

Supplementary Document for
“Scoring and Predicting Risk Preferences”

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APPENDIX A. The Survey

Q1. SurveyID

Q2. (Gender) What is your gender?

Male

Female

Q3. What is your year of birth?

Q4. (Conductor) Name of conductor:

Q5. (IsWorking) Are you a student or are you working full time?

Student

Working

Q6. If you are a student, which university are you studying at?

Q7. (StudentLevel) If you are a student, what is your level of study?

Undergrad

Masters

Ph.D.

NA (Not applicable)

Q8. If you are a student, at which department do you (plan to) study?

Q9. If you are working full time, what is your profession?

Q10. (IncomeType) If you are working full time, what is the structure of your income?

Commission

Salary

Both salary and comission

NA (Not applicable)

Q11. If you are working full time, what is your job title?

Q12. (HighSchoolType) What type of high school have you graduated from?

a. Public high school with medium of instruction in a foreign language¹

b. Public science high school

c. Private science high school

d. Private high school

e. Other

¹“Anatolian High School” in Turkey

Q13. (SoccerTeam) Which soccer team do you support?

Besiktas

Fenerbahce

Galatasaray

Trabzonspor

Other

Q14. What is your favorite color?

Q15. (EnglishLevel) What is the level of your English language?

a. Advanced

b. Intermediate

c. Beginner

d. None

Q16. (GermanLevel) What is the level of your German language?

a. Advanced

b. Intermediate

c. Beginner

d. None

Q17. (FrenchLevel) What is the level of your French language?

a. Advanced

b. Intermediate

c. Beginner

d. None

Q18. How good is your knowledge of the financial markets?

- a. I follow the trends, read reports, and call my financial advisor every day.*
- b. I follow the trends 3-4 times per month, and know about the general situation.*
- c. I follow the major news.*
- d. I don't know much.*

Q19. When you think of the word “risk” in a financial context, which of the following words come to your mind first?

- a. Danger*
- b. Uncertainty*
- c. Opportunity*
- d. Novelty*
- e. Hope*

Q20. You predict a great opportunity in the market; however, you do not have enough money to make an investment. Would you borrow money to make this investment?

- a. No*
- b. Yes*

Q21. Do prefer working for yourself, or being a salaried employee?

- a. I prefer being a salaried employee because it is more secure.*
- b. I prefer to begin as a salaried employee to learn the business, and then launch my own company.*
- c. I will do whatever it takes to work for myself.*

Q22. Have you ever put money into sports betting?

- a. Never*
- b. A couple of times*
- c. Sometimes*
- d. Frequently*
- e. Always*

Q23. Compared to others, how do you rate your willingness to take risk?

- a. I am much less willing to take risk.*
- b. I am less willing to take risk.*
- c. I am an average risk-taker.*
- d. I am more willing to take risk.*
- e. I am much more willing to take risk.*

Q24. “I usually get what I want in life whatever time it takes.”

- a. Strongly disagree*
- b. Tend to disagree*
- c. Neither agree nor disagree*
- d. Tend to agree*
- e. Strongly agree*

Q25. “If I do not succeed on a task, I tend to give up.”

- a. Strongly agree*
- b. Tend to agree*
- c. Neither agree nor disagree*
- d. Tend to disagree*
- e. Strongly disagree*

Q26. “One can not get rich without taking risk.”

- a. *Strongly disagree*
- b. *Tend to disagree*
- c. *Neither agree nor disagree*
- d. *Tend to agree*
- e. *Strongly agree*

Q27. “I prefer putting my money in a bank account and earn a guaranteed interest rate.”

- a. *Strongly agree*
- b. *Tend to agree*
- c. *Neither agree nor disagree*
- d. *Tend to disagree*
- e. *Strongly disagree*

Q28. In a job where you can choose to be paid on salary, on commission (based on the firm's performance) or a mix of these, which type of compensation would you pick?

- a. *All salary*
- b. *Mainly salary*
- c. *Equal mix of salary and commission*
- d. *Mainly commission*
- e. *All commission*

Q29. What proportion of your wealth would you feel comfortable allocating to stock or bonds markets?

- a. 0% to 20%*
- b. 20% to 40%*
- c. 40% to 60%*
- d. 60% to 80%*
- e. 80% to 100%*

Q30. How much do you care about the fluctuations in your investment?

- a. Extremely important; I cannot stand losing money*
- b. Very important*
- c. Important*
- d. Not very important. I can handle some fluctuation*
- e. Not important at all - I am not scared about fluctuations*

Q31. Consider the annual returns of the five hypothetical investment plans below. Based on the range of possible outcomes shown, which plan would be the most acceptable to you?

- a. Average: 7.3%, Best Case: 16.2%, Worst Case: -5.6%*
- b. Average: 9.1%, Best Case: 25.3%, Worst Case: -13.0%*
- c. Average: 10.0%, Best Case: 33.8%, Worst Case: -18.5%*
- d. Average: 11.8%, Best Case: 43.5%, Worst Case: -24.5%*
- e. Average: 12.4%, Best Case: 53.0%, Worst Case: -29.5%*

Q32. What is your most important investment priority?

- a. I aim to protect my capital; I cannot stand losing money.*
- b. I am OK with small growth; I cannot take much risk.*
- c. I aim for an investment that delivers the market return rate.*
- d. I want higher than market return; I am OK with volatility.*
- e. Return is the most important factor for me. I am ready to take high risk for high return.*

Q33. You have taken investment advice from a financial advisor, and you ended up losing money in the first year. Your advisor says that you have invested in a long term product and that your return is likely to be high in the following year. What would you do?

- a. Can not take risk anymore, withdraw all of my money.*
- b. Leave some of my investment there, withdraw the most.*
- c. Leave half of of my investment there, withdraw the other half.*
- e. Trust my advisor and invest even more.*
- d. Continue with the original investment amount.*

Q34. Over the long term, typically, investments which are more volatile (i.e., that tend to fluctuate more in value) have greater potential for return (Stocks, for example, have high volatility; whereas government bonds have low volatility). Given this trade-off, what would be the level of volatility you would prefer for your investment?

- a. Less than 3%*
- b. 3% to 5%*
- c. 5% to 7%*
- d. 7% to 13%*
- e. More than 13%*

Q35. What is the size of the family you have (if you started one), or you plan to have?

- a. I do not plan to start a family*
- b. Only me and my spouse*
- c. With one child*
- d. With two children*
- e. With more than two children*

Q36. How familiar are you with investment matters?

- a. Not familiar at all. Sounds too complex for me.*
- b. Somewhat familiar. I do not fully understand investments; yet, I try to follow.*
- c. Fairly familiar and knowledgeable.*
- d. Very familiar. I enjoy investments.*

Q37. Which of the following investments would you prefer?

- a. Savings account (no risk of capital loss)*
- b. Government bonds*
- c. A portfolio with equal weights on stocks, bonds and savings accounts*
- d. 100% stock market*

Q38. What's your attitude towards insurance?

- a. I cannot sleep if I do not have insurance on all my valuable belongings.*
- b. I may have insurance on my valuable belongings depending on its price.*
- c. Not necessary except health insurance.*
- d. I don't see insurance as a need, it is a waste of money.*

Q39. What is your primary goal in your investments?

- a. I want secure investments, I would not like to face loss.*
- b. I want moderate investment growth with some volatility.*
- c. I want reasonable capital growth over the long term with increased volatility.*
- d. I want maximum capital growth over the long term with the corresponding high volatility.*

Q40. Would you pay for the health insurance if it is not supported by your government or your company?

- a. Yes I will pay for insurance given the risks.*
- b. I would pay for my family members' insurance, but not for myself.*
- c. When I'm over 40.*
- d. No, I will take care of myself.*

Q41. In 2001, the Turkish stock market fell more than 20% in one month. If your investment fell 20% in such a short duration of time, what would be your reaction?

- a. I would cash out my investment to stop loss.*
- b. I would cash out a portion of my investment, and invest that into less risky alternatives.*
- c. I would hold my investment and expect the market to recover.*
- d. I would invest more to take advantage of reduced prices.*

Q42. What is your most preferred investment strategy?

- a. I want my investments to be secure. I also need my investments to provide me with modest income now, or to fund a large expense within the next few years.*
- b. I want my investments to grow and I am less concerned about income. I am comfortable with moderate market fluctuations.*
- c. I am more interested in having my investments grow over the long-term. I am comfortable with short-term return volatility.*
- d. I want long-term aggressive growth and I am willing to accept significant short-term market fluctuations.*

APPENDIX B. Counts of Values for Attributes

Indirect Attributes

| | <i>F</i> | <i>M</i> |
|---------------|----------|----------|
| Gender | 283 | 373 |

| | <i>Student</i> | <i>Working</i> |
|------------------|----------------|----------------|
| IsStudent | 310 | 346 |

| | <i>UnderGrad</i> | <i>Masters</i> | <i>NA</i> |
|---------------------|------------------|----------------|-----------|
| StudentLevel | 252 | 62 | 342 |

| | <i>Commission</i> | <i>Salary</i> | <i>Both</i> | <i>NA</i> |
|-------------------|-------------------|---------------|-------------|-----------|
| IncomeType | 71 | 208 | 74 | 303 |

| | <i>Besiktas</i> | <i>Fenerbahce</i> | <i>Galatasaray</i> | <i>Trabzonspor</i> | <i>Other</i> |
|-------------------|-----------------|-------------------|--------------------|--------------------|--------------|
| SoccerTeam | 150 | 225 | 228 | 22 | 31 |

| | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> | <i>e</i> |
|-----------------------|----------|----------|----------|----------|----------|
| EnglishLevel | 362 | 192 | 68 | 34 | |
| FrenchLevel | 17 | 18 | 75 | 546 | |
| GermanLevel | 36 | 81 | 162 | 377 | |
| HighschoolType | 197 | 43 | 38 | 107 | 271 |

Informative Attributes

(not included in the analysis)

| | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> | <i>e</i> |
|------------|----------|----------|----------|----------|----------|
| Q18 | 144 | 197 | 231 | 84 | |
| Q19 | 151 | 227 | 205 | 44 | 29 |

Direct Attributes

| | <i>a</i> | <i>b</i> | <i>c</i> | <i>d</i> | <i>e</i> |
|-----|----------|----------|----------|----------|----------|
| Q20 | 318 | 338 | - | - | - |
| Q21 | 151 | 338 | 167 | - | - |
| Q22 | 181 | 246 | 164 | 54 | 11 |
| Q23 | 95 | 161 | 276 | 109 | 15 |
| Q24 | 73 | 173 | 138 | 226 | 46 |
| Q25 | 66 | 143 | 136 | 236 | 75 |
| Q26 | 73 | 142 | 105 | 229 | 107 |
| Q27 | 94 | 240 | 157 | 134 | 31 |
| Q28 | 148 | 256 | 143 | 95 | 14 |
| Q29 | 334 | 223 | 82 | 15 | 2 |
| Q30 | 59 | 205 | 286 | 94 | 12 |
| Q31 | 140 | 209 | 181 | 67 | 59 |
| Q32 | 147 | 220 | 156 | 122 | 11 |
| Q33 | 162 | 303 | 144 | 44 | 3 |
| Q34 | 130 | 202 | 212 | 91 | 21 |
| Q35 | 77 | 99 | 296 | 147 | 37 |
| Q36 | 104 | 279 | 213 | 60 | - |
| Q37 | 185 | 180 | 277 | 14 | - |
| Q38 | 81 | 415 | 144 | 16 | - |
| Q39 | 178 | 193 | 236 | 49 | - |
| Q40 | 475 | 59 | 76 | 46 | - |
| Q41 | 83 | 301 | 208 | 64 | - |
| Q42 | 156 | 224 | 255 | 21 | - |

APPENDIX C. Counts and Percentages of Class Labels for Attributes

| Gender | <i>Risk-seeking</i> | <i>Risk-averse</i> | Total |
|---------------|---------------------|--------------------|-------|
| <i>F</i> | 33 | 250 | 283 |
| <i>M</i> | 98 | 275 | 373 |
| Total | 131 | 525 | 656 |

| Gender | <i>Perc(Risk-seeking)</i> |
|---------------|---------------------------|
| <i>F</i> | 12% |
| <i>M</i> | 26% |
| Total | 20% |

| IsStudent | <i>Risk-seeking</i> | <i>Risk-averse</i> | Total |
|------------------|---------------------|--------------------|-------|
| <i>Student</i> | 58 | 252 | 310 |
| <i>Working</i> | 73 | 273 | 346 |
| Total | 131 | 525 | 656 |

| IsStudent | <i>Perc(Risk-seeking)</i> |
|------------------|---------------------------|
| <i>Student</i> | 19% |
| <i>Working</i> | 21% |
| Total | 20% |

| StudentLevel | <i>Risk-seeking</i> | <i>Risk-averse</i> | Total |
|---------------------|---------------------|--------------------|-------|
| <i>UnderGrad</i> | 50 | 202 | 252 |
| <i>Masters</i> | 10 | 52 | 62 |
| <i>NA</i> | 71 | 271 | 342 |
| Total | 131 | 525 | 656 |

| StudentLevel | <i>Perc(Risk-seeking)</i> |
|---------------------|---------------------------|
| <i>UnderGrad</i> | 20% |
| <i>Masters</i> | 16% |
| <i>NA</i> | 21% |
| Total | 20% |

| IncomeType | <i>Risk-seeking</i> | <i>Risk-averse</i> | Total |
|-------------------|---------------------|--------------------|-------|
| <i>Commission</i> | 19 | 52 | 71 |
| <i>Salary</i> | 45 | 163 | 208 |
| <i>Both</i> | 11 | 63 | 74 |
| <i>NA</i> | 56 | 247 | 303 |
| Total | 131 | 525 | 656 |

| IncomeType | <i>Perc(Risk-seeking)</i> |
|-------------------|---------------------------|
| <i>Commission</i> | 27% |
| <i>Salary</i> | 22% |
| <i>SalaryComm</i> | 15% |
| <i>NA</i> | 18% |
| Total | 20% |

| SoccerTeam | <i>Risk-seeking</i> | <i>Risk-averse</i> | Total |
|--------------------|---------------------|--------------------|-------|
| <i>Besiktas</i> | 25 | 125 | 150 |
| <i>Fenerbahce</i> | 39 | 186 | 225 |
| <i>Galatasaray</i> | 55 | 173 | 228 |
| <i>Trabzonspor</i> | 2 | 20 | 22 |
| <i>Other</i> | 10 | 21 | 31 |
| Total | 131 | 525 | 656 |

| SoccerTeam | <i>Perc(Risk-seeking)</i> |
|--------------------|---------------------------|
| <i>Besiktas</i> | 17% |
| <i>Fenerbahce</i> | 17% |
| <i>Galatasaray</i> | 24% |
| <i>Trabzonspor</i> | 9% |
| <i>Other</i> | 32% |
| Total | 20% |

| HighschoolType | <i>Risk-seeking</i> | <i>Risk-averse</i> | Total |
|-----------------------|---------------------|--------------------|-------|
| <i>a</i> | 41 | 156 | 197 |
| <i>b</i> | 3 | 40 | 43 |
| <i>c</i> | 4 | 34 | 38 |
| <i>d</i> | 19 | 88 | 107 |
| <i>e</i> | 64 | 207 | 271 |
| Total | 131 | 525 | 656 |

| HighschoolType | <i>Perc(Risk-seeking)</i> |
|-----------------------|---------------------------|
| <i>a</i> | 21% |
| <i>b</i> | 7% |
| <i>c</i> | 11% |
| <i>d</i> | 18% |
| <i>e</i> | 24% |
| Total | 20% |

| EnglishLevel | <i>Risk-seeking</i> | <i>Risk-averse</i> | Total |
|---------------------|---------------------|--------------------|-------|
| <i>a</i> | 84 | 278 | 362 |
| <i>b</i> | 28 | 164 | 192 |
| <i>c</i> | 12 | 56 | 68 |
| <i>d</i> | 7 | 27 | 34 |
| Total | 131 | 525 | 656 |

| EnglishLevel | <i>Perc(Risk-seeking)</i> |
|---------------------|---------------------------|
| <i>a</i> | 23% |
| <i>b</i> | 15% |
| <i>c</i> | 18% |
| <i>d</i> | 21% |
| Total | 20% |

| GermanLevel | <i>Risk-seeking</i> | <i>Risk-averse</i> | Total |
|--------------------|---------------------|--------------------|-------|
| <i>a</i> | 9 | 27 | 36 |
| <i>b</i> | 11 | 70 | 81 |
| <i>c</i> | 47 | 115 | 162 |
| <i>d</i> | 64 | 313 | 377 |
| Total | 131 | 525 | 656 |

| GermanLevel | <i>Perc(Risk-seeking)</i> |
|--------------------|---------------------------|
| <i>a</i> | 25% |
| <i>b</i> | 14% |
| <i>c</i> | 29% |
| <i>d</i> | 17% |
| Total | 20% |

| FrenchLevel | <i>Risk-seeking</i> | <i>Risk-averse</i> | Total |
|--------------------|---------------------|--------------------|-------|
| <i>a</i> | 3 | 14 | 17 |
| <i>b</i> | 8 | 10 | 18 |
| <i>c</i> | 7 | 68 | 75 |
| <i>d</i> | 113 | 433 | 546 |
| Total | 131 | 525 | 656 |

| FrenchLevel | <i>Perc(Risk-seeking)</i> |
|--------------------|---------------------------|
| <i>a</i> | 18% |
| <i>b</i> | 44% |
| <i>c</i> | 9% |
| <i>d</i> | 21% |
| Total | 20% |