12.237***	12.188***	10.401***	10.430***

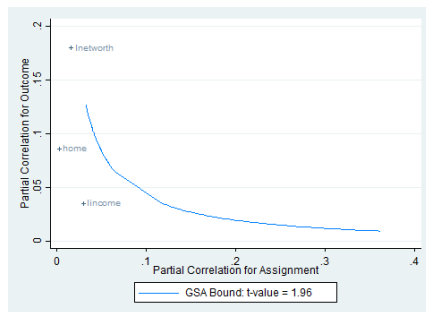
Asset share (average marginal effects x100)

	(1)	(2)	(3)	(4)
Risk tolerance			9.088***	12.465***
Trust		2.722***	1.702***	
Trust with risk tol.				-1.820
Trust with risk aver.				3.935***
Age/10	.583	.566	1.090	1.133*
Female	-1.049***	-1.079***	.029	.045
Foreign	-.221	-.235	.008	.019
High school	3.196***	3.099***	2.496***	2.502***
College	3.879***	3.685***	2.424***	2.481***
Worker	-2.747***	-2.787***	-2.832***	-2.799***
Good health	1.113***	.996***	.775*	.803*
Home owner	-7.566***	-7.565***	-6.788***	-6.826***
Income (ln)	1.447***	1.417***	1.035***	1.030***
Net worth (ln)	4.982***	4.980***	4.338***	4.388***

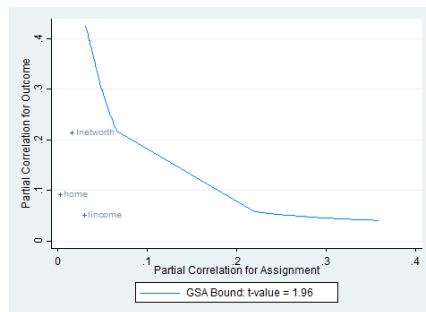
Biased estimates?

- The analysis may suffer from omitted variables
 - Estimates may then be biased
- We perform a **Generalized Sensitivity Analysis (GSA)** as suggested by Harada (2013)
 - 1 We identify an explanatory variable (the "assignment" variable) with significant coefficient
 - In our case: the interaction between trust and risk aversion
 - 2 GSA adds to the regression specification one pseudo-random variable, with given correlation with the dependent variable and the assignment variable
 - 3 By changing the pseudo-random variable, it shows what should happen to make insignificant the coefficient on the assignment variable

Asset holding



Asset share



- There is wide variation in risk attitude and trust across European countries and households
- Risky investment is more frequent with high levels of trust and (especially) risk tolerance, taken separately
- Risky investment is
 - uncorrelated with trust under risk tolerance
 - weakly positively correlated with trust under risk aversion
- Trust seems to act as an **imperfect substitute** for risk tolerance
- Trust matters only when the household is risk averse
- Results are robust to omitted variables