

# Fairness and poverty – an international experiment

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Welfare states are egalitarian institutions supported by citizens.

Many welfare states provide more extensive redistribution than can easily be explained by insurance motives.

- Self-interest based political-economy struggle?
- Egalitarian preferences of citizens?
  - If so, what kind of preferences?
  - And why should such preferences be restricted to the nation state?

- How does a move from the national to the international context affect how we should think about distributive justice?
- Two types of normative questions
  - Who should we care about in an international context?  
Should compatriots be given priority over non-compatriots?
  - What fairness considerations are important in an international context?
    - \* Equity versus needs

- These questions are at the core of many important political debates:
  - Different political initiatives, such as the UN Millennium Development Goals, fair trade initiatives and debt relief campaigns, place different emphasis on equity and needs considerations.
- Also increasing focus in the normative literature on how and to what extent one can justify redistribution in an international context.
- Cross cultural differences?
  - Do the views of poor people differ from the views of rich people?

- Experimental literature:
  - Eckel and Grossman (1995) study how needs affects decision making in standard dictator games.
  - Witt and Wilson (2007) study to what extent ethnicity matters in distributive settings, by examining the behavior in standard dictator games of Muslims, Croats, and Serbs in postwar Bosnia-Herzegovina.
  - Substantial literature making cross cultural comparisons.

- Main research questions
  - Are people moral cosmopolitans?
  - Does need triumph equity considerations?
  - Are there cross cultural differences?

## Experimental design I

- The experiment was a dictator game with a production phase.
- We had participants from four countries.
  - Two of the poorest countries in the world: Tanzania and Uganda.
  - Two of the richest countries in the world: Norway and Germany.
- All participants were recruited from the general student populations at the University of Oslo, the University of Mannheim, the University of Makerere and the University of Dar es Salaam.
- The experiment took place simultaneously and with interaction between all participating countries.
- Six sessions with a total of 391 participants.

## Number of participants per session

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session	Country				total
	Norway	Germany	Uganda	Tanzania	
28/2, 1100	20	0	22	21	63
28/2, 1300	17	18	0	0	35
1/3, 0900	20	17	22	21	80
1/3, 1100	21	20	22	22	85
1/3, 1300	22	20	22	21	85
2/3, 1000	22	0	0	21	43
total	122	75	88	106	391

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## Experimental design II

- The production phase.
  - All participants copied a text for 30 minutes and their production,  $a_i$ , was the number of correct words they managed to type in that period.
  - All participants were, before they started to produce, randomly assigned a price per correct word of either  $p_i = 0.1$  USD or  $p_i = 0.05$  USD.
- Individual production value is  $x_i(a_i, p_i) = a_i p_i$ .

## Production by country

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	Norway	Germany	Uganda	Tanzania
Mean	750.0	682.7	271.0	242.5
SE(mean)	25.4	24.9	13.2	10.7
Standard deviation	280.6	216.3	123.6	110.6
minimum	250	200	50	0
25th percentile	550	550	200	150
75th percentile	900	800	300	300
maximum	1700	1400	650	650

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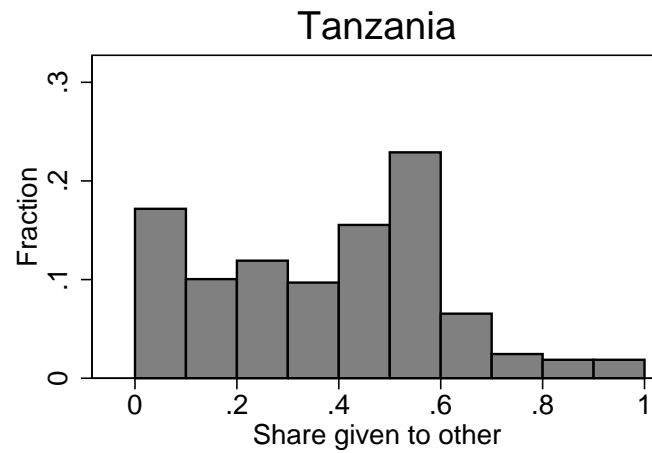
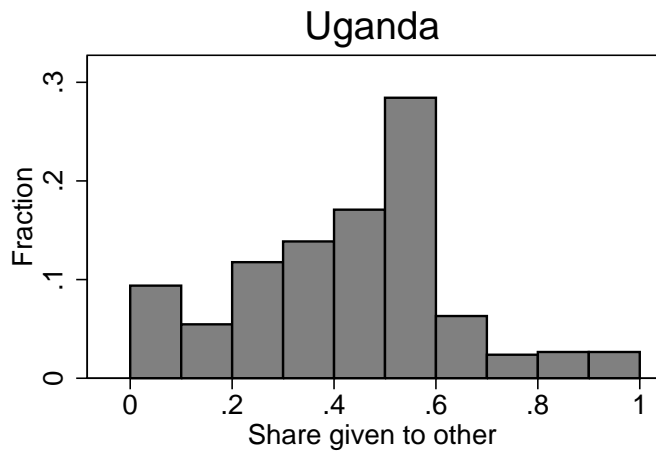
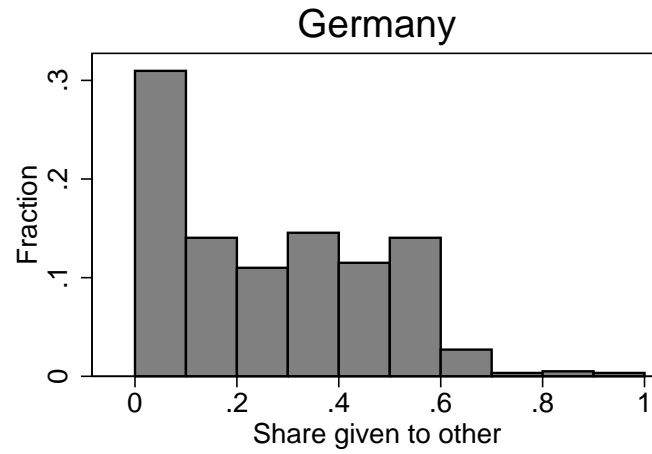
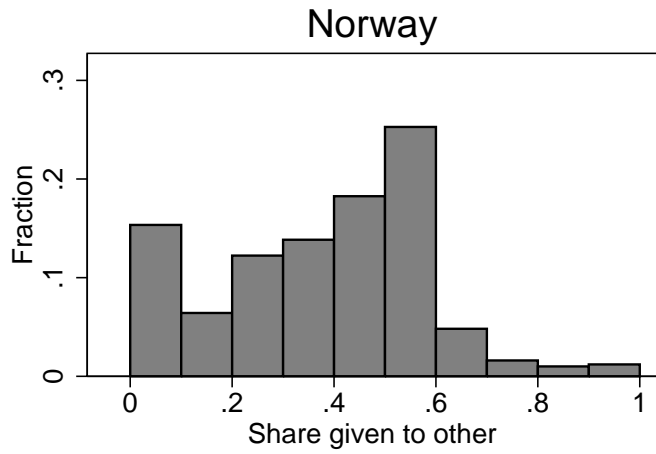
## Production by country and price per correct word

	price (USD/word)		
Country of decision maker	0.05	0.10	total
Norway	756.9 (37.0)	742.1 (34.5)	750.0 (25.4)
Germany	653.4 (43.6)	701.1 (30.1)	682.7 (25.0)
Uganda	270.8 (20.3)	271.2 (16.0)	271.0 (13.2)
Tanzania	239.6 (11.5)	245.3 (18.2)	242.5 (10.7)

## Experimental design III

- The distribution phase.
  - After the production phase ended, the participants were anonymously matched with a sequence of other participants, and asked to propose a distribution of the total production value  $X = x_1 + x_2$ .
  - They could meet participants from all participating countries.
  - They received information about the other participant's country, production and price.
- One proposal was randomly drawn after the distribution phase ended to determine the actual outcome.

# Histograms of share given to others by country



## **Moral cosmopolitanism, fairness and need**

- Moral cosmopolitanism: Importance measured by the average share given to participants with the same income level, but with a different nationality, relative to the average share given to compatriots.
- Fairness: Importance measured by the average share given to compatriots.
- Need: More tricky.

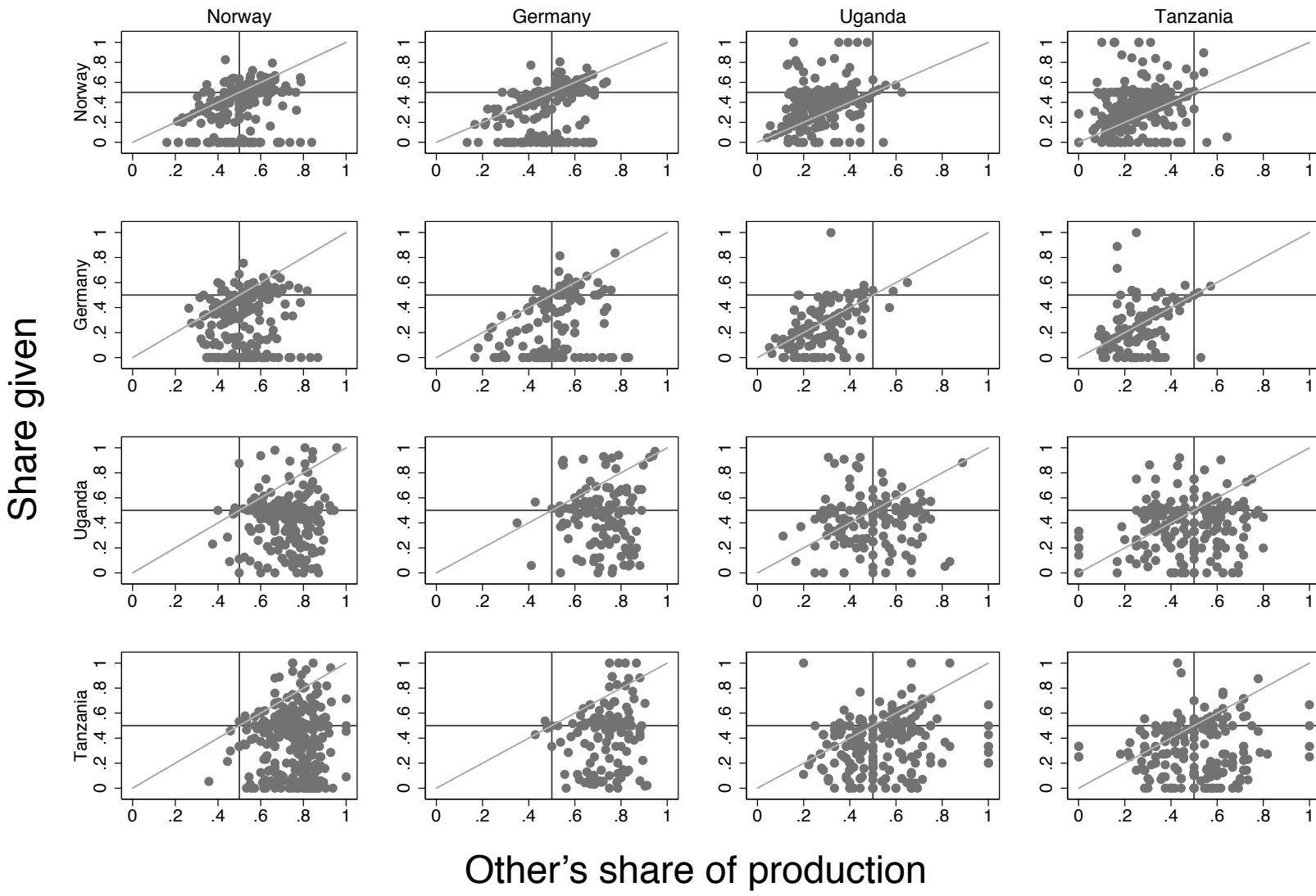
**Average share given (unconditional) by country combination**

	total	Country of opponent			
		Norway	Germany	Uganda	Tanzania
Norway	0.365 (0.007)	0.378 (0.013)	0.368 (0.015)	0.368 (0.015)	0.348 (0.012)
Germany	0.256 (0.009)	0.273 (0.015)	0.255 (0.020)	0.251 (0.016)	0.236 (0.017)
Uganda	0.417 (0.008)	0.426 (0.014)	0.459 (0.021)	0.418 (0.016)	0.381 (0.013)
Tanzania	0.366 (0.008)	0.379 (0.014)	0.433 (0.022)	0.356 (0.014)	0.318 (0.015)

## What kind of fairness ideal?

	Norway	Germany	Uganda	Tanzania
$a_2/(a_1 + a_2)$	0.560 (0.192)	0.533 (0.230)	0.00305 (0.134)	0.163 (0.0980)
$p_2/p_1$	0.0599 (0.0246)	0.0703 (0.0477)	0.0741 (0.0291)	0.0496 (0.0301)
constant	0.0300 (0.0970)	-0.0914 (0.0984)	0.331 (0.0784)	0.180 (0.0644)
Observations	276	132	150	208
$R^2$	0.117	0.132	0.052	0.031

*Note:* Regressions of  $1 - y/X$  on share of production and relative price, using only within country observations.



## The importance of needs

	Country of opponent			
	Norway	Germany	Uganda	Tanzania
Norway	0.793 (0.029)	0.770 (0.035)	1.617 (0.102)	1.678 (0.094)
Germany	0.590 (0.035)	0.514 (0.040)	1.018 (0.075)	1.104 (0.094)
Uganda	0.618 (0.022)	0.660 (0.033)	0.986 (0.058)	0.904 (0.042)
Tanzania	0.538 (0.020)	0.598 (0.031)	0.767 (0.038)	0.700 (0.037)

## Modelling strategy:

- Given the descriptive statistics, we model people as moral cosmopolitans concern for; *self-interest*, *needs* and *equity*.
- We treat the participants from the two rich countries as one group and the participants from the two poor countries as one group, which allows us to focus on the following differences:
  - Differences in the importance attached to equity and to needs between poor and rich countries.
  - Differences in the prevalence of equity ideals between poor and rich countries.

## Modeling equity ideals

**Strict egalitarianism:**

$$m^{SE} = X/2$$

**Meritocratism:**

$$m^{ME} = \frac{a_1}{a_1 + a_2} X$$

**Libertarianism:**

$$m^L = p_1 a_1$$

## Modeling needs

$$m^P = \begin{cases} 0 & \text{Rich decision-maker meets poor opponent.} \\ X & \text{Poor decision-maker meets rich opponent.} \end{cases}$$

Needs considerations are not always relevant, and the dummy  $\delta$  takes the value 1 when participants from countries with different income levels meet, otherwise it is 0.

## The utility function

- We model that the participants maximize the following utility function:

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

where,  $y$  is the income to  $i$ ,  $\beta_i$  is the weight attached to equity, and  $\alpha_i$  is the weight attached to needs.

- For an interior solution, the optimal proposal,  $y_i^*$ , is

$$y_i^* = \left(\frac{\beta_i}{\beta_i + \delta\alpha_i}\right)m_i^k + \left(\frac{\delta\alpha_i}{\beta_i + \delta\alpha_i}\right)m_i^P + \left(\frac{1}{\beta_i + \delta\alpha_i}\right)X.$$

## Estimation

- We estimate a random utility version of the model, where we have discrete choices  $y \in \mathcal{Y} = \{0, 2.5, \dots, \mathbf{p} \cdot \mathbf{a}\}$ .
- The vector we estimate for each group is:

$$\boldsymbol{\theta} = (\mu_\alpha, \mu_\beta, \sigma_\alpha, \sigma_\beta, \rho, \gamma, \lambda^{SE}, \lambda^{ME}, \lambda^L),$$

where  $(\lambda^{SE}, \lambda^{ME}, \lambda^L)$  are the population shares that hold different ideals, and  $(\alpha, \beta)$  is bivariate log-normal

- The likelihood of observing the choices of a particular individual is given by:

$$L_i(\boldsymbol{\theta}) = \sum_k \lambda^k \iint \prod_{j=1}^{J_i} \frac{\exp(\gamma V^k(y_{ij}, \mathbf{a}_{ij}, \mathbf{p}_{ij}, \beta, \alpha))}{\sum_{s \in \mathcal{Y}_{ij}} \exp(\gamma V^k(y_{ij}, \mathbf{a}_{ij}, \mathbf{p}_{ij}, \beta, \alpha))} f(\alpha, \beta; \boldsymbol{\theta}) d\alpha d\beta.$$

## Estimates within income level

	High income		Low income	
	parameter	s.e.	parameter	s.e.
Share SE	0.225	(0.041)	0.449	(0.044)
Share ME	0.425	(0.054)	0.266	(0.049)
Share L	0.351	(0.049)	0.285	(0.040)
$\gamma$	11.598	(0.268)	28.718	(1.784)
$\mu_\beta$	2.203	(0.215)	1.736	(0.165)
$\sigma_\beta$	4.183	(0.334)	1.821	(0.154)
$\log L$	-2023.5		-1497.9	

## Estimates with all data

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	High income		Low income	
Share SE	0.238	(0.039)	0.327	(0.040)
Share ME	0.421	(0.049)	0.343	(0.040)
Share L	0.341	(0.046)	0.285	(0.038)
$\gamma$	11.997	(0.184)	18.409	(0.696)
$\mu_\alpha$	-0.998	(0.211)	-0.161	(0.279)
$\mu_\beta$	2.395	(0.180)	1.780	(0.150)
$\sigma_\alpha$	3.648	(0.116)	1.475	(0.188)
$\sigma_\beta$	3.677	(0.118)	2.476	(0.161)
$\rho$	0.525	(0.021)	0.036	(0.059)

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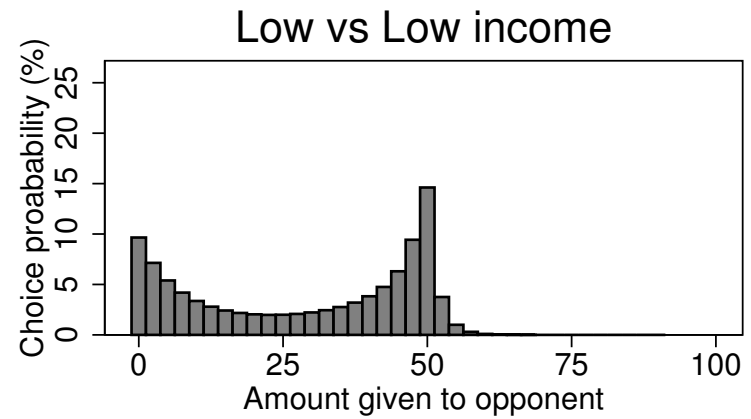
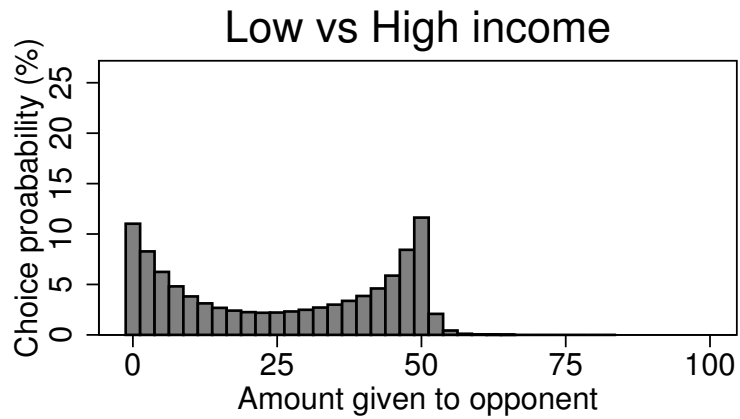
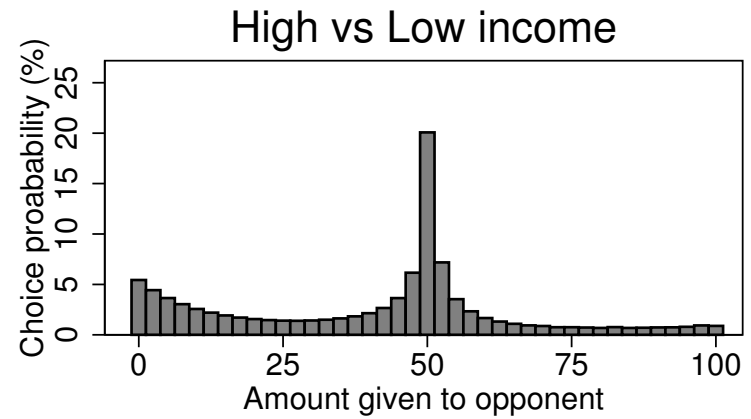
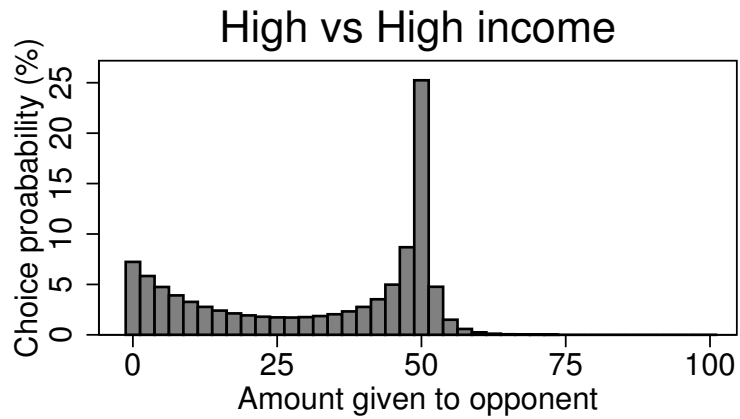
$\log L$	-3687.6		-3331.0	
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## Interpreting the results

- There are large differences in the fairness ideal in the rich countries and in the poor countries.
  - Strict egalitarianism much more prevalent among the participants from the poor countries.
  - Meritocratism and libertarianism much more prevalent among the participants from the rich countries.
- What can we say about the relative weight attached to equity considerations and needs considerations?
  - In order to interpret our estimates in terms of heterogeneity of  $(\alpha, \beta)$ , we use our estimates to predict what choices the participants would make in situations where we all fairness ideals would agree that an equal split was the fair solution.

# Hypothetical dictator situation



Situation variables:  $a_1=a_2=500$ ,  $p_1=p_2=0.1$ ,  $X=100$ .  
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## Fit and contrafactual without needs considerations

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country combination	$(X - y)/X$		
	data	simulation	simulation-P
High vs high	0.329	0.322	
High vs low	0.319	0.316	0.225
Low vs high	0.415	0.360	0.405
Low vs low	0.365	0.325	

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## Concluding remarks

- Needs do not overrule other moral considerations, but it matters.
- Equity considerations important in all countries, but pluralism within countries and substantial differences between countries.
- Moral cosmopolitanism: People do not seem to hold any special obligations towards compatriots.