



A surprising hot-cold reciprocation gap

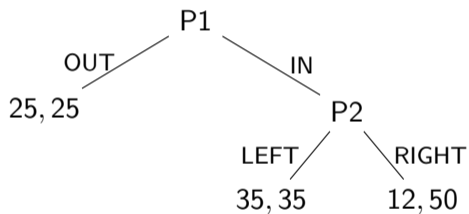
Riccardo Ghidoni, Jierui Yang and Sigrid Suetens

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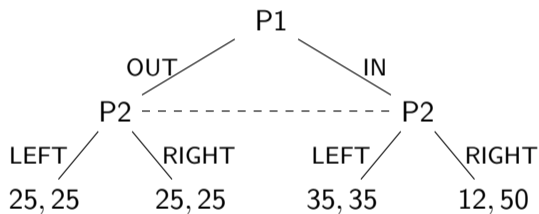
introduction

- two basic 'styles' of decision-making in principal-agent interactions
- Direct (*Hot*) decision making: agent chooses action after observing principal's action
- Contingent (*Cold*) decision making: agent commits to action plan contingent on principal's actions before observing principal's choice
- focus on context of trust relationships

binary trust games



(a) **Hot**



(b) **Cold**

two key differences

- emotional reaction
 - positive surprise may induce reciprocation
 - absent with contingent decision making

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→ more reciprocation in *Hot*
- scope for commitment
 - utility from committing to reciprocation
 - absent with direct decision making

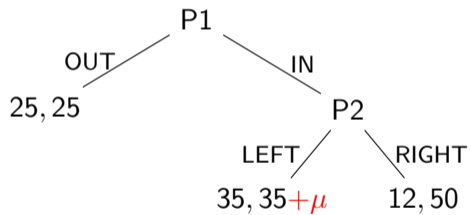
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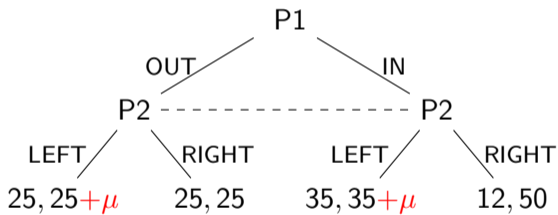
→ more reciprocation in *Hot*
- scope for commitment
 - utility from committing to reciprocation
 - absent with direct decision making

→ more reciprocation in *Cold*

if utility from commitment to reciprocation



(a) Hot



(b) Cold

this paper

- two experiments investigating Hot-Cold reciprocation gaps and associated mechanisms
- focus on reciprocation choices
- relevance: understanding reciprocation important for designing institutions that foster socially optimal outcomes

related literature

- several studies have compared direct and contingent decision-making in trust-like games
(e.g., Brandts and Charness, 2000; Fong et al., 2007; Solnick, 2007; Casari and Cason, 2009; Cox and Hall, 2010; Reuben and Suetens, 2012; Chen and Schonger, 2020; Garcia-Pola et al., 2020)
- survey by Brandts and Charness (2011) and meta-study by Johnson and Mislin (2011)
- evidence is mixed

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our contribution

setting as simple as possible & investigation of mechanism

first experiment

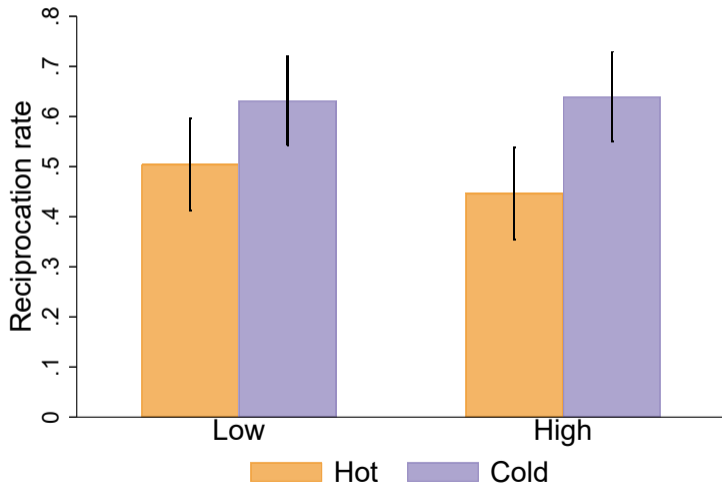
- 400 first movers played 1 round and divided in two equally sized groups
 - *High* trust rate of 0.69
 - *Low* trust rate of 0.28
- 400 second movers played 20 rounds with different first movers; all faced with trust in round 1
 - *High* trust rate → relatively unsurprised by trust
 - *Low* trust rate → relatively surprised by trust
- 2×2 between-subjects design
 - *Hot* vs. *Cold* decision making
 - *High* vs. *Low* trust rate generating low vs. high surprise
- UK student sample on Prolific, pre-registered at OSF

surprise hypothesis

1. (Weakly) higher reciprocation rate in *Hot* than in *Cold*.
2. Difference in reciprocation rate between *Hot* and *Cold* is (weakly) larger in *Low* than in *High*.

result

result



additional results

- in *Hot*: more second movers reported surprise in *Low* than in *High*, so surprise manipulation worked
- no difference between *Hot* and *Cold* in second-order beliefs of second movers
- decision making was not perceived as more complex in *Cold* than in *Hot*

conclusion so far

- higher reciprocation rate in *Cold* than in *Hot*
- second movers did not act upon their positive surprise

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possible interpretation: commitment to reciprocation (Chen and Schonger, 2020, 2022)

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possible confounds:

- cost-sensitive errors (McKelvey and Palfrey, 1998)
- commitment to pro-sociality

second experiment

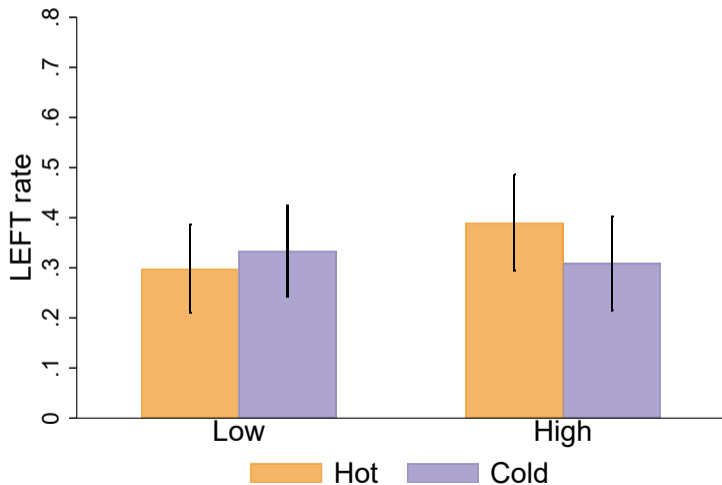
- exactly the same as first experiment except that
 - first movers did not make choices themselves
 - second movers knew this
- IN probabilities taken from first experiment
- $N = 400$, UK student sample on Prolific, pre-registered at OSF

commitment hypothesis

In the second experiment, the “reciprocation” (LEFT) rate does not differ between *Hot* and *Cold*.

result

result



difference-in-differences effect

Dep. var.: Choose LEFT	(1)	(2)
<i>Hot</i>	0.022 (0.048)	0.028 (0.048)
<i>Experiment 1</i>	0.314 (0.047)***	0.315 (0.048)***
<i>Hot</i> × <i>Experiment 1</i>	-0.181 (0.066)***	-0.184 (0.066)***
Constant	0.321 (0.034)***	0.166 (0.156)
Controls		✓
Observations	852	852

conclusion

- more people reciprocate trust with contingent decision-making than with direct decision-making
- programming a reciprocation strategy might thus generate higher efficiency than direct decision-making
- patterns consistent with presence of preference to commit to reciprocate
- combination of commitment to reciprocate and emotions might explain mixed evidence from ultimatum-like games

thank you