



# Financial Literacy and Retirement Savings in Germany

Networks Financial Institute at Indiana State University Conference:

Improving Financial Literacy and Reshaping Financial Behavior

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# Outline

## I. The Pension System in Germany

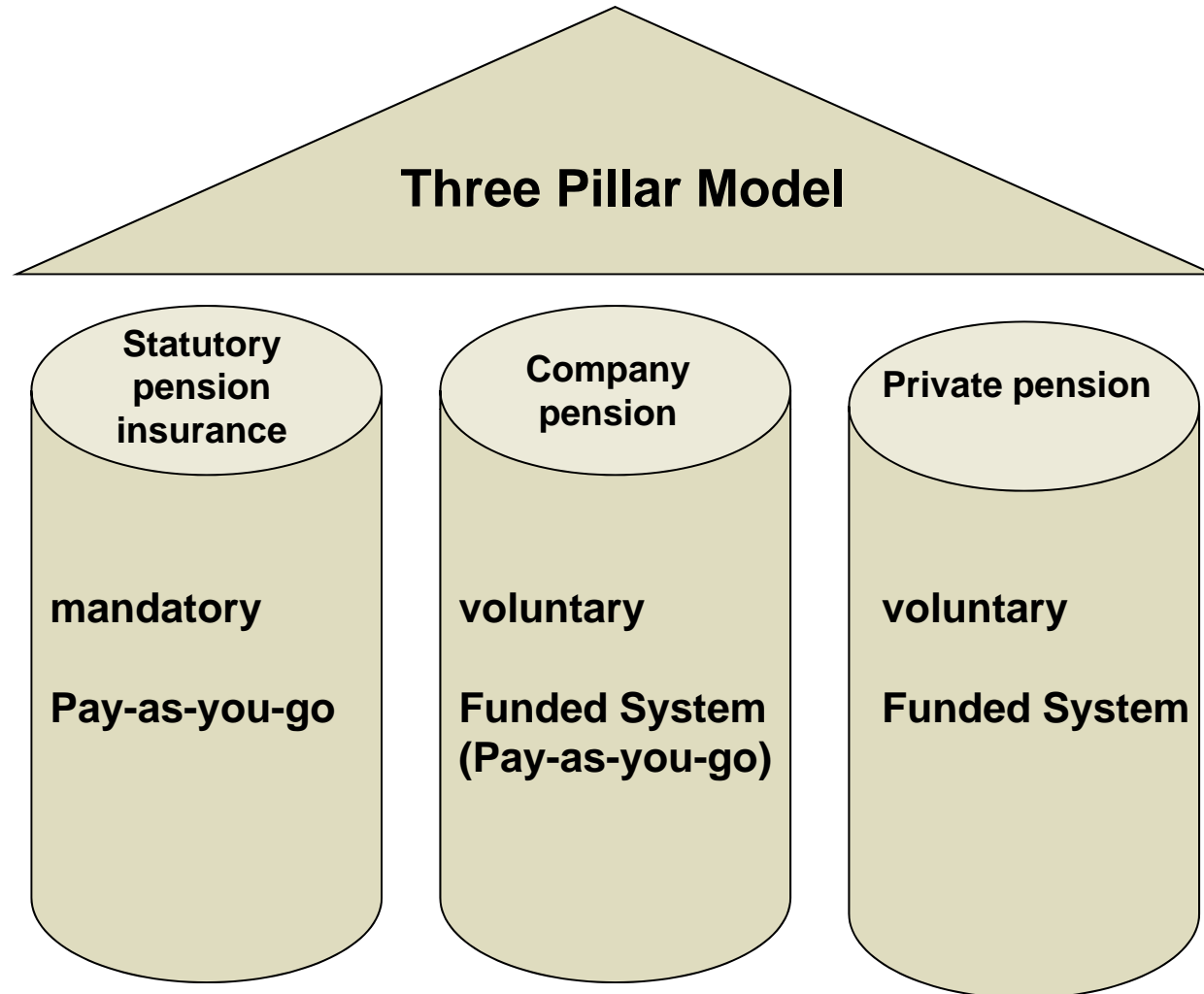
## II. Who is Financially Literate?

- i. International Comparison
- ii. Germany

## III. Financial Literacy and Retirement Savings

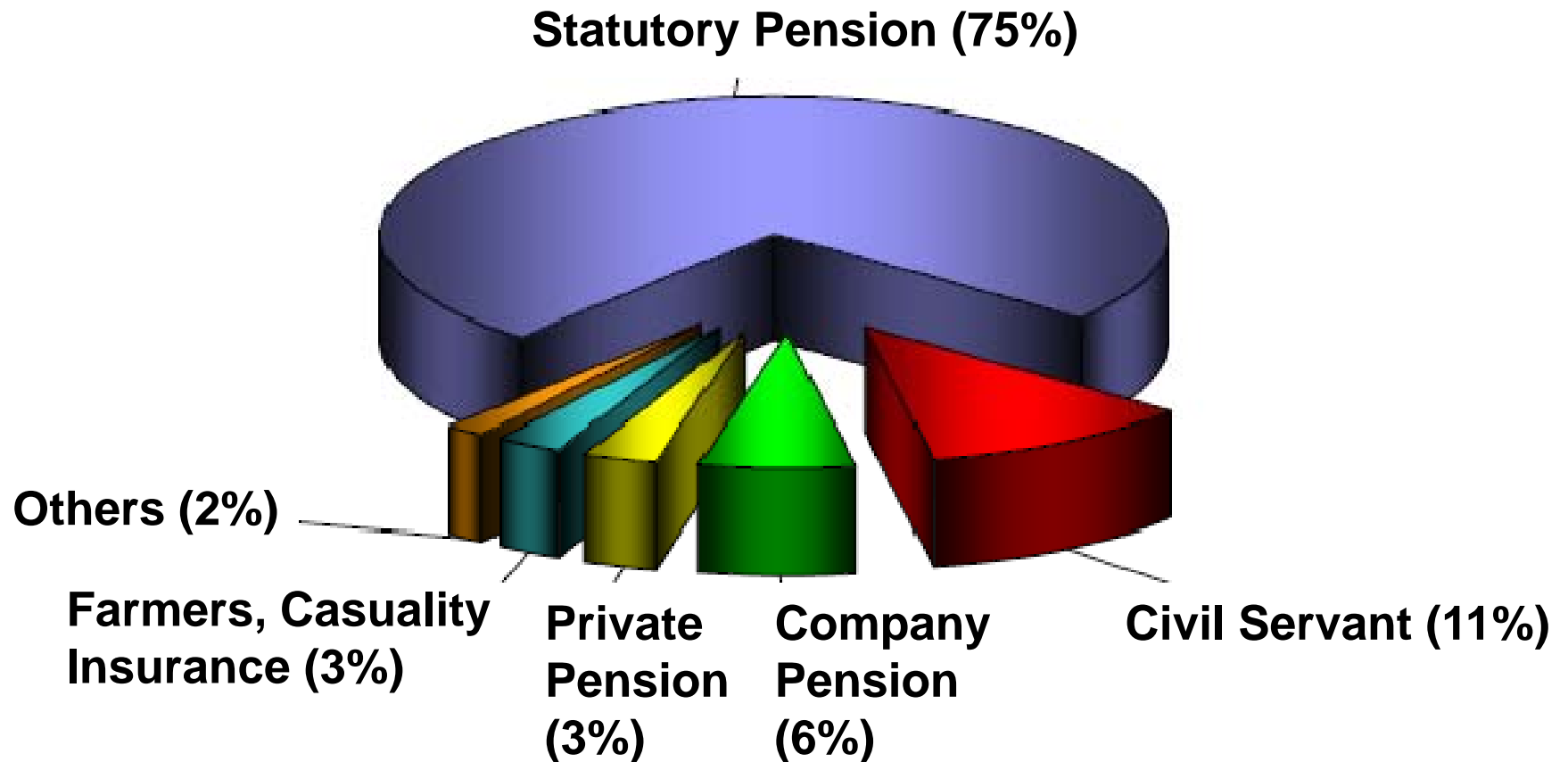


# I. The Pension System in Germany



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## Pensions for Pensioners and Survivors



Source: German Federal Ministry of Labor and Social Affairs (2008)



# I. The Pension System in Germany

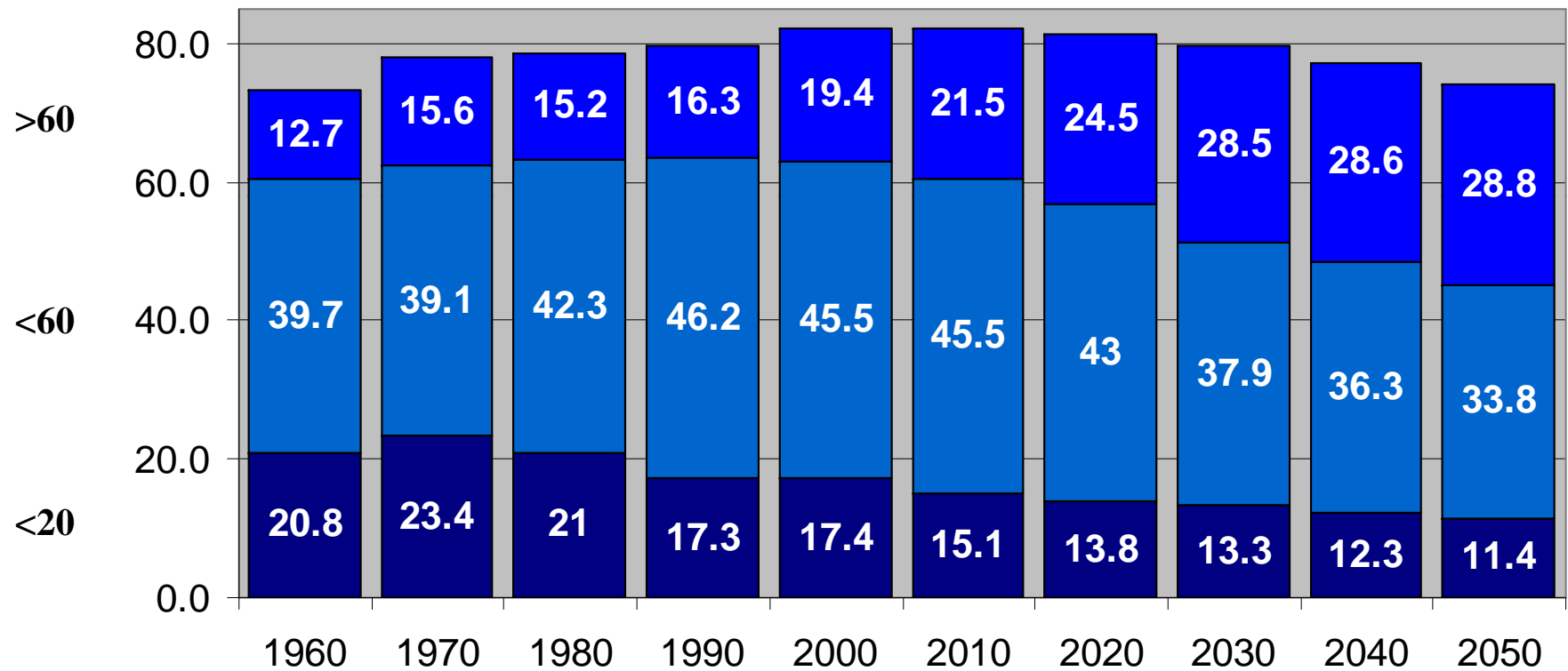
## Pension Reforms and Pension Level

- Yearly Pension adjustments
  - Wages
  - Contributions statutory and private pension
  - Dependency ratio
- Pension: 1088€ (45years insured, average income, net before taxation)
- Pension level: 50.2% (net before taxation)
- Contribution rate: 19.9% ( 1/2 employee, 1/2 employer)
- Gradual increase retirement age 65→67



# I. The Pension System in Germany

## Age Structure in Germany

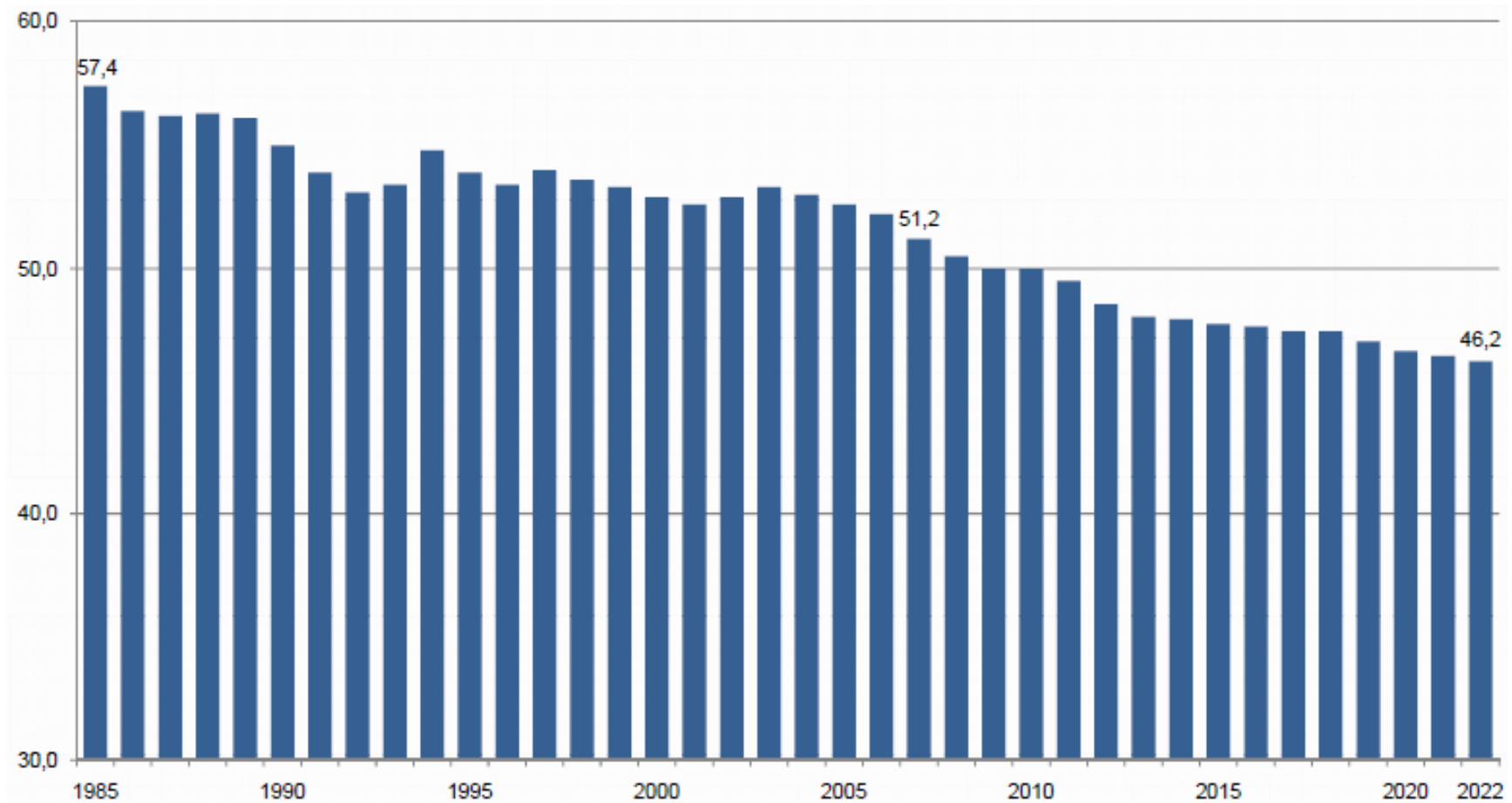


Source: Sozialpolitik-aktuell.de



# I. The Pension System in Germany

## Pension Level



Source: Sozialpolitik-aktuell.de



eldkirchenstraße

## II. Who is Financially Literate?

### 1. Interest Calculation

**Suppose you had \$100 in a savings account and the interest rate was 2% per year.**

**After 5 years, how much do you think you would have in the account if you left the money to grow?**

- **More than \$102**
- **Exactly \$102**
- **Less than \$102**



## II. Who is Financially Literate?

### 2. Inflation

**Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year, would you be able to buy**

- **more than**
- **exactly the same as or**
- **less than today with the money in this account?**



## II. Who is Financially Literate?

### 3. Diversification

**Do you think that the following statement is true or false? "Buying a single company stock usually provides a safer return than a stock mutual fund."**

- Right
- wrong
- don't know



## II. Who is Financially Literate?

### i. International Comparison

#### Financial Literacy in The Netherlands, the USA and Germany

	<b>The Netherlands<sup>b</sup></b>	<b>Germany<sup>a</sup></b>	<b>USA<sup>c</sup></b>	<b>Germany<sup>a</sup></b>
<b>Correct on</b>	<b>22-90 years</b>	<b>22-90 years</b>	<b>&gt;=50 years</b>	<b>&gt;=50 years</b>
<b>interest</b>	<b>90.8</b>	<b>85.7</b>	<b>67.1</b>	<b>82.2</b>
<b>inflation</b>	<b>82.6</b>	<b>86.0</b>	<b>75.2</b>	<b>87.1</b>
<b>diversification</b>	<b>48.2</b>	<b>61.0</b>	<b>52.3</b>	<b>56.8</b>

<sup>a</sup> unweighted data, German SAVE Survey 2007

<sup>b</sup> results for the Netherlands taken from Rooij, Lusardi and Alessie (2007)

<sup>c</sup> results for the USA taken from Lusardi and Mitchell (2006)



## II. Who is Financially Literate?

### ii. Germany

- **Gender**
- **Education**
- **Age**



## II. Who is Financially Literate?

### ii. Germany

#### Talking about financial matters (n=1806)

	How many questions correct?			
	0	1	2	3
relatives	22.6	32.5	33.7	37.8
bank	16.4	15.7	29.7	36.9
friends	18.0	22.6	24.4	28.1
colleagues	1.2	3.5	5.2	9.9
neighbours	1.4	1.3	2.3	2.0
nobody	55.4	47.2	36.5	32.4
n	62	197	522	1025



Data: German SAVE Survey 2007

### III. Financial Literacy and Retirement Savings

## Logit Model

$$y_i^* = x_i' \beta + \varepsilon_i$$

$y_i^*$  Owning a private pension plan

$x_i'$  Financial Literacy, Gender, Age, Company Pension, Income, Marital Status, Kids, Kind and Amount of Employment, Real Estate, Education, Health, Pocket Money, Spending it, Risk Aversion, Time Preference, Father/Mother planned.



### III. Financial Literacy and Retirement Savings

## Private Retirement Savings

- **Positive correlated with the knowledge of risk diversification**
- **Not correlated with the knowledge of interest calculation or inflation**
- **Positive correlated with an expected income increase this year**



### III. Financial Literacy and Retirement Savings

## Private Retirement Savings

- **The least educated score worst on the financial literacy questions and only 40% of these people own a supplemental pension plan**
- **Women score worse than men on the financial literacy questions but are as likely to own a supplemental pension plan**



### III. Financial Literacy and Retirement Savings

## Conclusion

- **Design Questions beyond basic Financial Literacy**
- **Retirement Seminar “Old-Age-Provision goes to School” (Altersvorsorge macht Schule)**
- **Advice from Consumer Associations**
- **Mandate Financial Education at School**



**Thank you very  
much for your attention!**

**Any Questions?**



# Backup



<b>Private retirement provision</b>			
<b>n=1694</b>			
	<b>coeff</b>	<b>se</b>	
<b>interest</b>	<b>0.019</b>	<b>0.211</b>	
<b>inflation</b>	<b>0.07</b>	<b>0.2</b>	
<b>diversification</b>	<b>0.372</b>	<b>0.119</b>	<b>***</b>
<b>female</b>	<b>0.123</b>	<b>0.134</b>	
<b>age</b>	<b>0.062</b>	<b>0.047</b>	
<b>age<sup>2</sup></b>	<b>-0.001</b>	<b>0</b>	<b>*</b>
<b>company pension</b>	<b>0.298</b>	<b>0.154</b>	<b>*</b>
<b>log of income</b>	<b>0.368</b>	<b>0.122</b>	<b>***</b>



<b>Private retirement provision</b>			
<b>n=1694</b>			
	<b>coeff</b>	<b>se</b>	
<b>married_d1</b>	<b>reference group</b>		
<b>married but seperated_d2</b>	<b>-0.426</b>	<b>0.334</b>	
<b>single_d3</b>	<b>0.144</b>	<b>0.167</b>	
<b>divorced_d4</b>	<b>0.033</b>	<b>0.175</b>	
<b>widowed_d5</b>	<b>-1.108</b>	<b>0.483</b>	<b>**</b>



<b>Private retirement provision</b>			
<b>n=1694</b>			
	<b>coeff</b>	<b>se</b>	
<b>white- or blue collar_d1</b>	<b>reference group</b>		
<b>civil servant_d2</b>	<b>-0.2</b>	<b>0.235</b>	
<b>self-employed_d3</b>	<b>0.46</b>	<b>0.217</b>	<b>**</b>
<b>full-time_d1</b>	<b>reference group</b>		
<b>part-time_d2</b>	<b>-0.014</b>	<b>0.171</b>	
<b>&lt;15 hours_d3</b>	<b>-0.129</b>	<b>0.235</b>	
<b>sometimes_d4</b>	<b>-0.883</b>	<b>0.595</b>	
<b>not employed_d5</b>	<b>-1.033</b>	<b>0.26</b>	<b>***</b>
<b>higher income</b>	<b>0.07</b>	<b>0.019</b>	<b>***</b>



<b>Finanicial Literacy</b>			
<b>(n=1803)</b>			
	<b>coef</b>	<b>se</b>	
<b>female</b>	<b>-0.567</b>	<b>0.115</b>	<b>***</b>
<b>age</b>	<b>0.0612</b>	<b>0.026</b>	<b>**</b>
<b>age^2</b>	<b>0</b>	<b>0</b>	<b>**</b>
<b>log of income</b>	<b>0.454</b>	<b>0.091</b>	<b>***</b>
<b>lower secondary_d1</b>	<b>reference group</b>		
<b>middle secondary_d2</b>	<b>0.755</b>	<b>0.13</b>	<b>***</b>
<b>middle secondary_d3</b>	<b>0.628</b>	<b>0.18</b>	<b>***</b>
<b>upper secondary_d4</b>	<b>0.84</b>	<b>0.191</b>	<b>***</b>
<b>upper secondary_d5</b>	<b>1.444</b>	<b>0.166</b>	<b>***</b>



<b>Finanicial Literacy</b>			
<b>(n=1803)</b>			
	<b>coef</b>	<b>se</b>	
<b>white- or blue collar_d1</b>	<b>reference group</b>		
<b>civil servant_d2</b>	<b>-0.127</b>	<b>0.228</b>	
<b>self-employed_d3</b>	<b>0.358</b>	<b>0.191</b>	<b>*</b>
<b>full-time employed_d1</b>	<b>reference group</b>		
<b>part-time_d2</b>	<b>-0.134</b>	<b>0.156</b>	
<b>&lt;15 hours_d3</b>	<b>-0.085</b>	<b>0.194</b>	
<b>somtimes_d4</b>	<b>-0.484</b>	<b>0.383</b>	
<b>not employed_d5</b>	<b>-0.436</b>	<b>0.219</b>	<b>**</b>



<b>Finanicial Literacy</b>			
<b>(n=1803)</b>			
	<b>coef</b>	<b>se</b>	
<b>pocket money</b>	<b>0.024</b>	<b>0.014</b>	<b>*</b>
<b>plan father</b>	<b>0.042</b>	<b>0.02</b>	<b>**</b>
<b>talk to relatives</b>	<b>0.198</b>	<b>0.109</b>	<b>*</b>
<b>talk to colleague</b>	<b>0.619</b>	<b>0.23</b>	<b>***</b>
<b>talk to bank/insurance</b>	<b>0.348</b>	<b>0.109</b>	<b>***</b>

