Solidarity and Punishment

An Experiment on the Merits and Perils of Centralized Enforcement

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FOR2104 – Need-Based Justice and Distribution Procedures

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Solidarity and Punishment

- Punishment sustains social order in laboratory experiments
  Chaudhuri (2011); Fehr & Gintis (2007); Gächter (2014); Kosfeld et al. (2009)

Efficiency	Solidarity
Functional Integration	Social Integration
Vergesellschaftung	Vergemeinschaftung
… held together by the coordination of instrumental interests to achieve individual ends.	… built upon a shared notion of togetherness and a mutual concern for the well-being of others.

How does centralized punishment affect solidarity?

Solidarity and Punishment

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  Chaudhuri (2011); Fehr & Gintis (2007); Gächter (2014); Kosfeld et al. (2009)

Efficiency	Solidarity
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- Disagreement on whether punishment undermines or facilitates solidarity
  Mulder et al. (2006); Bowles & Polania-Reyes (2012); Li et al. (2009); Herreros (2008); Molm (1994); Stagnaro et al. (2017)
- Implications of punishment differ across social spheres of interaction
  Paskov (2016); Fukuyama (2000)

Does the impact of punishment differ between public goods and reciprocal helping?

Solidarity and Punishment

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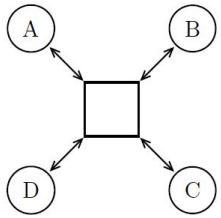
  Chaudhuri (2011); Fehr & Gintis (2007); Gächter (2014); Kosfeld et al. (2009)

Efficiency	Solidarity
Functional Integration	Social Integration
Vergesellschaftung	Vergemeinschaftung
Part 1 of the Experiment	Part 2 of the Experiment
… replicates the standard setting of a punishment experiment.	… assesses whether punishment has also induced solidarity.

Efficiency

- Repeated 4-player Prisoner's Dilemma
  Binmore (1994); Raub et al. (2015)
  - Dichotomous Choice between Cooperation $C_i = (s_C, p_C)$ and Defection $D_i = (s_D, p_D)$.
  - $p_D > p_C$, but $s_C + p_C > s_D + p_D$

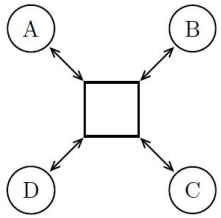
Public Good Reciprocal Helping



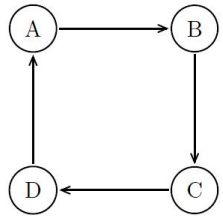
Efficiency

- Repeated n-player Prisoner's Dilemma
  Binmore (1994); Raub et al. (2015)
  - Dichotomous Choice between Cooperation $C_i = (s_C, p_C)$ and Defection $D_i = (s_D, p_D)$.
  - $p_D > p_C$, but $s_C + p_C > s_D + p_D$

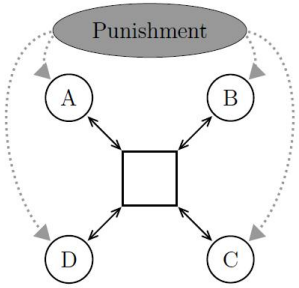
Public Good

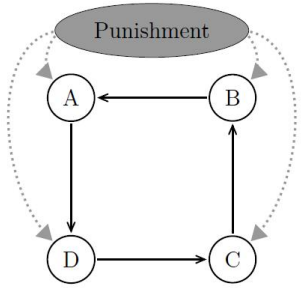


Reciprocal Helping



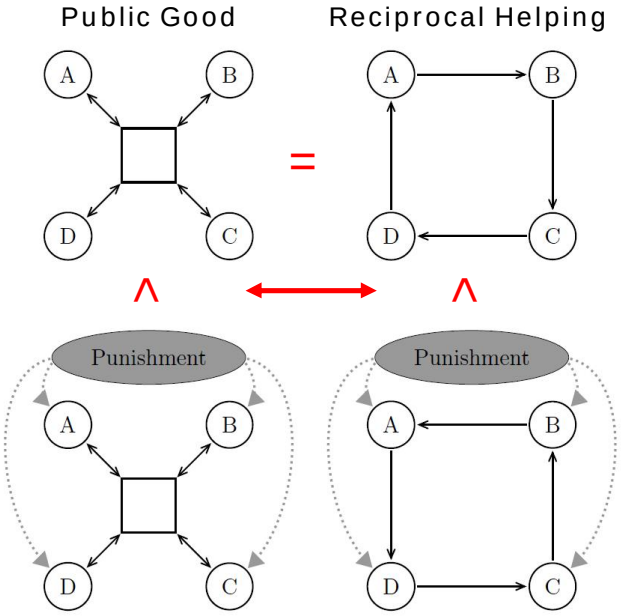
- Centralized Punishment
  - Control mechanism with inspection probability L and penalty P for D_i





Efficiency

- Repeated n-player Prisoner's Dilemma
  Binmore (1994); Raub et al. (2015)
  - Dichotomous Choice between Cooperation $C_i = (s_C, p_C)$ and Defection $D_i = (s_D, p_D)$.
  - $p_D > p_C$, but $s_C + p_C > s_D + p_D$



- Centralized Punishment
  - Control mechanism with inspection probability L and penalty P for D_i
  - $LP > p_D - p_C$

Solidarity

Efficiency	Solidarity
Functional Integration	Social Integration
Vergesellschaftung	Vergemeinschaftung
Part 1 of the Experiment	Part 2 of the Experiment
… replicates the standard setting of a punishment experiment	… assesses whether punishment has also induced solidarity.

Part 2: Measurement of Solidarity

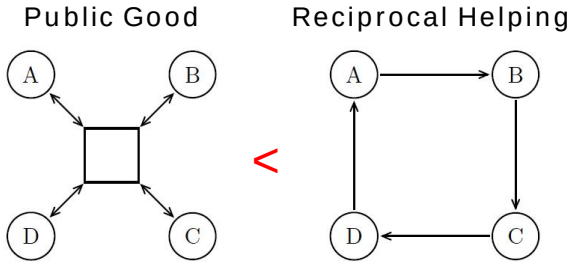
- Affective Solidarity: Subjective evaluation of the exchange partners and the exchange relation
  Molm et al. (2007)
- Behavioral Solidarity and Solidarity Beliefs: Dictator game with a random group member
  Baldassari (2015)

Solidarity

Proposition 1: Solidarity is higher in Reciprocal Helping than in Public Good.

Molm et al. (2007); Mauss (1925); Willer et al. (2012)

- A high Expressive Value facilitates solidarity.
- A high Risk of Non-Reciprocity facilitates solidarity.
  Molm et al. (2007)

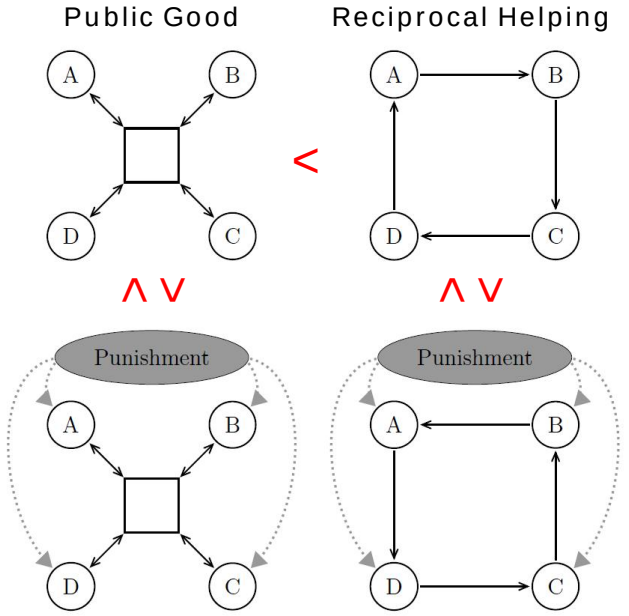


Solidarity

Proposition 2: Punishment

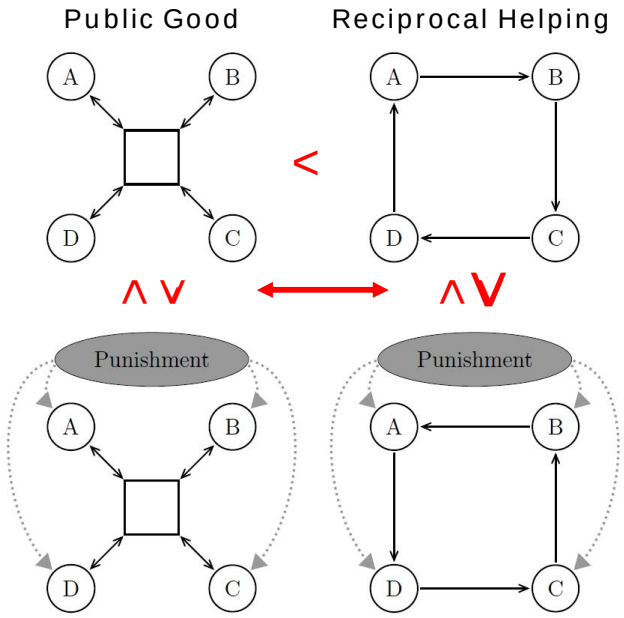
a. facilitates solidarity as it increases the frequency of cooperative actions,

b. undermines solidarity as it inhibits the expressive value and mitigates the risk of non-reciprocity.

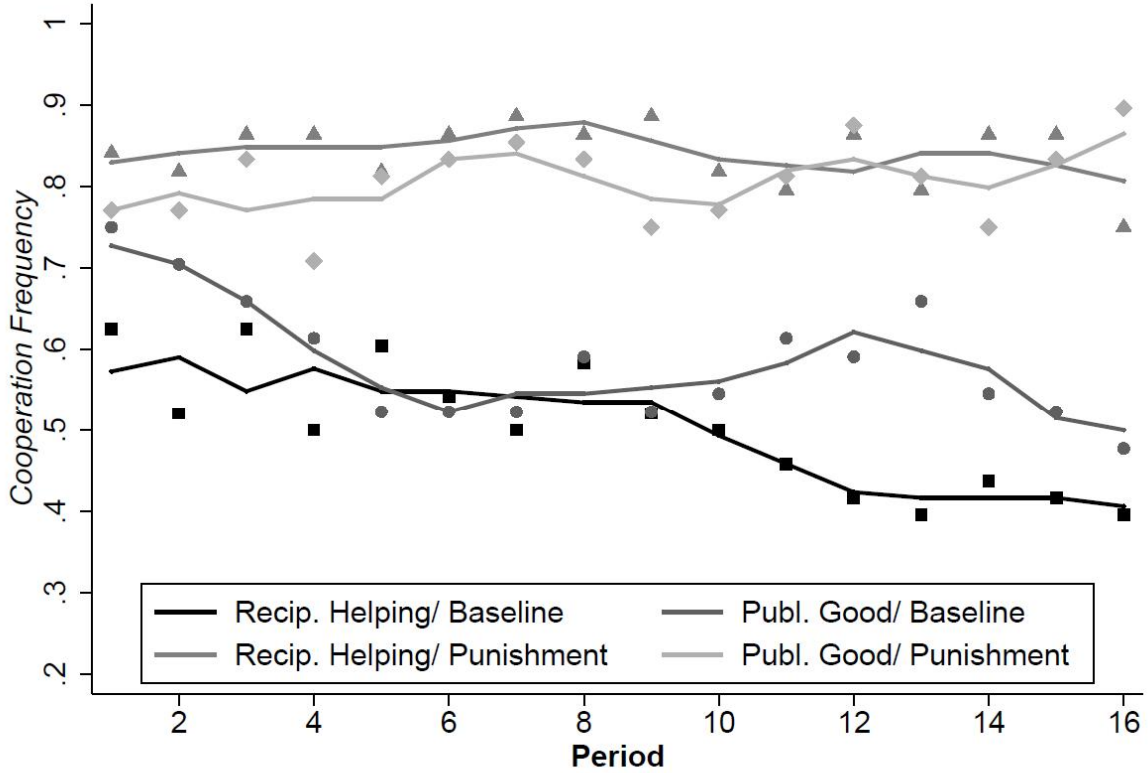


Solidarity

Proposition 3: Punishment is more beneficial in Public Good than in Reciprocal Helping.

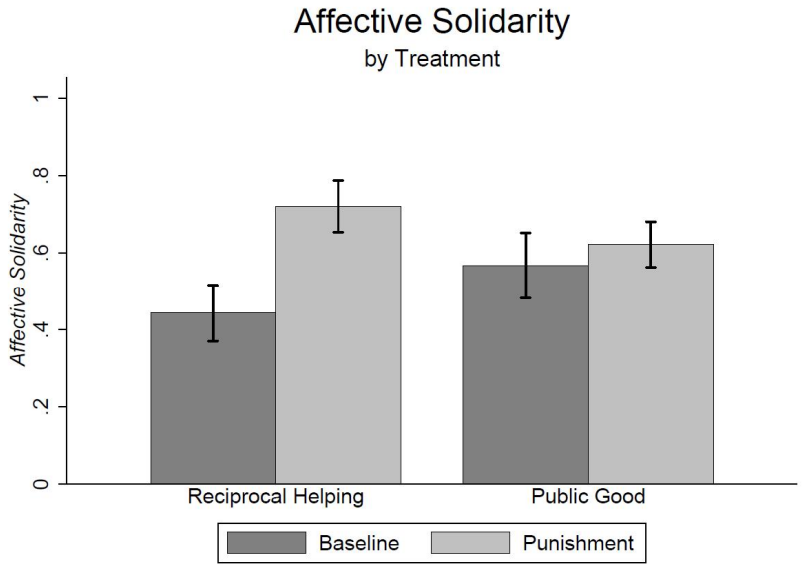


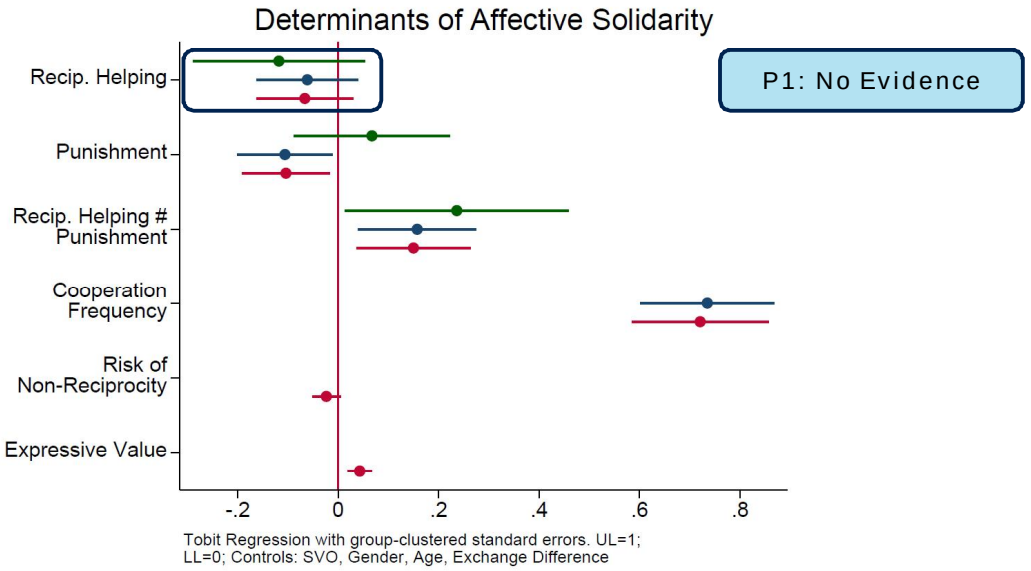
Results: Efficiency



Dots are Treatment Averages. Lines represent Three-Period Moving Averages

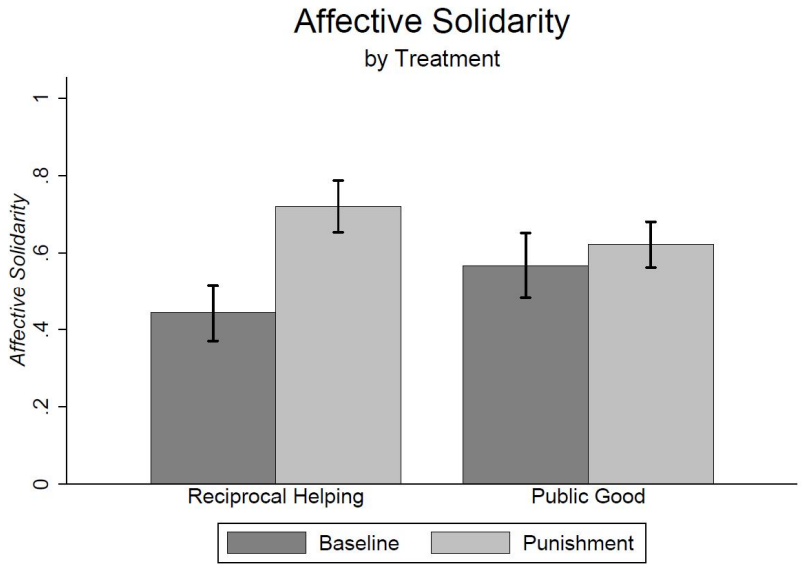
Results: Affective Solidarity

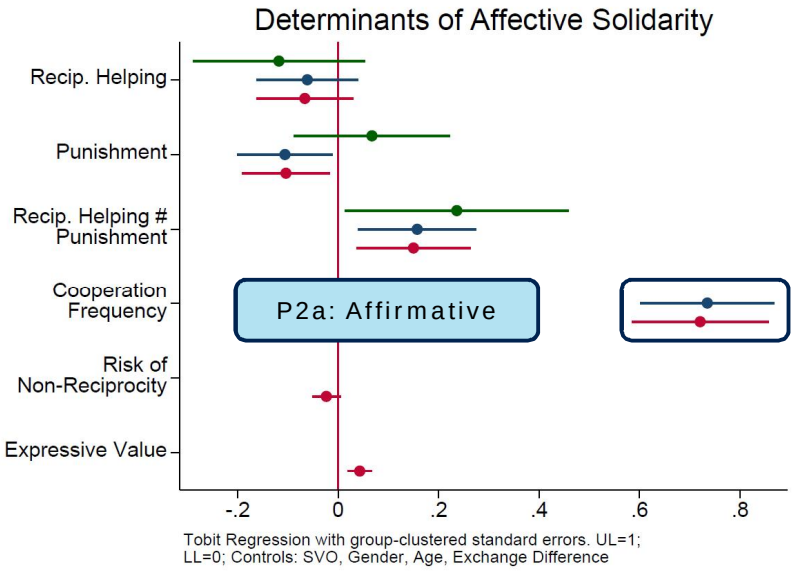




Result 1: Solidarity is roughly equal in Reciprocal Helping and Public Good.

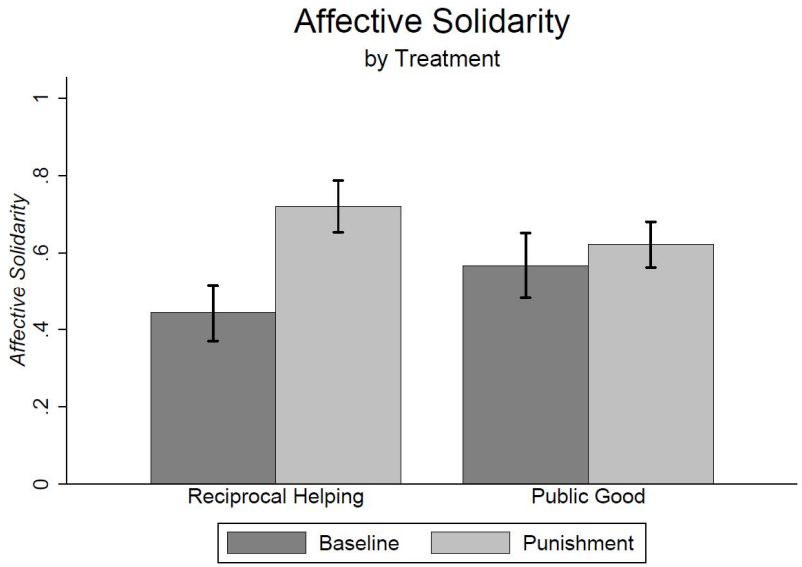
Results: Affective Solidarity

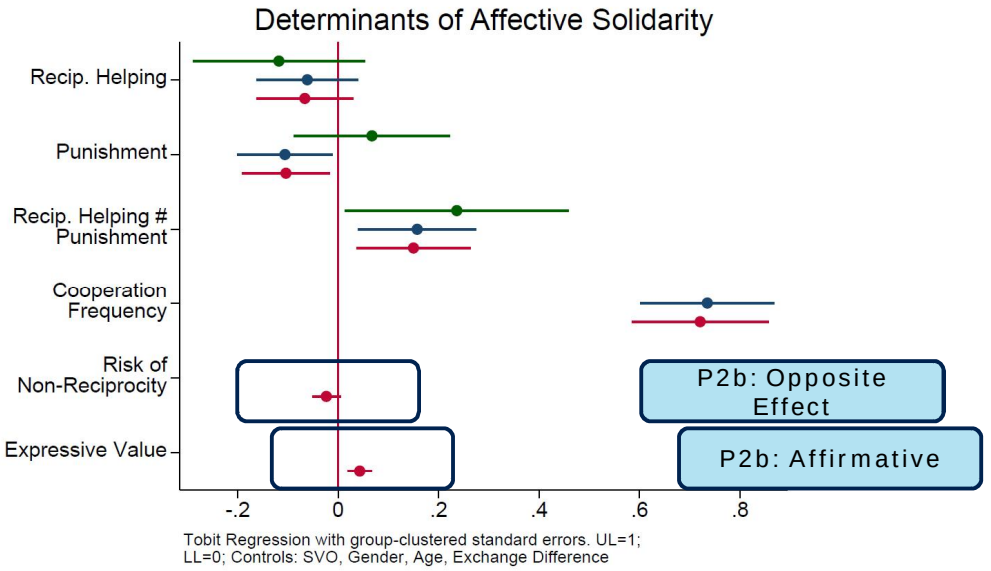




Result 2a: Punishment facilitates solidarity as it increases the frequency of cooperative actions.

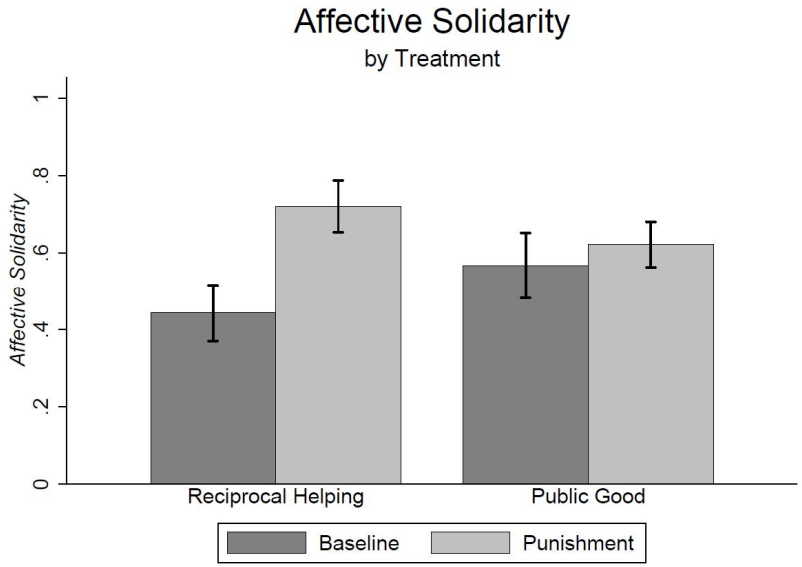
Results: Affective Solidarity

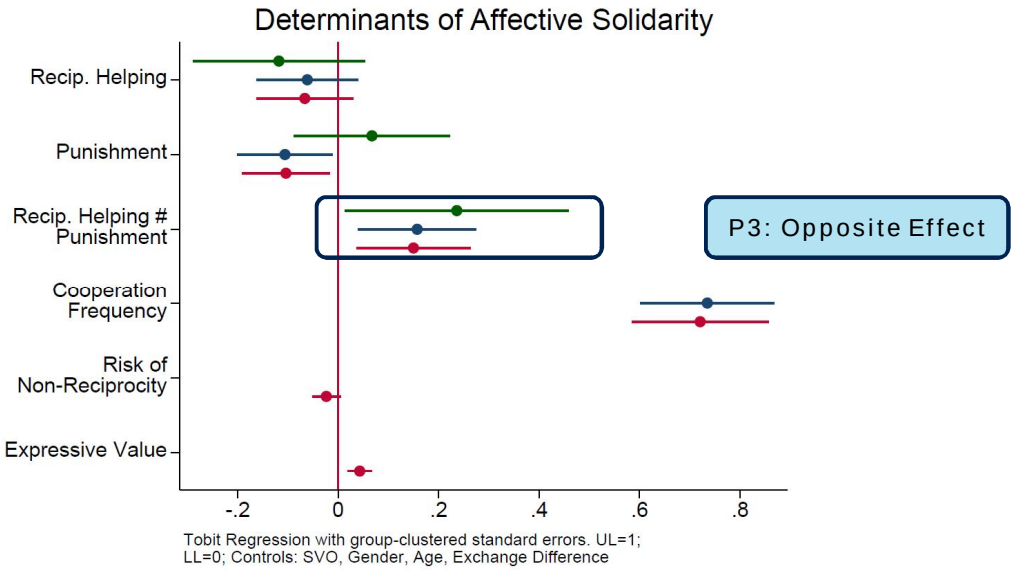




Result 2b: Punishment undermines solidarity as it inhibits the expressive value, but facilitates solidarity as it mitigates the risk of non-reciprocity.

Results: Affective Solidarity





Result 3: Punishment is more benefical in Reciprocal Helping than in Public Good.

Two take-home messages

- Efficient cooperation does not imply solidarity.
- Centralized punishment may enable solidarity, but also poses perils.

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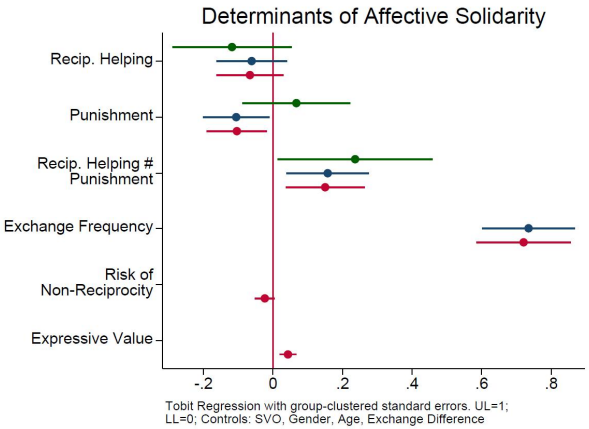
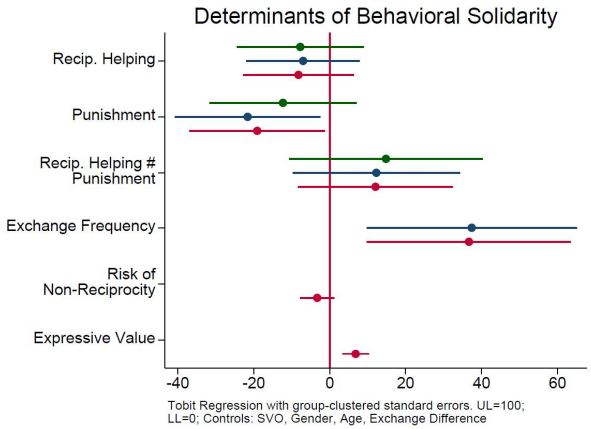
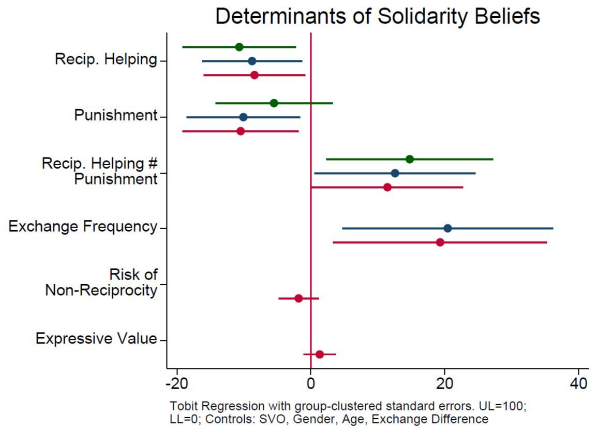
3 Measures of Solidarity



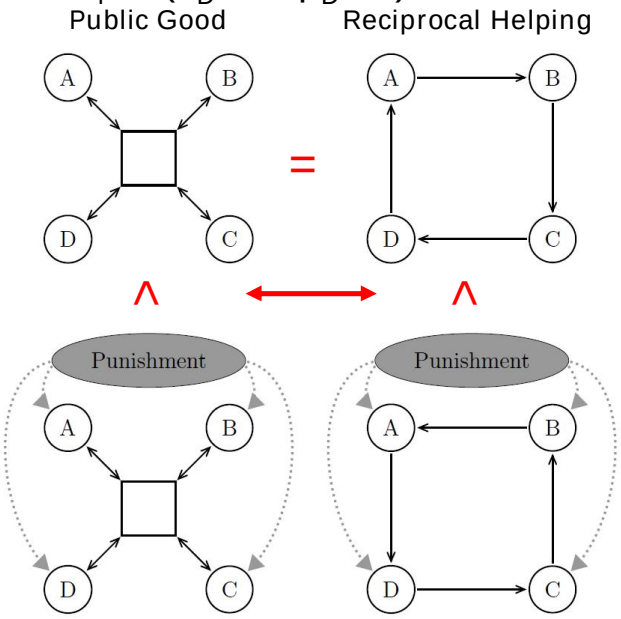




Parametrization

n=4; Periods=16

- PG: Cooperation C_i = (s_C=8, p_C=0) and Defection D_i = (s_D=0, p_D=4).
- RH: Cooperation C_i = (s_C=6, p_C=2) and Defection D_i = (s_D=0, p_D=4).
- $p_D > p_C$, but $s_C + p_C > s_D + p_D$



- Centralized Punishment
  - Control mechanism with inspection probability L=0.75 and penalty P=3 for D_i
  - LP > $p_D - p_C$ → 2.25 > 4 – 2