

## Appendix 2 (for publication at the AER website)

To accompany “The pluralism of fairness ideals: An experimental approach”

October 2006

In this appendix to the paper “The pluralism of fairness ideals: An experimental approach” we have included some information about the experiment that has been excluded from the paper in order to reduce the length of it. We also include an overview of our robustness analysis, some further discussion of moral wiggling, and the instructions for the experiment.

### **A2.1 Experimental design and descriptive statistics**

In this section we provide some additional information about the design of the experiment and some descriptive statistics not included in the paper.

As we can see from Table A2.1, the data were almost balanced with respect to the four distributional situations. We have 44 situations where the prevalence of different fairness ideals cannot influence the distribution of offers made. In the remaining observations, the differences in observed behaviour may be due to the fact that people endorse different fairness ideals. In order to get a clearer view of the potential variation caused by the prevalence of different fairness ideals, we present in Figure A2.1 pair-wise scatter plots of how the various fairness ideals correlate to each other in all the distributional situations in the experiment. If two fairness ideals coincide in all the distributional situations, then all the points should be at the diagonal in the respective comparison. Figure A2.1 shows that the fairness ideals imply considerable variation in the distributional situations in the experiment.

Table A2.2 contains the full distribution of offers made. We see that there are marked steps in the distribution. In fact, out of 190 proposed distributions, 184 are of even 100 NOK amounts. The remaining six proposals are of even 50 NOK amounts. While 31% of the offers leave the opponent

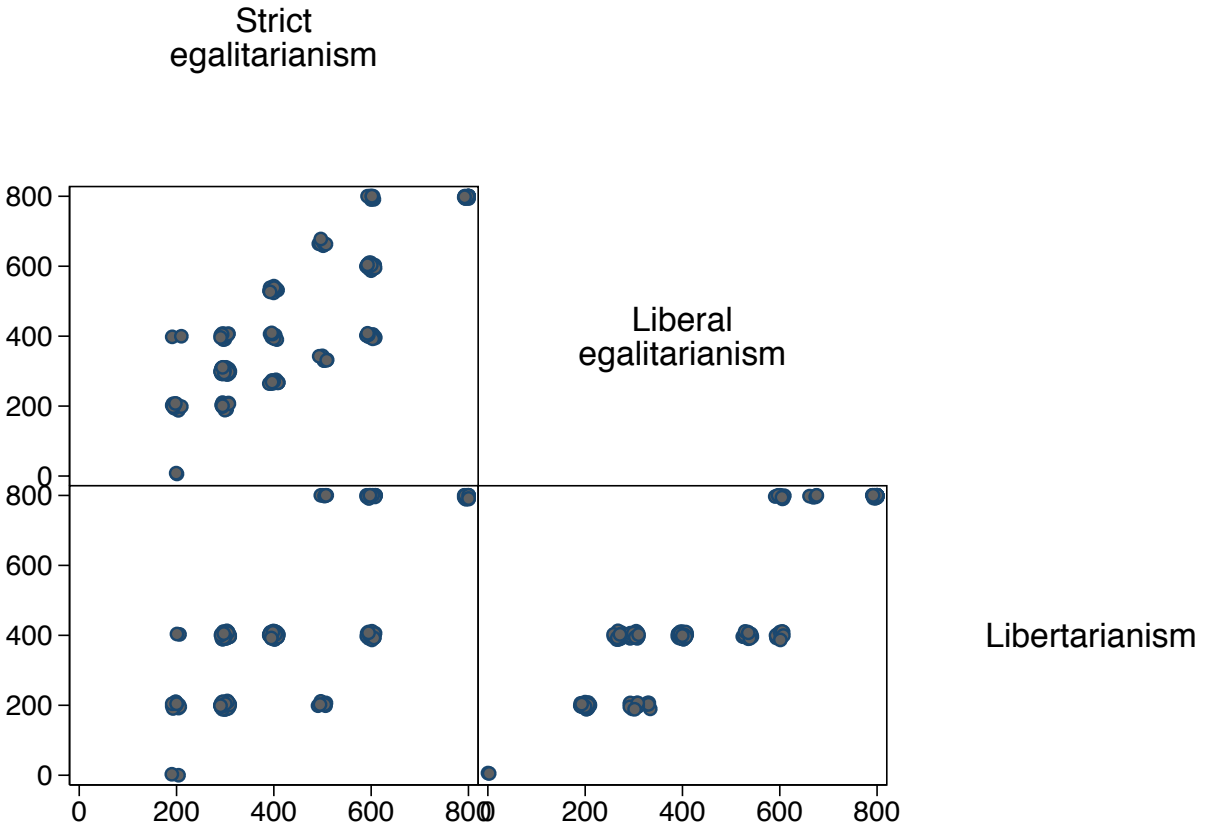


Figure A2.1: Scatter plots of fairness ideals. Pair-wise plots of  $m^k(\mathbf{a}, \mathbf{q})$  against  $m^j(\mathbf{a}, \mathbf{q})$ , where  $k \neq j$  and  $k, j \in \{SE, LE, L\}$ , for all the distributional situations in our data. The weight of dots indicates the number of observations at that point.

| rate of return | investment |           | total |
|----------------|------------|-----------|-------|
|                | same       | different |       |
| same           | 44         | 50        | 94    |
| different      | 54         | 42        | 96    |
| total          | 98         | 92        | 190   |

Table A2.1: Number of observations in each of the four classes of distributional situations.

with nothing, some offer substantial amounts; 20 out of 190 offers are NOK 600 (approximately USD 100) or above. 27% of the offers are exactly fifty-fifty (not reported in table).

In Table A2.3 we present some descriptive regressions. We see from the first regression that the participants demand (on the margin) almost all of their own production ( $a_1q_1$ ) but only two-thirds of the opponent's production ( $a_2q_2$ ). This difference is statistically significant. Hence, in the distribution phase, it seems to matter who contributes to the production of the total income. The second and third regressions show that it also matters how the contribution came about. The participants seem to take more of the opponent's production if this is due to a high rate of return than if it is due to a high investment. This is consistent with the hypothesis that there are individuals who care about the distinction between investment and rate of return, but in itself these regressions are not very informative about individual preferences.

### A2.1.1 The possibility of classification

Two individuals made choices that were inconsistent with the utility function in (1), given the ideals specified in (3–5), which implies that we have to allow for some smoothing of choices in the empirical model. 75 out of 96 individuals offered less than what is implied by all fairness ideals, which explains why classification of individuals would not provide much information on the prevalence of the different fairness ideals. Table A2.4 presents how many individuals are consistent with any number of possible fairness ideals.

| offer<br>(in NOK) | frequency | share | cumulative<br>share |
|-------------------|-----------|-------|---------------------|
| 0                 | 58        | 30.53 | 30.53               |
| 100               | 15        | 7.89  | 38.42               |
| 150               | 3         | 1.58  | 40.00               |
| 200               | 39        | 20.53 | 60.53               |
| 250               | 1         | 0.53  | 61.05               |
| 300               | 25        | 13.16 | 74.21               |
| 400               | 23        | 12.11 | 86.32               |
| 500               | 6         | 3.16  | 89.47               |
| 600               | 8         | 4.21  | 93.68               |
| 650               | 1         | 0.53  | 94.21               |
| 700               | 3         | 1.58  | 95.79               |
| 750               | 1         | 0.53  | 96.32               |
| 800               | 7         | 3.68  | 100.00              |

Table A2.2: Full distribution of offers made to opponent.

| $y_1$ on  | specification     |                |                |                |
|-----------|-------------------|----------------|----------------|----------------|
|           | 1                 | 2              | 3              | 4              |
| constant  | -56.48<br>(39.60) | -260<br>(90.3) | -289<br>(78.3) | -798<br>(81.7) |
| $a_1 q_1$ | 0.936<br>(0.069)  |                |                |                |
| $a_2 q_2$ | 0.667<br>(0.069)  |                |                |                |
| $a_1$     |                   | 157<br>(21)    |                | 125<br>(16)    |
| $a_2$     |                   | 143<br>(21)    |                | 101<br>(16)    |
| $q_1$     |                   |                | 3.62<br>(0.37) | 3.07<br>(0.31) |
| $q_2$     |                   |                | 2.84<br>(0.37) | 2.19<br>(0.31) |
| $R^2$     | 0.66              | 0.36           | 0.45           | 0.64           |

Table A2.3: Descriptive regressions.

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| possible ideals | # of individuals |
|-----------------|------------------|
| 0               | 2                |
| 1               | 9                |
| 2               | 10               |
| 3               | 75               |

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Table A2.4: Possible fairness ideals without random variation.

## A2.2 Robustness tests of structural estimates

In the paper we provide structural estimates of the model with one fairness ideal excluded in turn. In this appendix we provide some further tests. Table A2.5 provides specification 1 from the paper (for easy reference) and A1-A9 that are variants of our preferred specification.

### A2.2.1 Variants of the fairness ideals

In the paper the strict egalitarian position is taken to be equal sharing of the total income produced. A possible variant of this position is that the total surplus (net of investment) should be shared equally. This position, which we refer to as a weak form of strict egalitarianism, can be written as,

$$m^{SEW}(\mathbf{a}, \mathbf{q}) = (X(\mathbf{a}, \mathbf{q}) - q_1 - q_2)/2 + q_1.$$

In specification A1 of Table A2.5 this position replaces the strong version of the strict egalitarian position. As can be seen, the estimates of the other parameters are affected moderately, the share of libertarians go slightly up. The log-likelihood of this specification is considerably lower than the log-likelihood of the preferred specification.

The liberal egalitarian ideal included in the paper is the proportionality principle. Alternative formulations of the liberal egalitarian ideal exist in the social choice literature. One such is the “egalitarian equivalent” principle (Bossert and Fleurbaey, 1996). For any given reference talent, the egalitarian equivalent principle assigns to every individual an income that consists of two parts. The first part is a transfer equal to the production he or she would have had if his or her talent was equal to the reference talent. The second part is a uniform transfer to all individuals balancing the budget. In our framework, and assuming that the reference talent is the average rate of return, this principle can be written as

$$m^{EEQ}(\mathbf{a}, \mathbf{q}) = (a_1 + a_2)q_1/2 - ((a_1 + a_2)(q_1 + q_2)/2 - a_1q_1 - a_2q_2)/2.$$

Another version of liberal egalitarian ethics is the “conditional egalitarian” principle (Kolm, 1996). For a given reference effort level, a conditional egalitarian mechanism assigns to every individual an income that consists of two parts. The first part is a transfer equal to the average production in the economy when all individuals exercise the reference effort level. The second part is the marginal productivity of the individual when moving from the reference effort level to the individual’s actual effort level. In our framework, and assuming that the reference effort level

|                 | specification     |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                 | <b>1</b>          | <b>A1</b>         | <b>A2</b>         | <b>A3</b>         | <b>A4</b>         | <b>A5</b>         | <b>A6</b>         | <b>A7</b>         | <b>A8</b>         | <b>A9</b>         |
| $\lambda^{SE}$  | 0.435<br>(0.090)  |                   | 0.438<br>(0.088)  | 0.436<br>(0.088)  | 0.424<br>(0.091)  | 0.416<br>(0.091)  | 0.455<br>(0.091)  | 0.397<br>(0.090)  | 0.425<br>(0.094)  | 0.402<br>(0.100)  |
| $\lambda^{SEW}$ |                   | 0.436<br>(0.111)  |                   |                   |                   |                   |                   |                   |                   |                   |
| $\lambda^{LE}$  | 0.381<br>(0.088)  | 0.331<br>(0.100)  |                   |                   | 0.393<br>(0.090)  | 0.385<br>(0.092)  | 0.380<br>(0.087)  | 0.435<br>(0.092)  | 0.339<br>(0.088)  | 0.393<br>(0.098)  |
| $\lambda^{EEQ}$ |                   |                   | 0.375<br>(0.085)  |                   |                   |                   |                   |                   |                   |                   |
| $\lambda^{CE}$  |                   |                   |                   | 0.413<br>(0.091)  |                   |                   |                   |                   |                   |                   |
| $\lambda^L$     | 0.184<br>(0.066)  | 0.233<br>(0.076)  | 0.187<br>(0.065)  | 0.152<br>(0.065)  | 0.183<br>(0.067)  | 0.199<br>(0.071)  | 0.165<br>(0.062)  | 0.168<br>(0.064)  | 0.236<br>(0.073)  | 0.205<br>(0.079)  |
| $\gamma$        | 28.359<br>(3.589) | 25.593<br>(3.406) | 30.179<br>(3.834) | 26.974<br>(3.135) | 27.347<br>(3.614) | 30.881<br>(4.206) | 22.549<br>(2.546) | 22.475<br>(3.541) | 22.780<br>(2.913) | 25.645<br>(3.512) |
| $\zeta$         | 5.385<br>(0.349)  | 4.790<br>(0.359)  | 5.473<br>(0.338)  | 5.301<br>(0.367)  | 6.099<br>(0.458)  | 4.668<br>(0.297)  | 6.457<br>(0.530)  | 5.167<br>(0.475)  | 4.814<br>(0.435)  | 4.736<br>(0.391)  |
| $\sigma$        | 3.371<br>(0.530)  | 2.816<br>(0.443)  | 3.340<br>(0.523)  | 3.509<br>(0.548)  | 2.207<br>(0.562)  | 2.069<br>(0.341)  | 8.342<br>(1.160)  | 3.703<br>(0.690)  | 3.715<br>(0.603)  | 3.306<br>(0.558)  |
| $\phi_0$        | 0.0               | 0.0               | 0.0               | 0.0               | 0.229<br>(0.101)  | 0.0               | 0.0               | 0.0               | 0.0               | 0.0               |
| $\psi$          | 2.0               | 2.0               | 2.0               | 2.0               | 2.0               | 1.5               | 4.0               | 2.0               | 2.0               | 2.0               |
| $\log L$        | -337.584          | -348.427          | -334.43           | -335.998          | -335.885          | -337.756          | -338.720          | -347.247          | -340.517          | -299.933          |

Table A2.5: Estimates of structural model. Standard errors, calculated using the outer product of the gradient (Berndt et al., 1974), in parentheses. Money is scaled in units of 1000 NOK. One  $\lambda^k$  and its standard error is calculated residually in each specification. The first column is the preferred specification (for easy reference). Specifications A1-A3 show the effect of using variants of the fairness ideals. Specification A4 introduces a discrete probability mass ( $\phi_0$ ) at  $\beta = 0$ . Specifications A5-A6 show the effect of varying the power which the deviation from fairness is raised to. In specification A7 the deviation from the fairness ideal is measured in absolute terms, in specification A8 in relative terms. In specification A9 only the 85 individuals that invested the full NOK 300 amount are included.

is 100 NOK, this principle can be written as

$$m^{CE}(\mathbf{a}, \mathbf{q}) = 100 \cdot (a_1 + a_2)/2 + (q_1 - 100)a_1.$$

We see that replacing the proportional version of liberal egalitarianism with egalitarian equivalent or the conditional egalitarian provides marginal increases in the log likelihood (in specification A2 and A3), and minor changes in the parameter estimates. Considering the simplicity of the proportional principle, and the ease with which our estimates can be compared to the rest of the experimental literature (such as Konow, 2000; Frohlich, Oppenheimer, and Kurki, 2004), we have chosen to present the most intuitive version of liberal egalitarianism in the paper.

### A2.2.2 The log-normal assumption

We have chosen a log-normal parametric form for the distribution of  $\beta$ . We have done so for practical rather than theoretical reasons: (1) Since each individual has a single  $\beta$  value, the data represent only 96 draws from this distribution. Hence we need a distribution that can be parsimoniously specified. (2) We need to constrain  $\beta$  to non-negative values for the model to make sense. (3) We also need to allow for a potentially large mass at “large” values of  $\beta$  to represent those who are very strict about enforcing their own ideal. The log-normal distribution is a two-parameter distribution that satisfies these goals. For this reason it is the most common choice in mixed logit applications when non-negativity has to be imposed (Train, 2003, p. 142).

We now provide a specification test of whether the log-normal assumption is appropriate. As suggested by a referee, we add a parameter for a discrete probability mass at  $\beta = 0$  in addition to the log-normal distribution, such that instead of assuming  $\beta$  to be distributed log-normally, we assume a mixture-distribution for  $\beta$  such that  $\beta = 0$  with probability  $\phi_0$  and  $\log \beta \sim N(\zeta, \sigma^2)$  with probability  $1 - \phi_0$ . All three parameters  $(\phi_0, \zeta, \sigma)$  are estimated in Table A2.5, specification A4. While, as expected, this has large effects on the estimates of  $\zeta$  and  $\sigma$ , the estimates of the shares of fairness ideals are only marginally affected. From this we conclude that the assumption of a log-normal distribution is not essential to our results. Note that it is not trivial to use the log-likelihood values to test the hypothesis that  $\phi_0 = 0$ , since this hypothesis is at the boundary of the parameter space, at which the standard theory of likelihood ratio tests does not apply (Andrews, 2001).

### A2.2.3 The utility function

#### A2.2.3.1 Curvature

We have assumed a loss of deviating from the fairness ideal that is quadratic and dependent on the relative distance from the fairness ideal. In specification A5 and A6 we examine the effect of relaxing the quadratic assumption, by specifying two parameters  $\psi$  and  $\delta$ ,

$$V(y; \cdot) = \gamma y - \beta_i \frac{|y - m^{k(i)}|^\psi}{2X^\delta}.$$

This function has an interior maximum at

$$y^* = m^{k(i)} + \left( \frac{2\gamma}{\psi\beta_i} \right)^{1/(\psi-1)} X^{\delta/(\psi-1)}.$$

By restricting  $\delta = \psi - 1$  we can retain the linear relationship between the interior maximum and the size of the pie  $X$ , while at the same time changing the curvature of  $V$  with respect to  $y$  by varying  $\psi$ . We test the effect of restricting  $\psi$  to be 1.5 and 4. As is evident from specifications A5 and A6 in Table A2.5, the effect of this is, to a large extent, offset by different estimates of the distribution of  $\beta$ . We see a small negative effect on the log likelihood of setting  $\psi = 1.5$ , with a slight increase in the proportion of libertarians. Setting  $\psi = 4.0$  has a larger negative effect on the log likelihood, with a slight decrease in the share of libertarians. We conclude from this that we do not lose much by imposing the restriction  $\psi = 2$ .

#### A2.2.3.2 Absolute and relative loss

In specification A7 we examine the effect of defining utility in terms of the absolute deviation from the fairness ideal,

$$V(y; \cdot) = \gamma y - \beta_i (y - m^{k(i)})^2 / 2.$$

An earlier version of the paper implemented this specification throughout. We see that this increases the estimated proportion of liberal egalitarians somewhat, but reduces the log-likelihood moderately.

In specification A8, we examine the effect of defining utility in terms of the relative deviation from the fairness ideal,

$$V(y; \cdot) = \gamma y - \beta_i \left( \frac{y - m^{k(i)}}{X} \right)^2 / 2.$$

We see that this increases the estimated share of libertarians at the expense of the liberal egalitarian share, but the effects are moderate. This specification reduces the log-likelihood marginally.

#### **A2.2.4 Estimating on the subset of those investing the full amount**

A proportion of the sample does not invest the full amount of 300 NOK. To see if this introduces any bias in our estimates, in specification A9 we remove these 11 individuals from the estimating sample. We see that this only has small effects on the estimated population shares and the other parameters.

### **A2.3 Further analysis of moral wiggling**

In order to complement our study of moral wiggling, we break down the analysis in two different ways. First, we compare the predicted distribution of offers with the observed distribution in ambiguous and non-ambiguous situations. Second, we compare the predicted distribution of offers with the observed distribution for low-rate-of-return and high-rate-of-return individuals separately.<sup>1</sup>

As can be seen from Figure A2.3 and Figure A2.2, there is no systematic difference in fit. We conclude from this that there is little reason to suspect that moral wiggling invalidates our analysis.

For the sake of completeness, we also provide a breakdown for all the four distributional classes. As can be seen from Figure A2.4, there is a good fit in each of the four classes.

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<sup>1</sup> We do so by simulating 500 datasets where  $\beta$  and fairness ideals are randomly allocated to individuals (using estimates from our preferred specification 1).

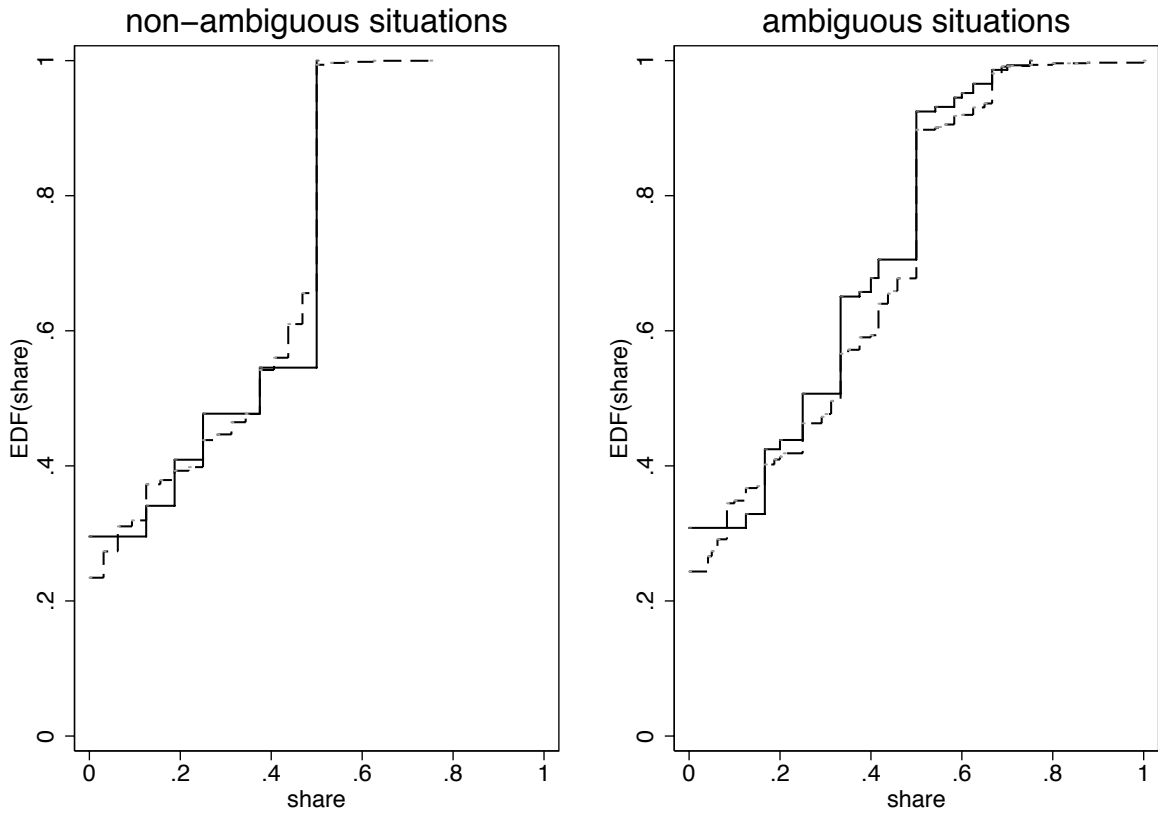


Figure A2.2: Predictions (of offers made to opponent) of the estimated model compared to data, broken down by ambiguous and non-ambiguous situations. Non-ambiguous situations are situations where  $q_1 = q_2$  and  $a_1 = a_2$ . Data is shown as the solid black line, predictions as the dashed line.

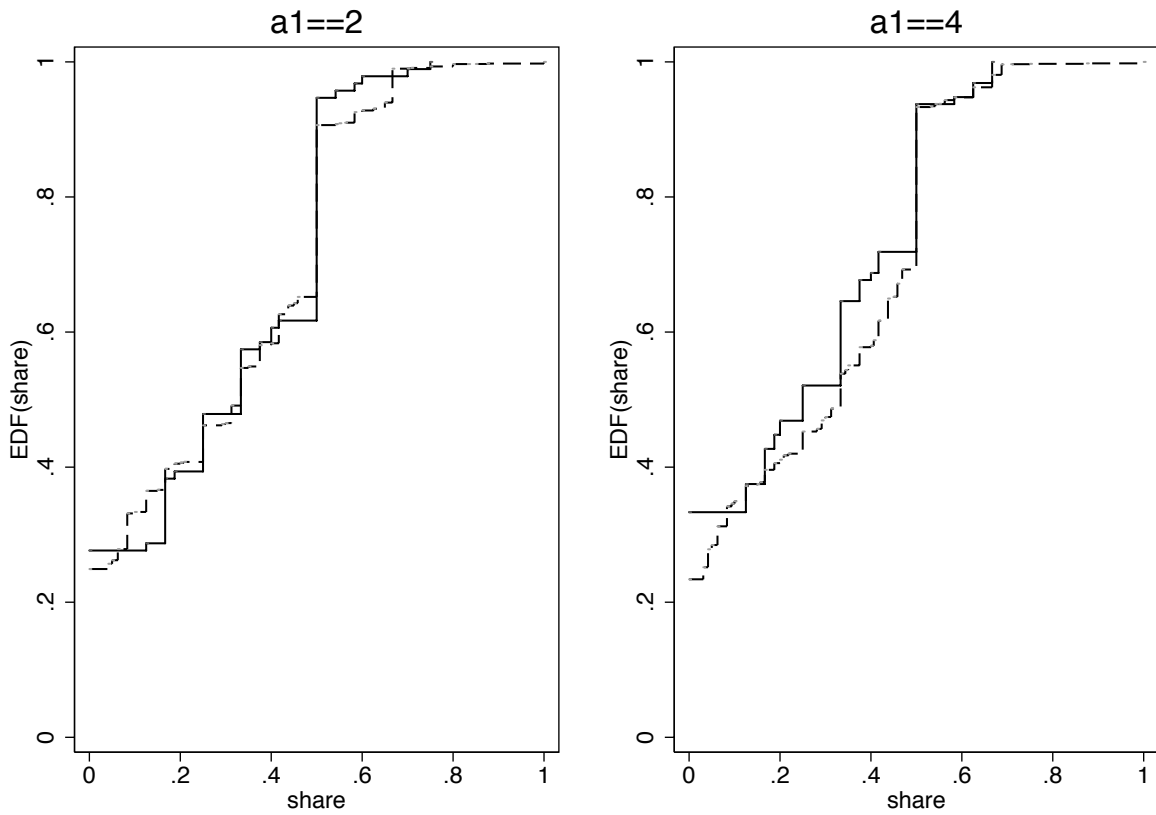


Figure A2.3: Predictions (of offers made to opponent) of the estimated model compared to data, broken down by rate of return of individuals. Data is shown as the solid black line, predictions as the dashed line.

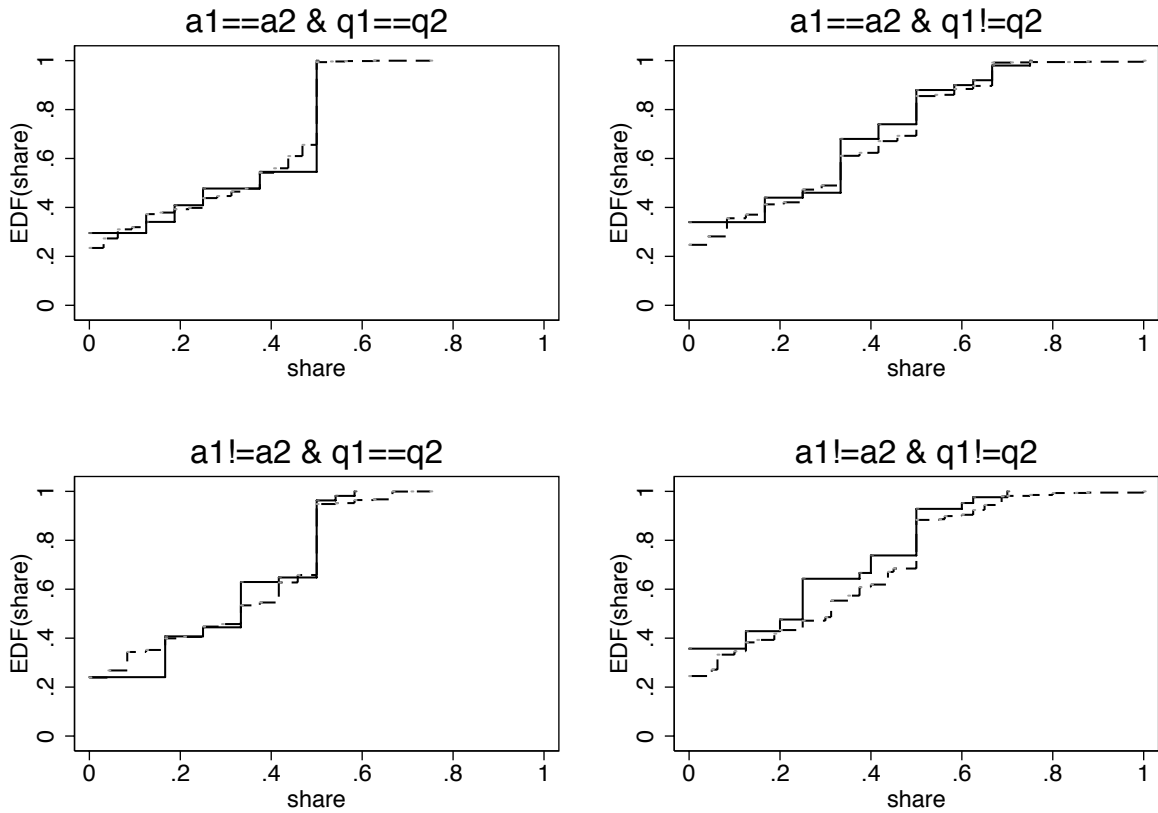


Figure A2.4: Predictions (of offers made to opponent) of the estimated model compared to data, broken down by whether rates of return and investments are the same or differ. Data is shown as the solid black line, predictions as the dashed line.

## References

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## **Instructions for the experiment (to be posted on the AER Website)**

We here provide the instructions given to the participants at the beginning of the session and throughout the experiment. We present both the original instructions in Norwegian and the English translation.

Part A contains the instructions presented to the participants at the beginning of the experiment. Part B presents the interactive screen shots (with examples of possible parameter values and choices) that guided the participants through the experiment.

### **Part A. Instructions read to the participants at the beginning of the experiment (in Norwegian)**

Takk for at du vil delta i dette eksperimentet. Eksperimentet foregår på individuelle pc'er og er designet slik at alle deltakerne sikres anonymitet.

Eksperimentet du skal delta i har to faser – en produksjonsfase og en fordelingsfase. Produksjonsfasen starter med at du får tildelt 300 kroner. Disse pengene kan du velge å investere i to spill. For hvert spill kan du investere enten 0 kroner, 100 kroner eller 200 kroner. Summen av investeringene i de to spillene kan ikke overstige de 300 kronene du har fått utdelt. Pengene som du investerer vil enten bli fordoblet eller firedoblet avhengig av om du har lavt eller høyt talent. Talent blir tildelt tilfeldig av datamaskinen og er det samme i begge spillene. En person som er tildelt høyt talent og som investerer 200 kroner i et spill vil produsere 800 kroner, mens en person som er tildelt lavt talent og som investerer det samme vil produsere 400 kroner. I et av spillene har din medspiller samme talent som du. I det andre spillet har dere ulikt talent.

I fordelingsfasen vil du for hvert av de to spillene bli koblet sammen med en tilfeldig valgt medspiller. Du vil ikke kunne finne ut hvem din medspiller er, men du vil få opplysninger om hvor mye din medspiller har investert, hvilket talent vedkommende har og hvor mye vedkommende har produsert. Medspilleren du kobles sammen med kan være forskjellig fra deg både med hensyn til investeringsnivå og talent. For eksempel kan en spiller med høyt talent som har investert 200 kroner kobles sammen med en spiller med lavt talent som har investert 100 kroner. For hvert av de to spillene skal du bestemme hvordan den samlede produksjonen skal fordeles mellom deg og din medspiller. Du skal med andre ord oppgi hvordan du vil fordele pengene dersom du får bestemme fordelingen alene. I eksemplet ovenfor vil spillernes bidrag til den samlede produksjonen bli henholdsvis 800 kroner og 200 kroner. Hver av de to spillerne skal dermed oppgi hvordan de ønsker at 1000 kroner skal deles dem imellom. Ditt forslag til fordeling vil bli iverksatt for bare et av de to spillene. I det andre spillet vil din medspiller sitt forslag til fordeling bli iverksatt. Datamaskinen vil trekke tilfeldig hvem som skal foreslå fordeling i hvert spill.

På slutten av eksperimentet vil datamaskinen trekke tilfeldig et av de to spillene du har deltatt i, og det er fordelingen i dette spillet som avgjør fortjenesten din i eksperimentet. Deretter vil du bli tildelt en vinnerkode som identifikasjon for å motta din fortjeneste.

Vi viser spillets gang på storskjerm, og deretter får du spille en prøverunde (men uten at det blir gitt noen informasjon om hva andre har valgt i denne prøverunden).

Vi ber deg om ikke å snakke med andre deltagere underveis i eksperimentet. Dersom du har spørsmål, ber vi deg rekke opp hånden.

Det vil oppstå enkelte pauser i eksperimentet, og det er viktig at du ikke snakker med andre deltagere i disse pausene.

## **Part A. Instructions read to the participants at the beginning of the experiment (translated into English)**

We appreciate that you are willing to participate in this experiment. The experiment will be carried out on computers and the design of the experiment protects the anonymity of all the participants.

The experiment you will take part in has two phases - a production phase and a distribution phase. In the production phase you will be assigned 300 NOK, which you can invest in two games. In each game you can invest 0 NOK, 100 NOK or 200 NOK. However, the investment in the two games can not exceed the assigned amount of 300 NOK. Your investment will be doubled or quadrupled depending on whether you are assigned a low or high talent. The computer will pick your talent randomly, and you will keep your assigned talent throughout both the games. A high talented person who invests 200 NOK in a game will produce 800 NOK, while a low talented person who invests the same amount will produce 400 NOK. In one of the two games you have the same talent as your opponent, while in the other game you have a different talent.

In the distribution phase the computer will randomly pick your opponent for each of the two games, and you will not be able to reveal the identity of your opponent. However you will be given information about your opponent's talent, investment and production. Your opponent can be different from you regarding both talent and investment level. A player with high talent who has invested 200 NOK may for example be chosen by the computer to play with a low talented player who has invested 100 NOK. For each of the two games you must decide how you want to divide the joint production between yourself and your opponent. In the example above the contributions of the two players to the joint production are 800 NOK and 200 NOK, respectively. Accordingly, each of the two players must decide how to distribute 1000 NOK between them. However your proposal will be implemented for only one of the two games. In the other game the proposal of your opponent will be implemented. The proposer for each game will be chosen randomly by the computer.

At the end of the experimental session the computer will choose randomly one of the two games you have played, and the distribution in this game will determine your pay-off from the experiment. Finally you will be assigned a payment code, which will serve as identification for receiving the pay-off from the experiment.

We will show the screen shots that you will meet throughout the experiment on a projector and you will be allowed to play a test game (but no information will be given about the choices of others in this test game).

Please do not talk to the other participants during the experiment. If you have any questions please raise your hand.

There will be some temporary breaks during the experiment, and it is important that you do not speak to the other participants during these breaks.

## Part B. Interactive screen shots guiding the participants throughout the experiment

### Screen 1 (in Norwegian)

## Trinn 1/6

#### Informasjon

|                     |   |
|---------------------|---|
| Ditt deltakernummer | 3 |
| Ditt talent         | 2 |

#### Produksjonsfasen

Du har 3 investeringsvalg i hvert spill, og du har totalt 300 kroner å investere.

- NOK 0
- NOK 100
- NOK 200

|                       | Spill 1  | Spill 2  |
|-----------------------|--|--|
| Ditt investeringsvalg | <input type="radio"/> NOK 0<br><input checked="" type="radio"/> NOK 100<br><input type="radio"/> NOK 200 | <input type="radio"/> NOK 0<br><input type="radio"/> NOK 100<br><input checked="" type="radio"/> NOK 200 |

#### Gå videre

Fortsett

## Screen 1 (translated into English)

### Step 1/6

#### Information

Your participation number 3  
Your talent 2

#### Production phase

You have three possible investment choices in each game, and in total 300 NOK to invest.

- NOK 0
- NOK 100
- NOK 200

|                           | <b>Game 1</b>                        | <b>Game 2</b>                        |
|---------------------------|--------------------------------------|--------------------------------------|
| Your choice of investment | <input type="radio"/> <b>NOK 0</b>   | <input type="radio"/> <b>NOK 0</b>   |
|                           | <input type="radio"/> <b>NOK 100</b> | <input type="radio"/> <b>NOK 100</b> |
|                           | <input type="radio"/> <b>NOK 200</b> | <input type="radio"/> <b>NOK 200</b> |

#### Move on

Continue

## Screen 2 (in Norwegian)

### Trinn 2/6

#### Informasjon

|                     |   |
|---------------------|---|
| Ditt deltakernummer | 3 |
| Ditt talent         | 2 |

#### Investeringsbeslutning lagret

|                       | Spill 1 | Spill 2 |
|-----------------------|---------|---------|
| Ditt investeringsvalg | 100     | 200     |

#### Instruksjon

**Vennligst vent** til instruktøren ber deg fortsette.  
Ikke trykk på **Fortsett** før du får beskjed.

#### Gå videre

Fortsett

## Screen 2 (translated into English)

### Step 2/6

#### Information

Your participation number 3  
Your talent 2

#### Investment decision saved

|                           | Game 1 | Game 2 |
|---------------------------|--------|--------|
| Your choice of investment | 100    | 200    |

#### Instruction

Please wait until the instructor asks you to continue.  
Do not push the button **Continue** before you are asked to do so

#### Move on

#### Continue

## Screen 3 (in Norwegian)

### Trinn 3/6

#### Informasjon

Ditt deltakernummer 3

#### Spill 1

##### Produksjon

|                            |     |
|----------------------------|-----|
| Ditt talent                | 2   |
| Din investeringsbeslutning | 100 |
| Din produksjon             | 200 |

|  |     |
|--|-----|
| Din medspillers talent                 | 2   |
| Din medspillers investeringsbeslutning | 100 |
| Din medspillers produksjon             | 200 |

|                   |     |
|-------------------|-----|
| Samlet produksjon | 400 |
|-------------------|-----|

##### Fordeling

Ditt forslag til fordeling av **400** kroner:

|                |                      |        |
|----------------|----------------------|--------|
| Til deg        | <input type="text"/> | kroner |
| Til medspiller | <input type="text"/> | kroner |

#### Spill 2

##### Produksjon

|                            |     |
|----------------------------|-----|
| Ditt talent                | 2   |
| Din investeringsbeslutning | 200 |
| Din produksjon             | 400 |

|  |     |
|--|-----|
| Din medspillers talent                 | 4   |
| Din medspillers investeringsbeslutning | 100 |
| Din medspillers produksjon             | 400 |

|                   |     |
|-------------------|-----|
| Samlet produksjon | 800 |
|-------------------|-----|

##### Fordeling

Ditt forslag til fordeling av **800** kroner:

|                |                      |        |
|----------------|----------------------|--------|
| Til deg        | <input type="text"/> | kroner |
| Til medspiller | <input type="text"/> | kroner |

#### Gå videre

Fortsett

## Screen 3 (translated into English)

### Step 3/6

#### Information

Your participation number 3

#### Game 1

##### Production

|                          |     |
|--------------------------|-----|
| Your talent              | 2   |
| Your investment decision | 100 |
| Your production          | 200 |

|                                      |     |
|--------------------------------------|-----|
| Your co-player's talent              | 2   |
| Your co-player's investment decision | 100 |
| Your co-player's production          | 200 |

|                  |     |
|------------------|-----|
| Total production | 400 |
|------------------|-----|

##### Distribution

Your proposal for the distribution of **400** NOK:

|                    |     |
|--------------------|-----|
| For you            | NOK |
| For your co-player | NOK |

#### Game 2

##### Production

|                          |     |
|--------------------------|-----|
| Your talent              | 2   |
| Your investment decision | 200 |
| Your production          | 400 |

|                                      |     |
|--------------------------------------|-----|
| Your co-player's talent              | 4   |
| Your co-player's investment decision | 100 |
| Your co-player's production          | 400 |

|                  |     |
|------------------|-----|
| Total production | 800 |
|------------------|-----|

##### Distribution

Your proposal for the distribution of **800** NOK:

|                    |     |
|--------------------|-----|
| For you            | NOK |
| For your co-player | NOK |

**Move on**  
**Continue**

## Screen 4 (in Norwegian)

### Trinn 4/6

#### Informasjon

|                     |   |
|---------------------|---|
| Ditt deltakernummer | 3 |
| Ditt talent         | 2 |

#### Instruksjon

**Vennligst vent** til instruktøren ber deg fortsette.  
Ikke trykk på **Fortsett** før du får beskjed.

#### Gå videre

Fortsett

## Screen 4 (translated into English)

### Step 4/6

#### Information

|                           |   |
|---------------------------|---|
| Your participation number | 3 |
| Your talent               | 2 |

#### Instruction

Please wait until the instructor asks you to continue.  
Do not push the button **Continue** before you are asked to do so.

#### Move on

#### Continue

## Screen 5 (in Norwegian)

### Trinn 5/6

#### Informasjon

|                     |   |
|---------------------|---|
| Ditt deltakernummer | 3 |
| Ditt talent         | 2 |

#### Utbetaling

Kun et av spillene gir utbetaling.

Du får utbetalt din fortjeneste fra spill **1**.

I dette spillet var den totale produksjonen **400**.

**Din motspillers** forslag til fordeling ble valgt, og din fortjeneste er **300**.

Din utbetaling blir **300 (fortjeneste) + 0 (ikke investert) = 300**.

Din utbetalingskode er **146220**.

#### Nødvendige opplysninger

For at du skal få utbetalt din fortjeneste, må du oppgi navn, adresse og kontonummer.

Disse opplysningene sendes **kun** til økonomiavdelingen, og vil **ikke** bli gjort tilgjengelig for forskerne som står bak eksperimentet.

#### Navn

#### Adresse

#### Kontonummer

#### Utbetaling

#### Utbetalingskode

## Screen 5 (translated into English)

### Step 5/6

#### Information

Your participation number    3  
Your talent                        2

#### Payment

Only one of the two games will determine your pay-off

You will get your earnings from game 1.

Total production in this game was **400**.

Your opponent's proposal for distribution was chosen, and your earnings are **300**.

Total payment to you will be **300 (your earnings) + 0 (not invested)**

Your payment code is **146220**.

## **Screen 5 (translated into English cont.)**

### **Needed information**

In order to transfer the total payment to you, your name, address and account number is needed.

This information will **only** be sent to the Accounting Division, and will **not** be made available for the researchers responsible for the experiment.

### **Name**

Last name First name

### **Address**

Post/Street address Post code Town/City

### **Account number**

11 digits

### **Payment**

300

### **Payment code**

146220

**Send the information to the Accounting Division**

## Screen 6 (in Norwegian)

### Trinn 6/6

#### Informasjon

|                     |   |
|---------------------|---|
| Ditt deltakernummer | 3 |
| Ditt talent         | 2 |

#### Kvittering

Meldingen ble sendt. Du vil motta din utbetaling snarest.

=====  
Utbetaling  
=====

Navn: Fornavn Etternavn

Adresse: Post/gateadresse, postnummer, poststed

Kontonummer: 11 siffer

Utbetaling: 300

Kode: 146220

=====  
22.02.2005 15:28:12  
=====

#### Avslutt

Takk for at du deltok i dette forskningseksperimentet.

Vennligst bli sittende.

Du kan nå lukke nettleseren.

## **Screen 6 (translated into English)**

### **Step 6/6**

#### **Information**

Your participation number 3  
Your talent 2

#### **Receipt**

Your message has been sent. You will receive your payment soon.

#### Payment

Name: Last Name First Name

Address: Post/Street address, Post code, Town/City

Account number: 11 digits

Payment: 300

Code: 146220

22.02.2005 15:28:12

#### **End**

Thank you for your participation in this research experiment.

Please remain seated.

You may now exit your web browser.