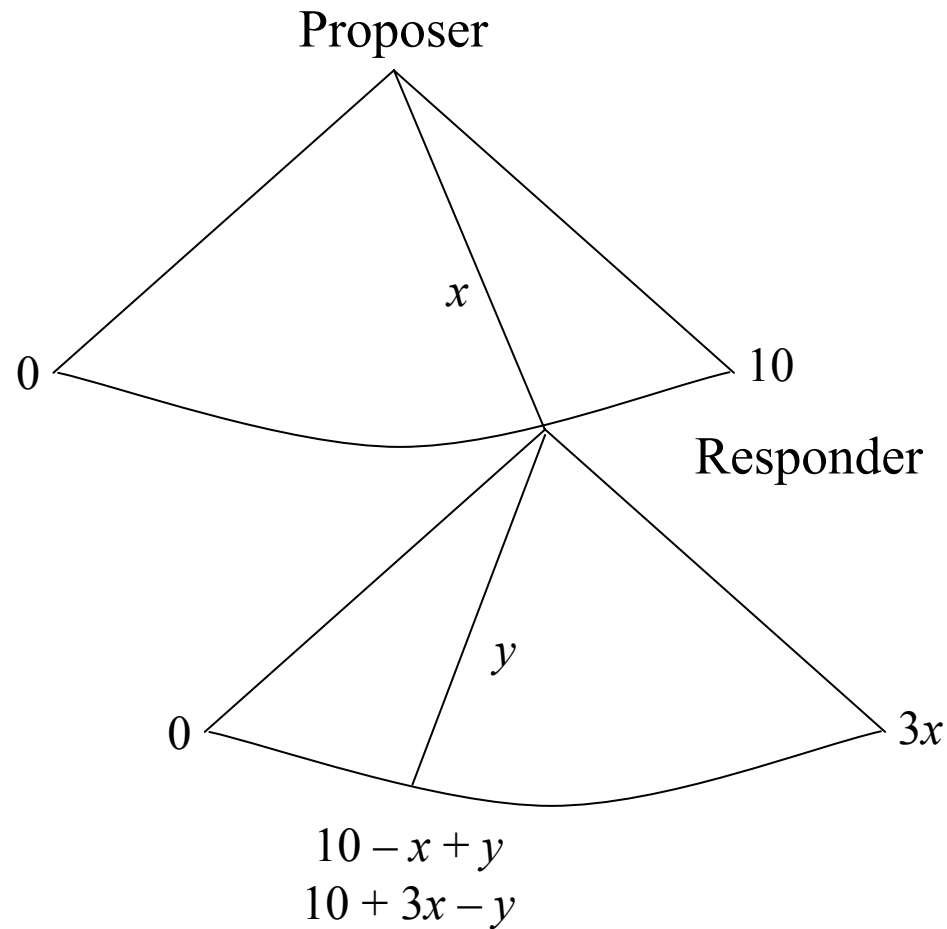


The Trust Game

- **The Trust Game** Berg et al. 1995



The Trust Game

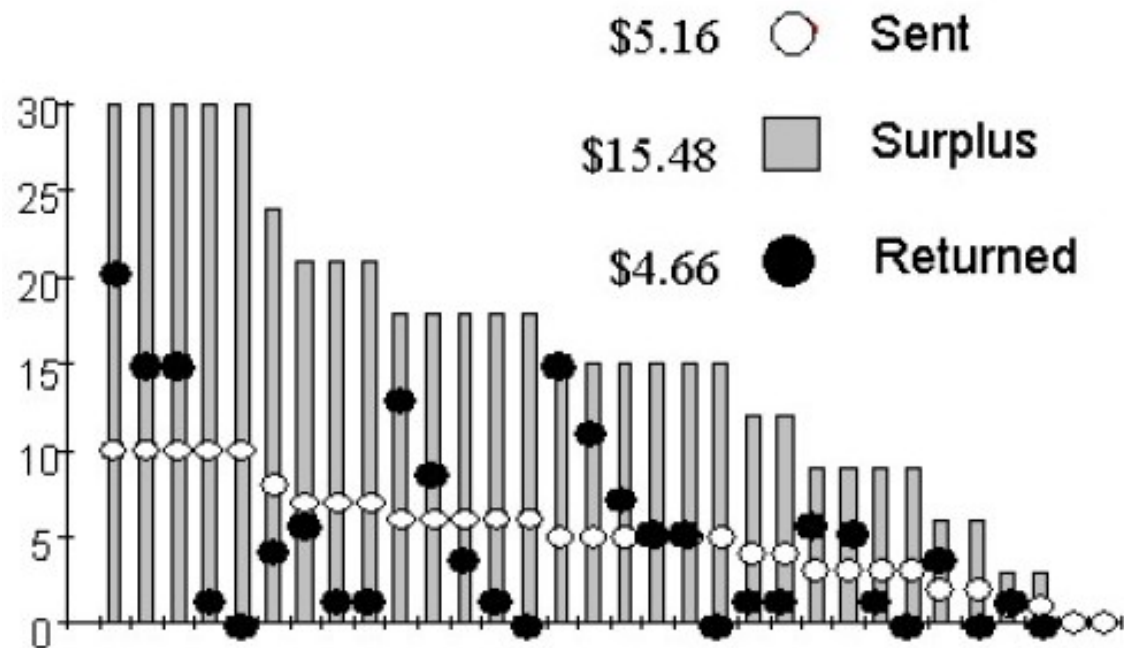
- **The Trust Game** Berg et al. 1995

- **Design**

- 64 subjects
- One-shot game, double-blind
- Endowment: \$10

- **Results**

- Proposer:
Most send money
- Responder:
Some return money
Increasing in amount sent



- On average proposers neither win nor lose

The Trust Game

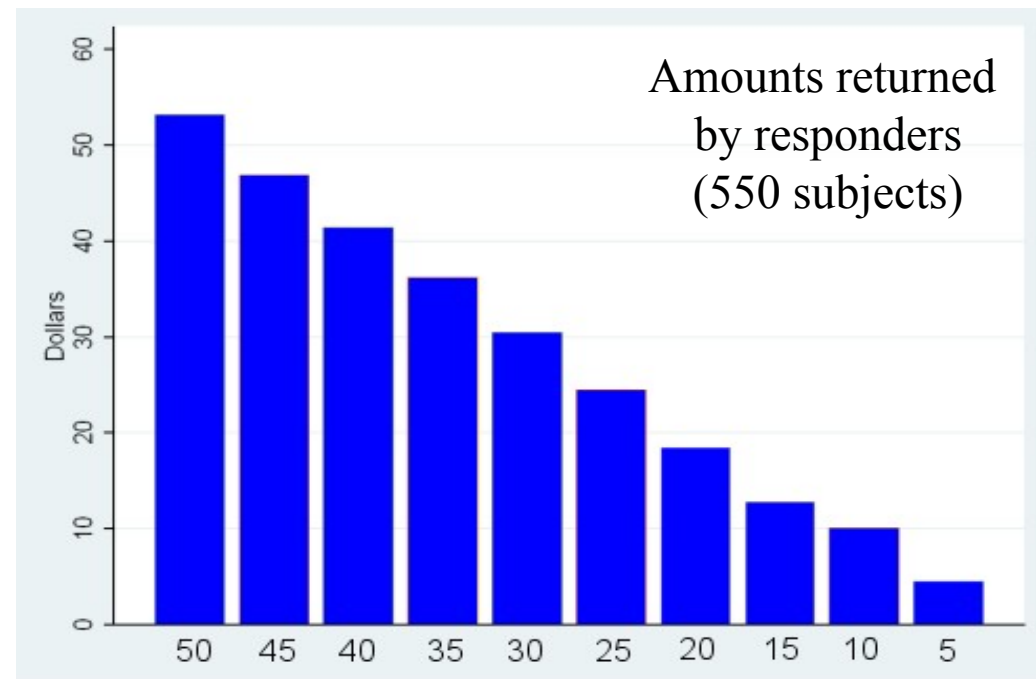
- **The Trust Game** Berg et al. 1995

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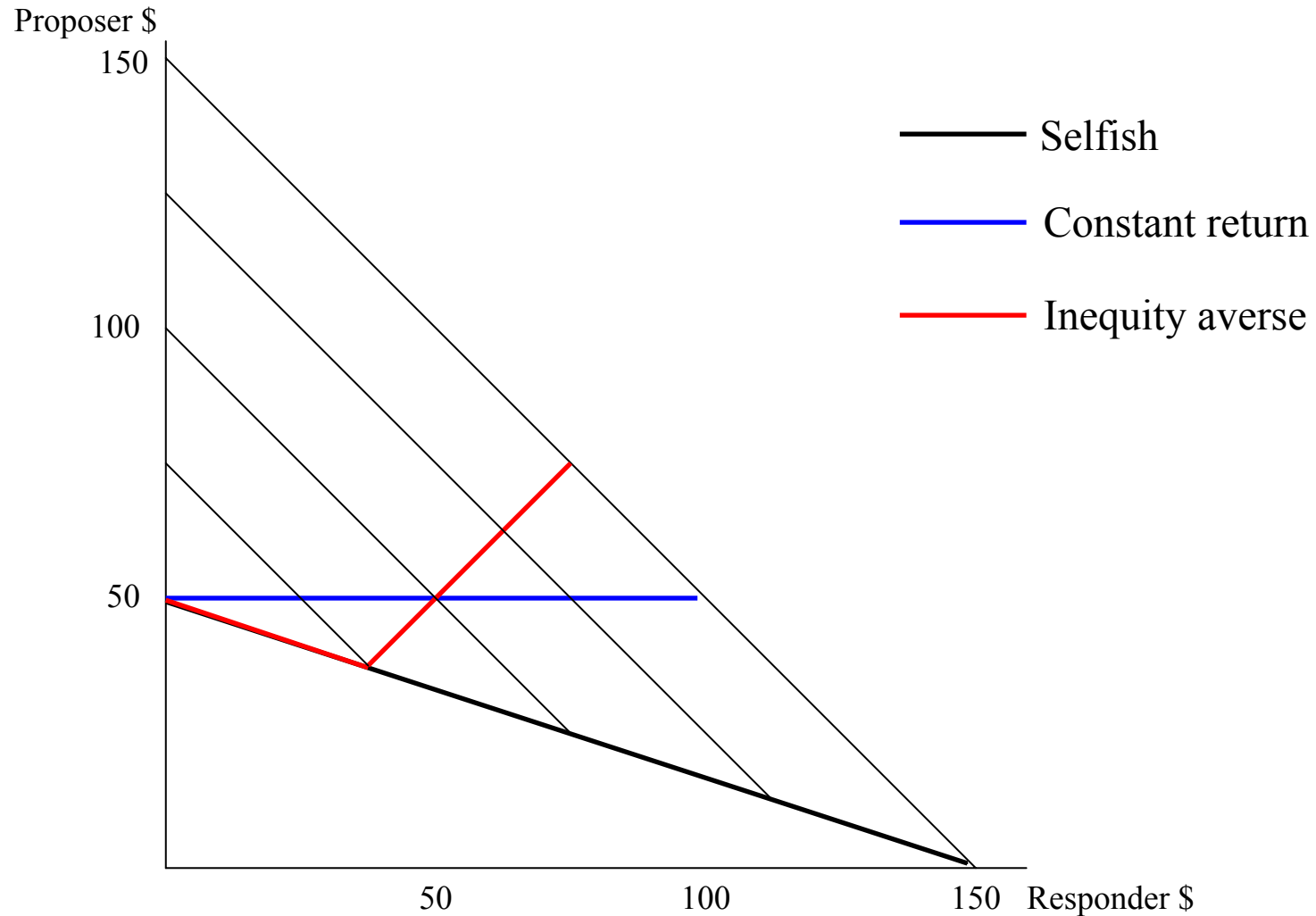
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Some return money
Increasing in amount sent



- On average proposers neither win nor lose

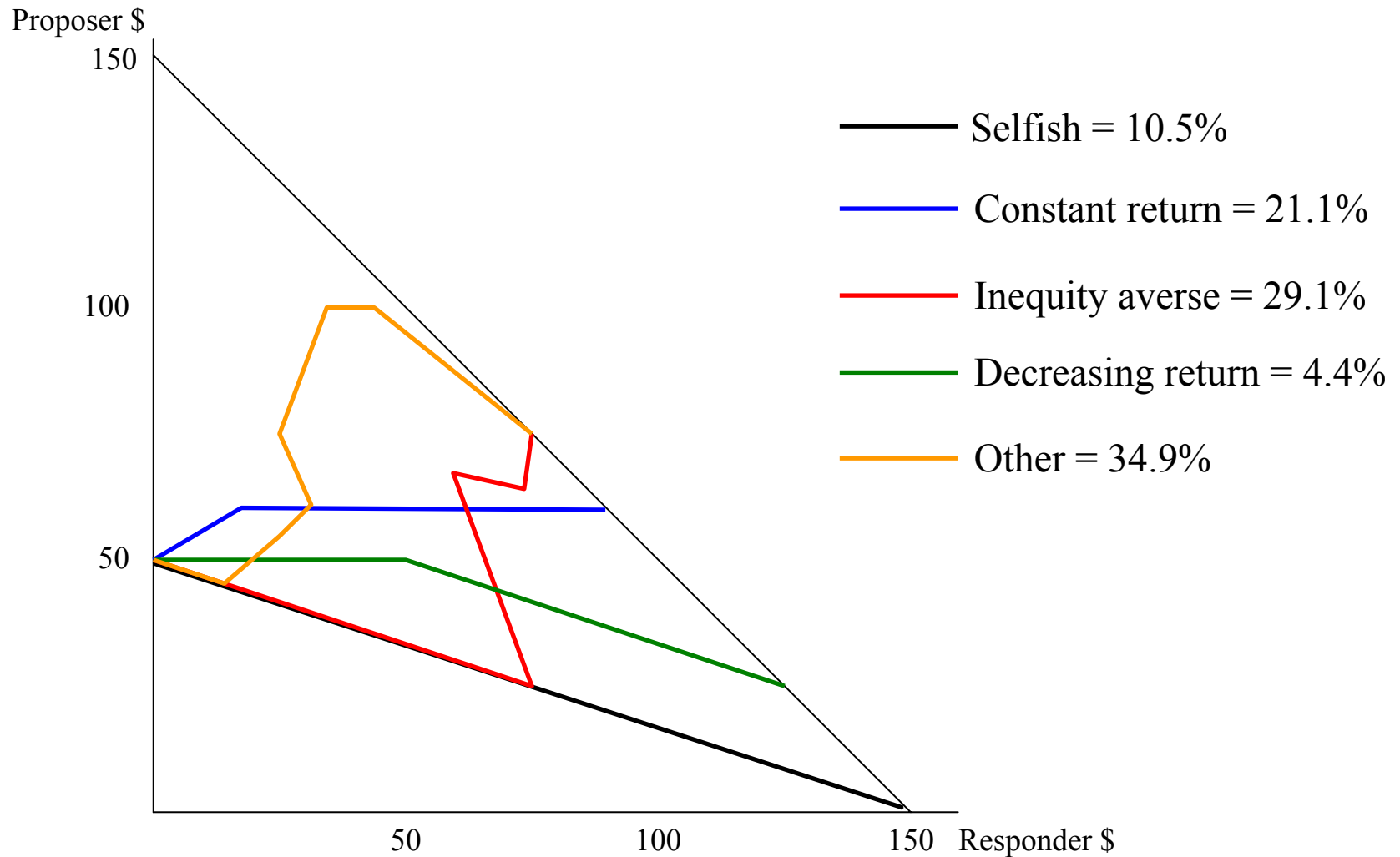
Trustworthiness

- Mapping preferences for trustworthiness



Positive Reciprocity

- Mapping preferences for trustworthiness



Trust and punishment

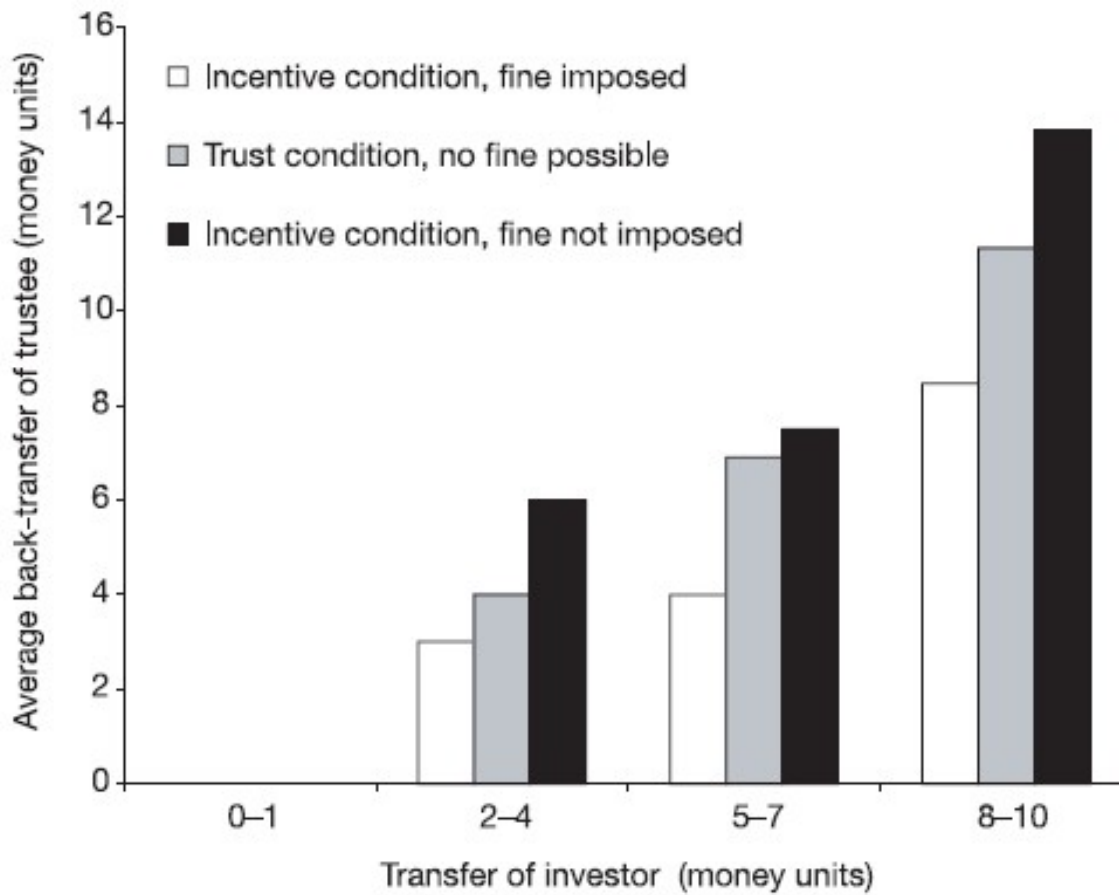
- **Crowding out good intentions** Fehr and Rockenbach 2003
 - Does the threat of punishment crowd out trustworthiness
- **Design**
 - Trust game
 - Trustor and trustee have 10 points, sent amount is multiplied by 3
 - Trustor can send a message to the trustee asking how much he would like returned
 - 2 treatments (between subjects)
 - No fine
 - Fine
 - Trustor has the option to impose a fine *before* sending money
 - If fine is imposed and amount back is less than the amount asked the trustee loses 4 points

Trust and punishment

- **Crowding out good intentions** Fehr and Rockenbach 2003

- Results

- If fine is imposed trustees send less money back
 - If fine is available but not imposed trustees send more money back



Trust and Altruism

- **Decomposing the Trust Game** Cox 2004
- **Why do proposers send money?**
 - Altruism or expected reciprocity (or both)
- **Why do responders return money?**
 - Altruism or reciprocity (or both)
- **Design**
 - 126 subjects
 - One-shot game, double-blind
 - Endowment: \$10
 - 3 treatments:
 - Treatment 1: Normal trust game
 - Treatment 2: Proposer is a dictator (no returns)
 - Treatment 3: Responder is a dictator (nothing sent)

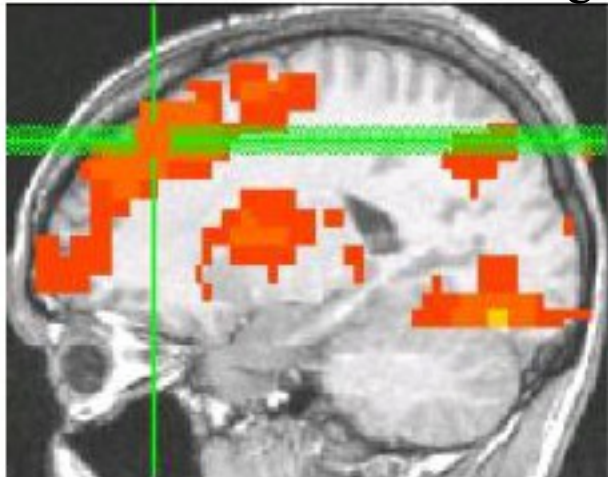
Trust and Altruism

- **Decomposing the Trust Game** Cox 2004
- **Why do proposers send money**
 - Both altruism and expected reciprocity: significant altruistic behavior
- **Why do responders return money**
 - Both altruism and reciprocity: significant altruistic behavior

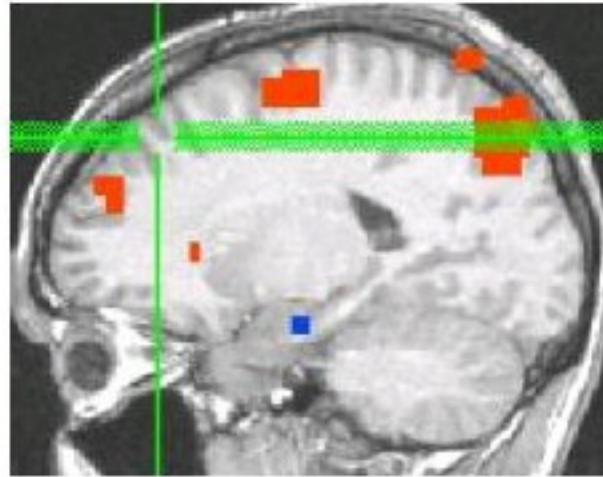
	Mean amount sent	Mean amount returned
Treatment 1: Normal trust game	5.97	4.94
Treatment 2: Proposer is a dictator	3.63	–
Treatment 3: Responder is a dictator	–	2.06

Trust and Theory of Mind

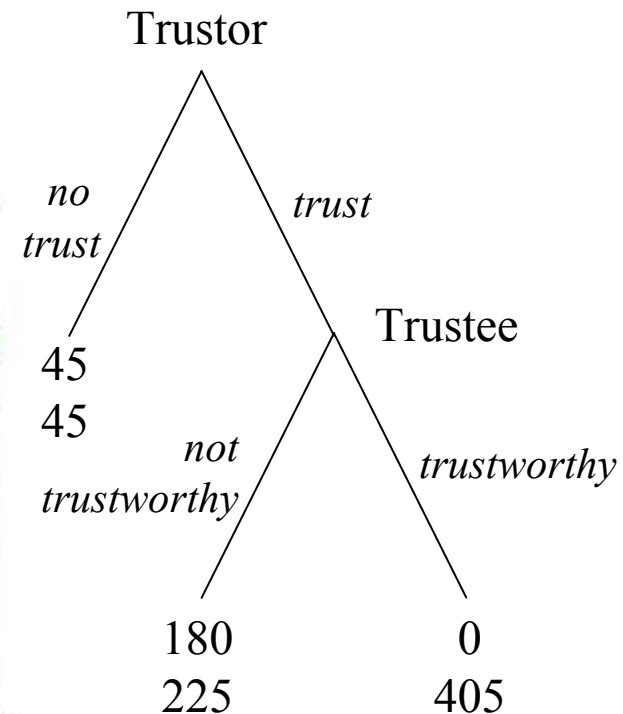
- **Trust and Theory of Mind** McCabe et al 2001
- **Design**
 - 2 treatments (within subjects)
 - Decision Problem: computer decides, no trustee
 - Trust Game: trustee decides*
 - **Results**
 - Higher pre-frontal activation when trusting humans



Human Counterpart

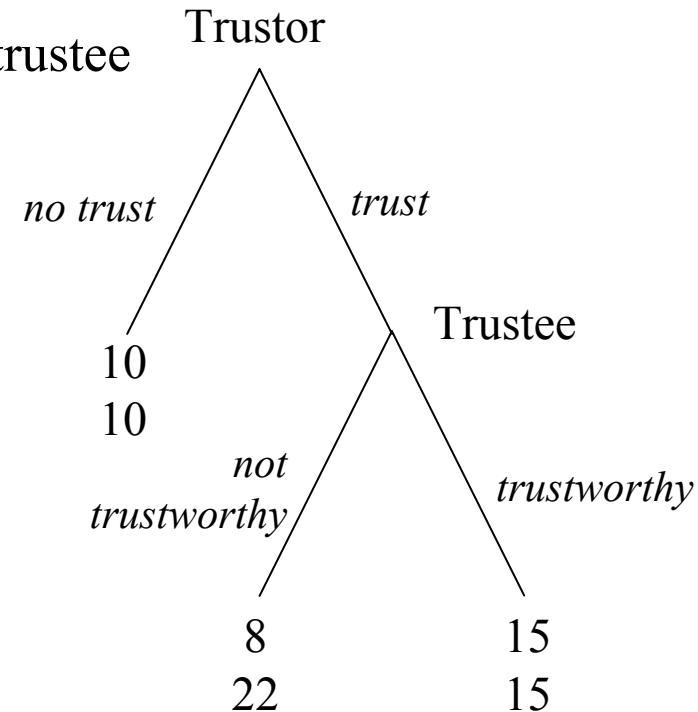


Computer Counterpart



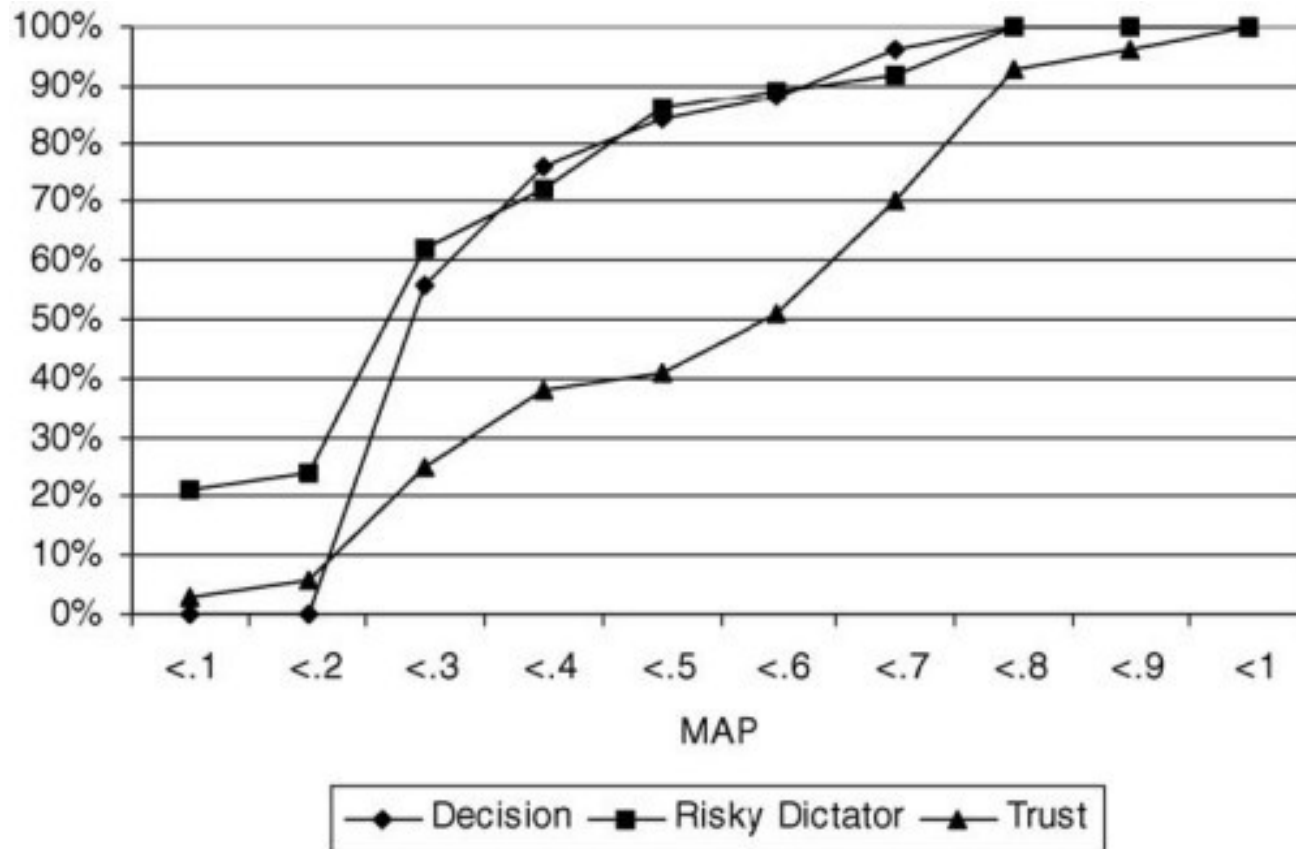
Betrayal

- **Trust and Betrayal** Bohnet and Zeckhauser 2004
- **Design**
 - 145 subjects
 - Average earnings: \$13.00
 - 3 treatments (between subjects)
 - Decision Problem: computer decides, no trustee
 - Risky Dictator: computer decides, trustee
 - Trust Game: trustee decides*
 - Choices elicited with MPAs
 - minimum acceptable probabilities
 - variation of Becker-DeGroot-Marschak



Betrayal

- **Trust and Betrayal** Bohnet and Zeckhauser 2004
- **Results**
 - Subjects send less in the trust case
 - Little sign of altruism



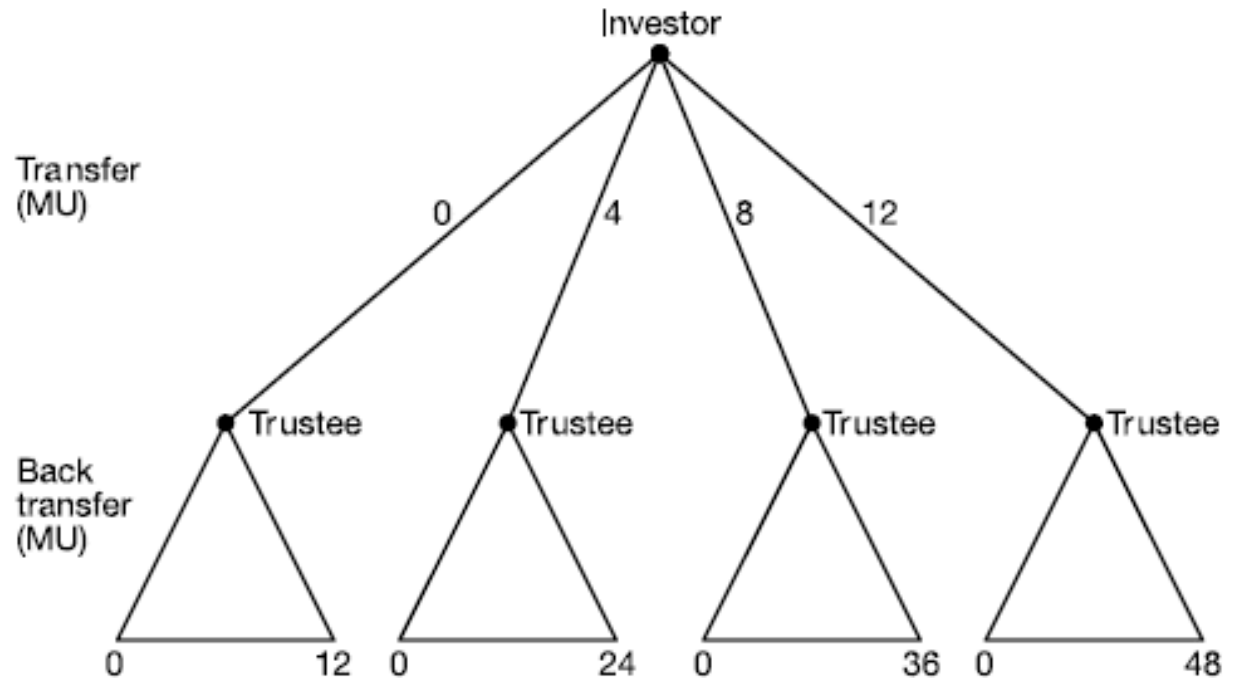
Betrayal

- **Trust and Betrayal** Bohnet et al. 2008
- **Design**
 - Same game as before but played in:
 - Brazil, China, Oman, Switzerland, Turkey, USA (and United Emirates).

	Betrayal aversion	Social preferences	Risk aversion
All	0.15***	0.05	0.16***
Women	0.14***	0.04	0.20***
Men	0.15***	0.06	0.13***
Brazil	0.08	0.04	0.18***
China	0.09	-0.09	0.11**
Oman	0.25***	0.12	0.30***
Switzerland	0.11*	0.08	0.19***
Turkey	0.16**	0.07	0.11**
USA	0.22***	0.05	0.08**

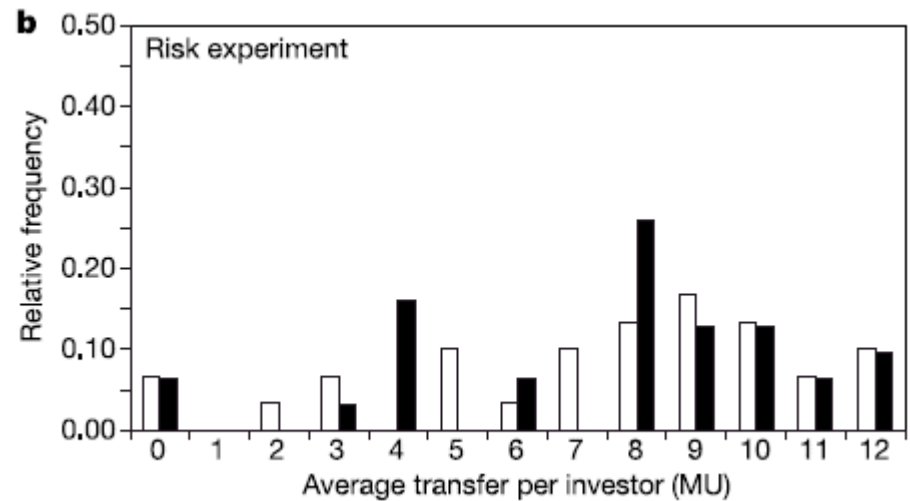
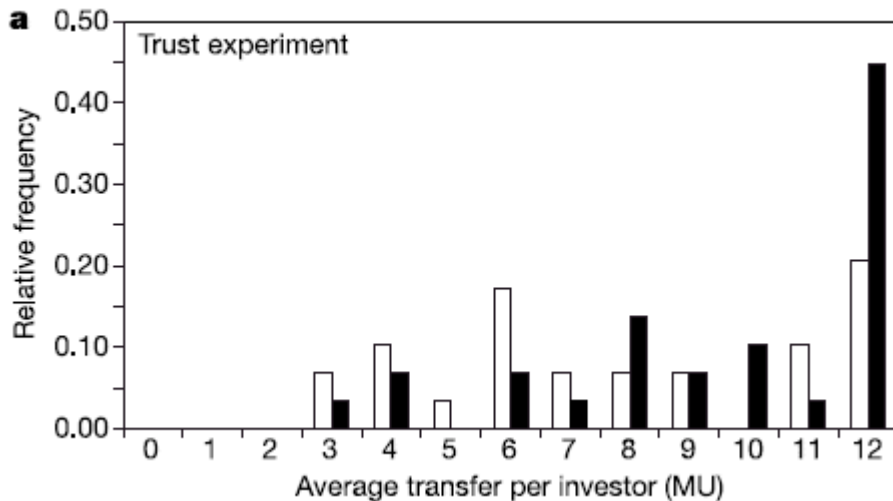
The Biology of Trust

- **Trust and Hormones** Kosfeld et al. 2005
- **Design**
 - 4 treatments (between subjects)
 - Human trustee vs. computer randomization
 - Oxytocin vs. placebo



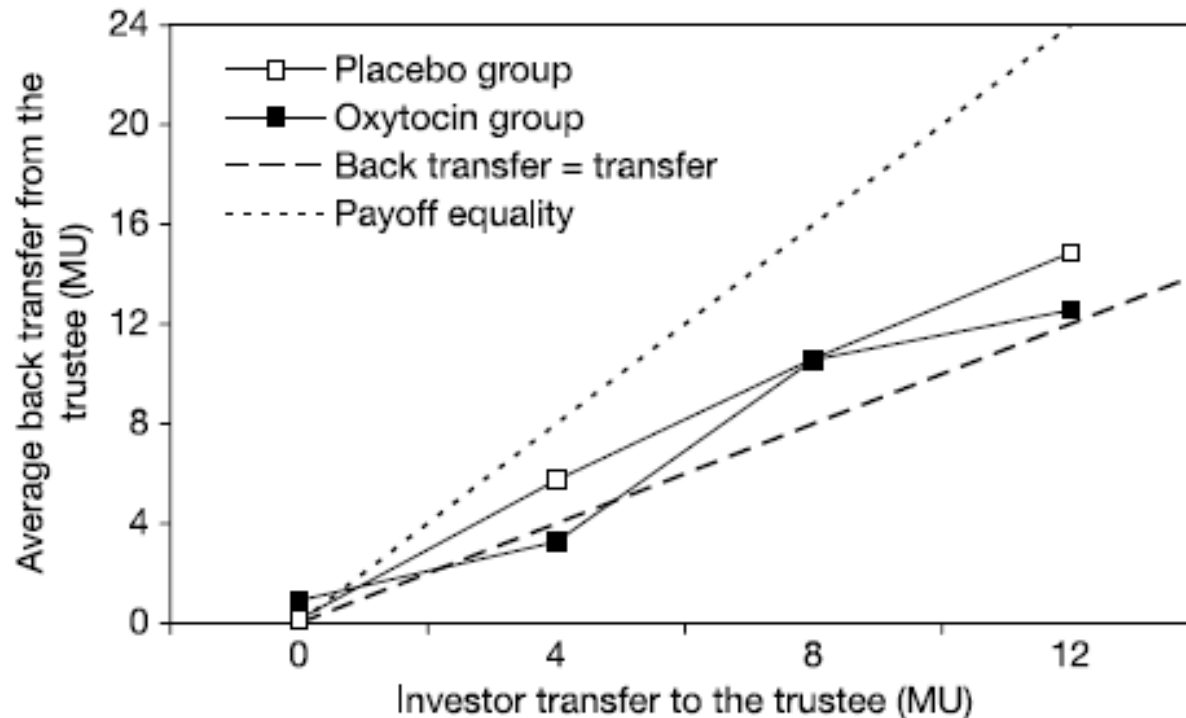
The Biology of Trust

- **Trust and Hormones** Kosfeld et al. 2005
- **Results**
 - Oxytocin increases trust
 - Does not increase risk loving behavior
 - Does it decrease betrayal aversion or increases overall kindness?



The Biology of Trust

- **Trust and Hormones** Kosfeld et al. 2005
- **Results**
 - Oxytocin increases trust
 - Does not increase risk loving behavior
 - Does not increase trustworthiness



Trust and Expectations

- **Trust, guilt and second order beliefs** Charness and Dufwenberg 2006

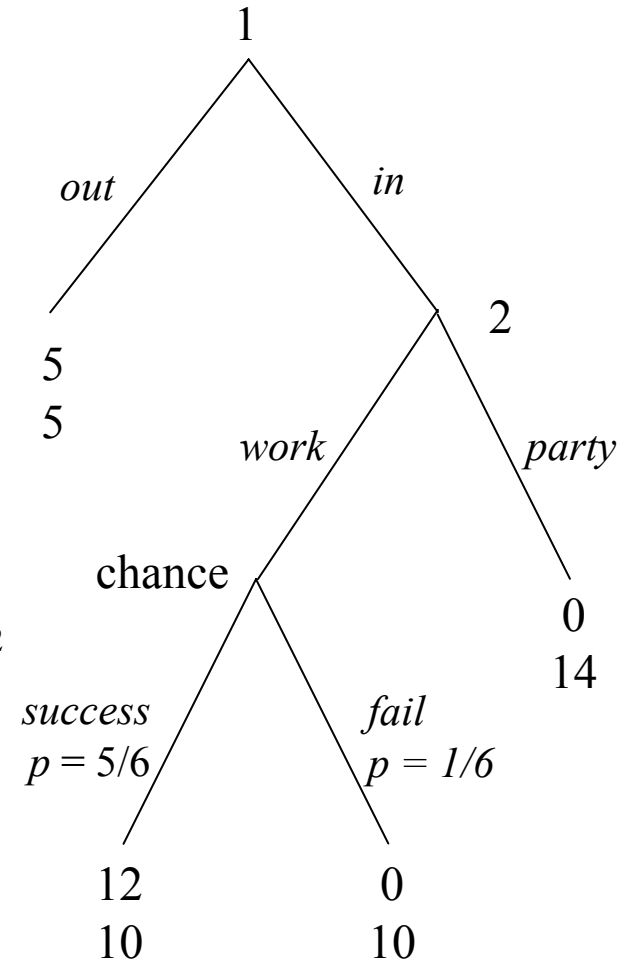
- **Guilt**

- How guilty should 2 feel if he works?
- How guilty should 2 feel if he parties?
 - if 1 thinks 2 works 75% of the time?
 - if 1 thinks 2 works 25% of the time?

- **Guilt aversion**

$$U_i = \pi_i - \lambda_i \sum_{j \neq i} v_{ij} [\pi_j(b_{ij}, b_{iji}) - \pi_j(b_{ij}, s_i)]$$

- Guilt depends on 2's second order belief: b_{212}
- Higher $b_{212} \rightarrow$ higher guilt from partying
 \rightarrow more likely to work

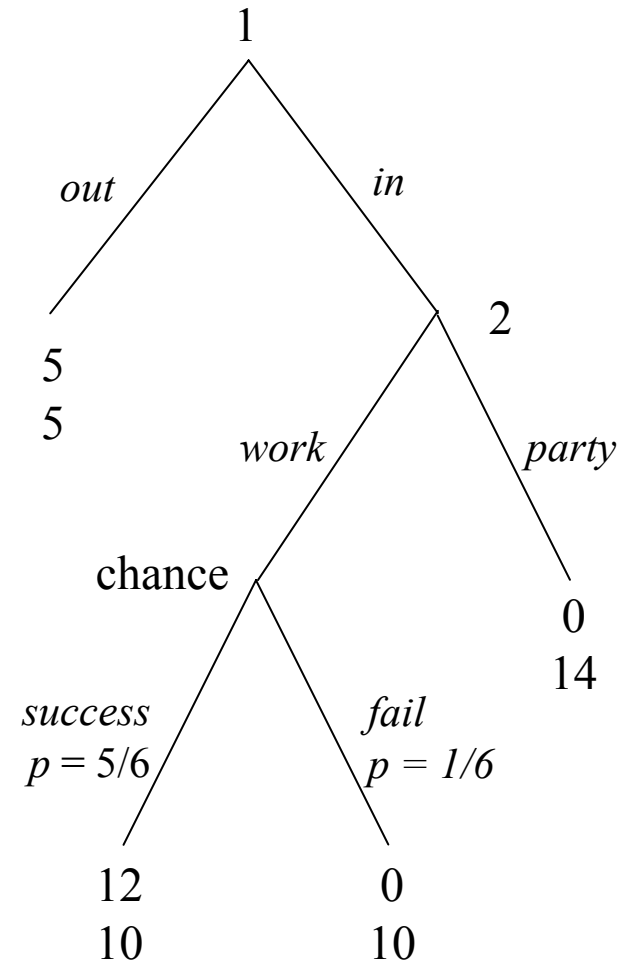


Trust and Expectations

- **Trust, guilt and second order beliefs** Charness and Dufwenberg 2006

- Guilt aversion implies trust is difficult to generate

- I think you will party and thus I don't trust you (go out)
- but even if I do go in, you do party because you don't feel guilty since I expected you to party anyway
- confirms my initial belief!



Trust and Expectations

- **Trust, guilt and second order beliefs** Charness and Dufwenberg 2006

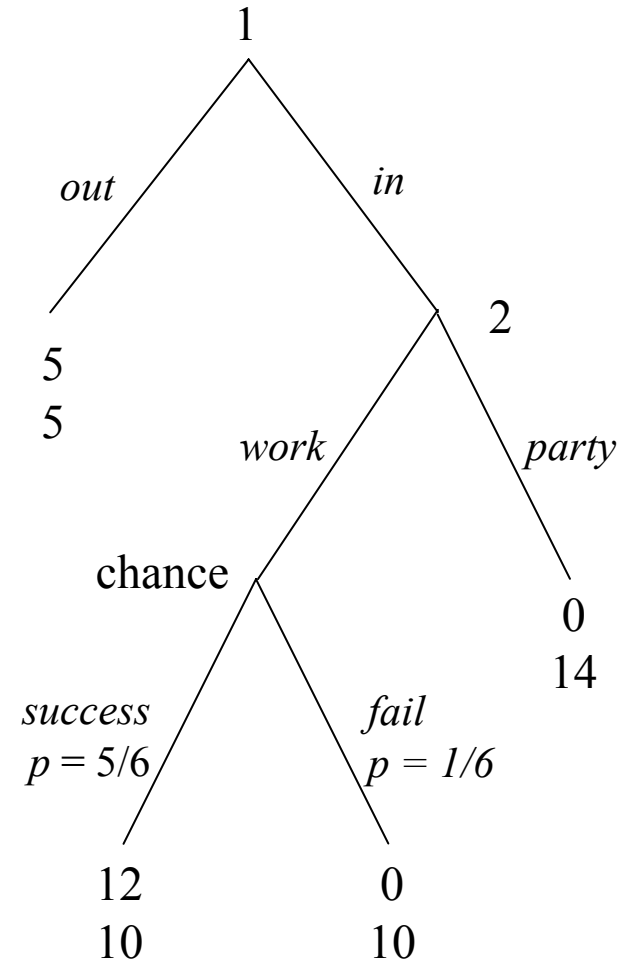
- Kindness

- How kind is 1 if he chooses *in*?
 - if 1 thinks 2 works 25% of the time?
 - if 1 thinks 2 works 90% of the time?

- Reciprocity

- Kindness also depends on b_{212}
- Higher $b_{212} \rightarrow$ 1 is less kind towards 2
 - \rightarrow less likely to work

- The difficulty of generating trust

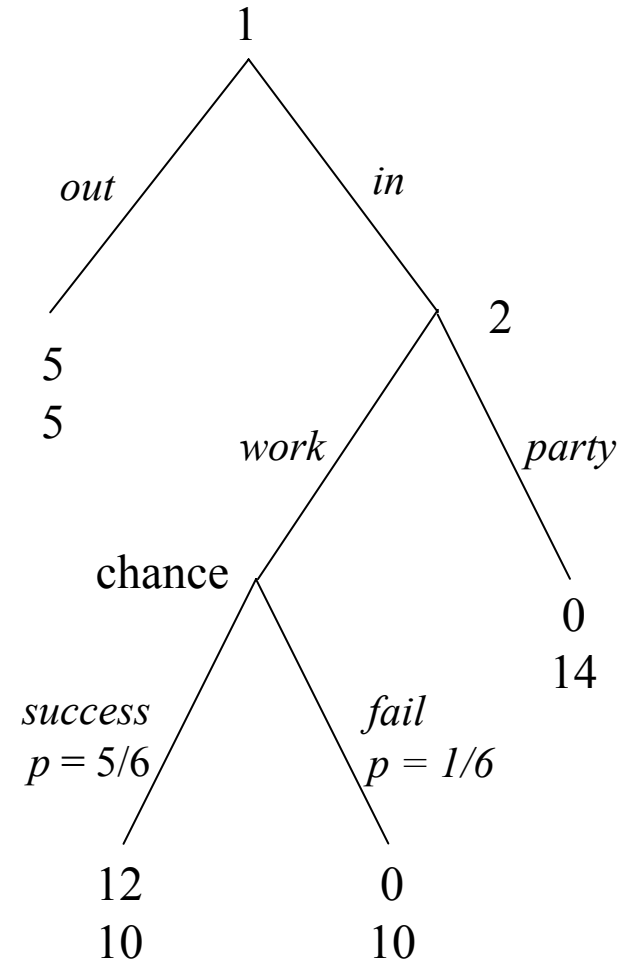


Trust and Expectations

- **Trust, guilt and second order beliefs** Charness and Dufwenberg 2006

- Reciprocity implies trust is difficult to sustain

- I think you will work and thus I trust you (go in)
- but given my belief, going in is in my self-interest and thus it is not necessarily a kind action
- since going in is not so kind, it makes you less willing to reciprocate (by working) and thus more likely to party



Trust and Expectations

- **Trust, guilt and second order beliefs** Charness and Dufwenberg 2006
 - Treatment 1
 - 84 subjects, one-shot, strategy method, incentivized beliefs
 - Results
 - Strong positive correlation between b_{212} and 2's decision to work

	<i>2 chose work</i>	<i>2 chose party</i>
b_{212}	54.2	39.6
(b_{12})	(51.3)	(28.2)

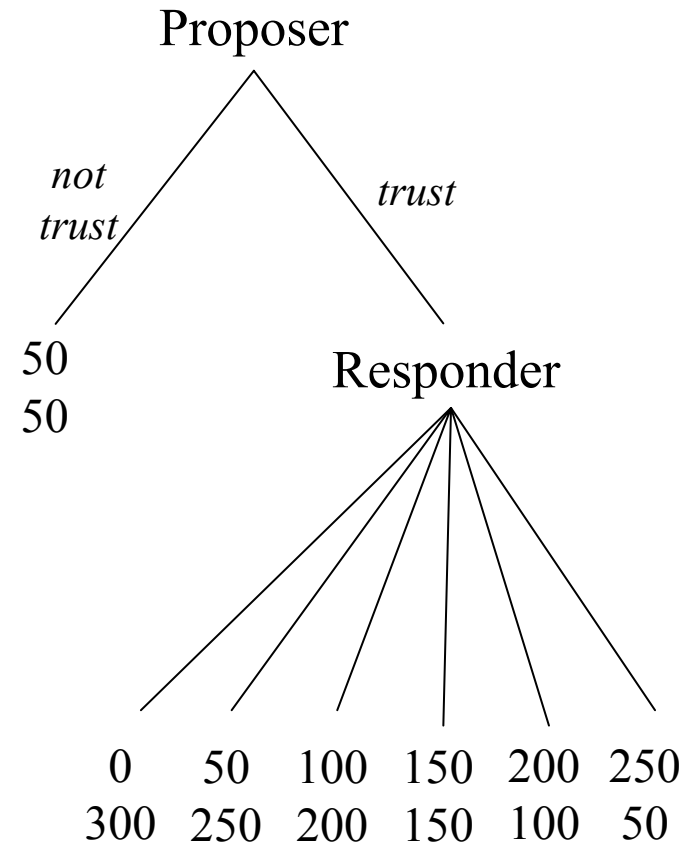
Trust and Expectations

- **Trust, guilt and second order beliefs** Charness and Dufwenberg 2006
 - Treatment 2: Add communication (2 sends message to 1)
 - 90 subjects, one-shot, strategy method, incentivized beliefs
 - Results
 - Higher frequency of *in-work* outcomes
 - Higher b_{12} and b_{212} and 2's decision to work
 - Messages with a promise have a higher effect on beliefs and outcomes

		2 chose <i>work</i>	2 chose <i>party</i>	<i>in-out</i> outcome
No Communication	b_{212} (b_{12})	54.2 (51.3)	39.6 (28.2)	56%
Communication	b_{212} (b_{12})	73.2 (65.4)	45.1 (42.2)	74%

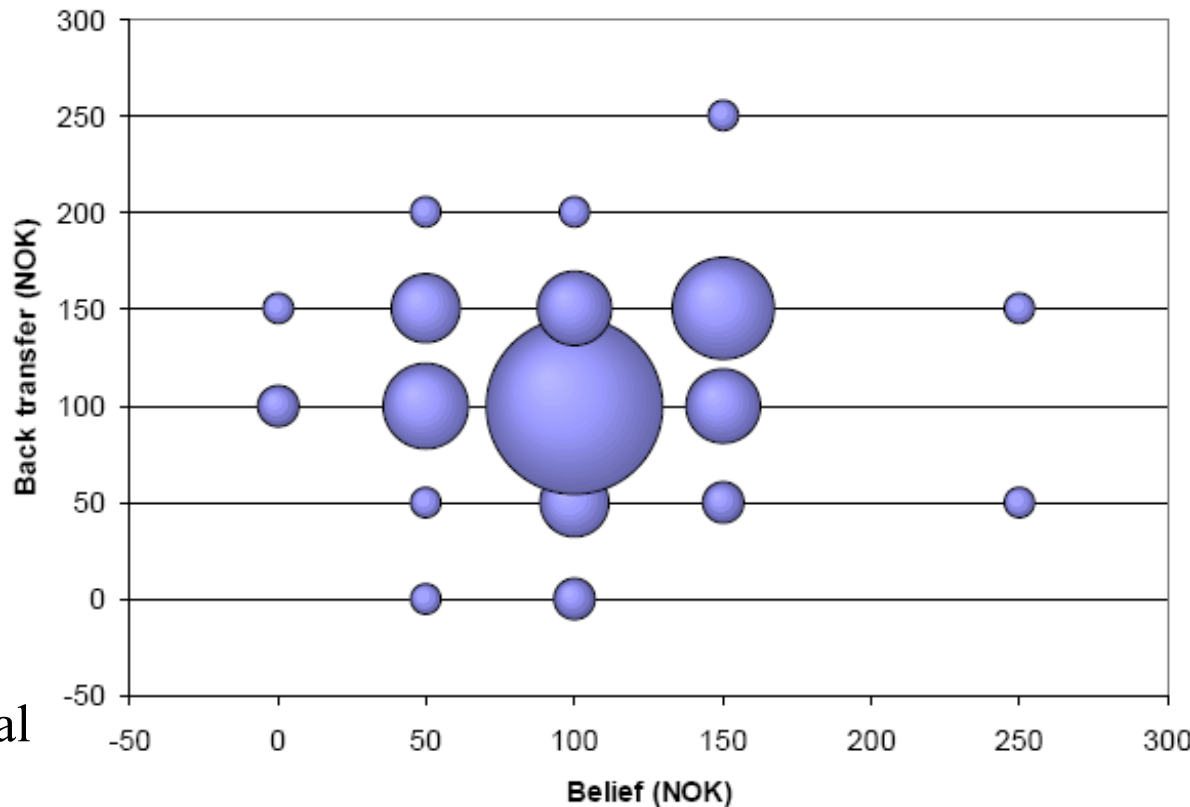
Trust and Guilt

- **Testing Guilt Aversion** Ellingsen et al. 2008
 - Problems with eliciting second-order beliefs
 - Demand effect
 - False consensus effect
 - Provide responders with the real beliefs of proposers
 1. Proposers make decision
 2. Elicit expectations (pay 50 if correct)
 3. Reveal expectations to responders
 4. Responders make decisions



Trust and Guilt

- **Testing Guilt Aversion** Ellingsen et al. 2008
 - No significant relation between the revealed expectations of proposers and the amount sent back by responders.
 - Correlation coef. 0.085 ($p = 0.434$)
 - Focus only on expectations of 100 and 150
 - Correlation coef. 0.354 ($p = 0.003$)
 - Design problems?
 - It is crucial that responders believe expectations are real



Trust and Expectations

- **Is mistrust self-fulfilling?** Reuben et al. 2009

- Problems with eliciting second-order beliefs

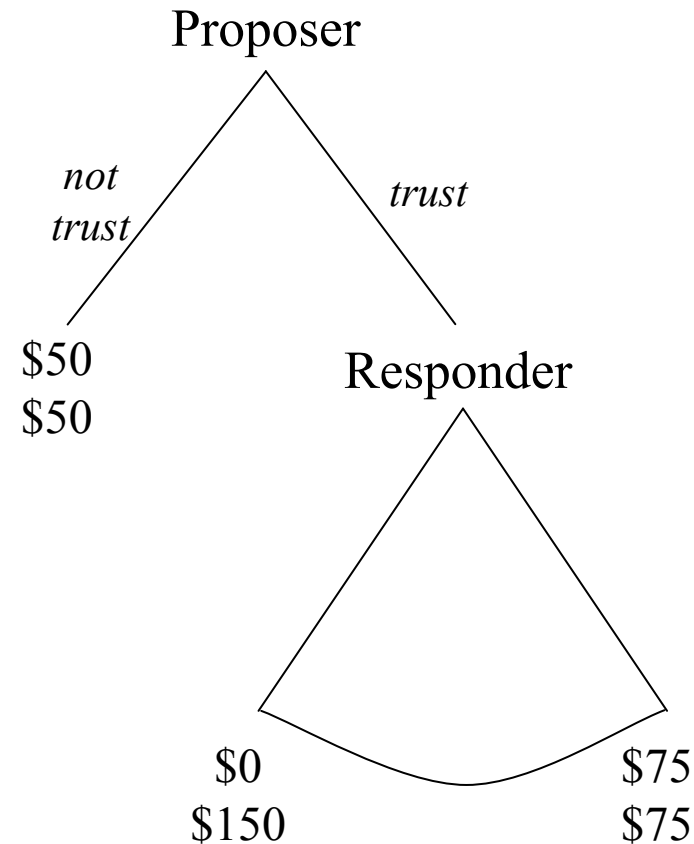
- Demand effect
- False consensus effect

- Provide responders with the real beliefs of proposers

1. Play game as proposers
 2. Elicit expectations
 3. Play game as responders 0
 4. Play game as responders and reveal expectations
- By looking at within subject changes, you concentrate on subjects for whom the proposer's expectation does matter

- 2 treatments

- In 4, match with proposer with high or low expectations



Trust and Expectations

- **Is mistrust self-fulfilling?** Reuben et al. 2009
 - Expectations have a noticeable effect on trustworthiness
 - Evidence of false-consensus but revealed expectations still have an effect

Regression of Final Trustworthiness

Low expectations	-31.77**
Baseline Trustworthiness	0.51*
Sent money	2.96
Expected trustworthiness	1.13**
Constant	-17.1

