Paper: Vaccine Solidarity

Heike Klüver, Humboldt Felix Hartmann, Humboldt
Macartan Humphreys, WZB and Columbia Ferdinand Geißler, Humboldt
Johannes Giesecke, Humboldt

May 2021

Abstract

Respondents support high levels of cash and vaccine transfers to help poorer nations. They are more supportive when health and economic risks of failing to provide support are high; but for the most part support does not depend on these calculations. Preferences over German policy are largely independent of what other countries are doing. Median support for vaccines (90 million) and cash (2 billion) corresponds closely to actual (100 million doses and 2.2 billion cash).

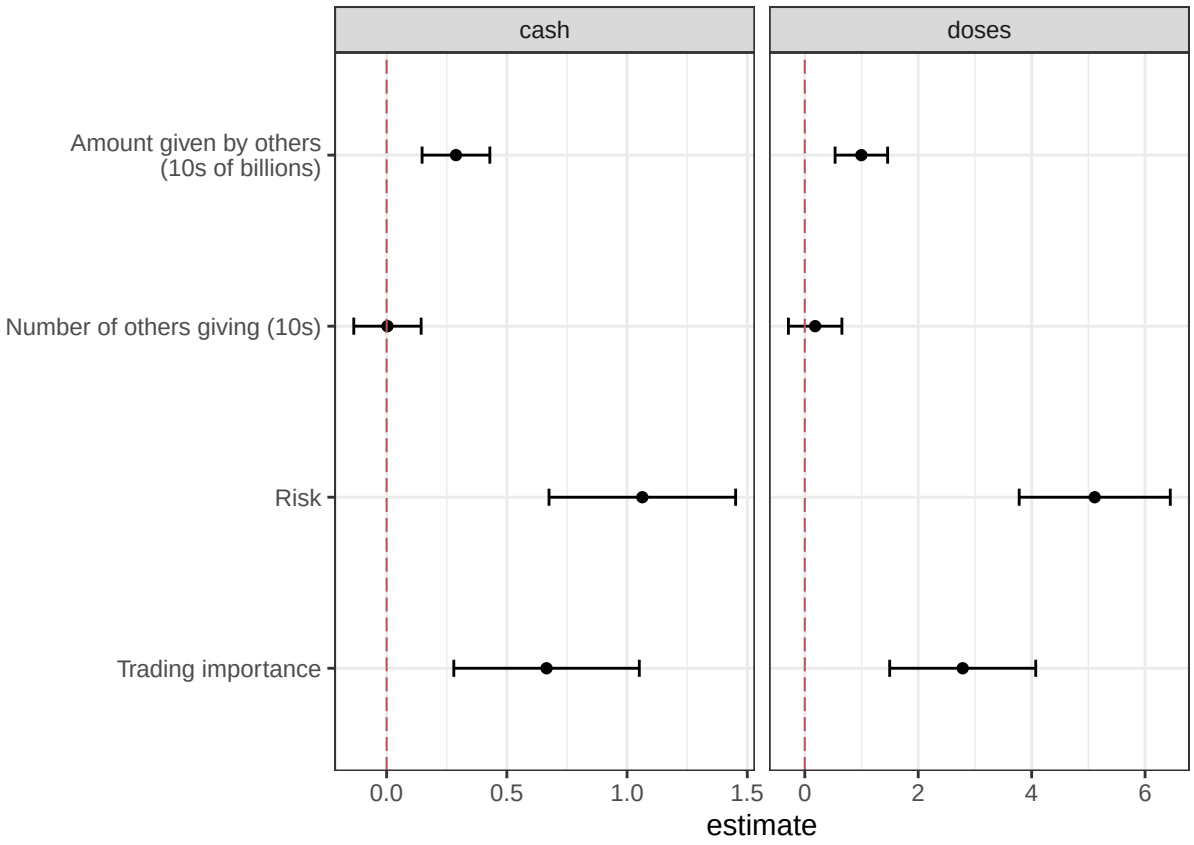
1 Introduction

2 Design

3 Results

3.1 Main results

Experimental results on agreements

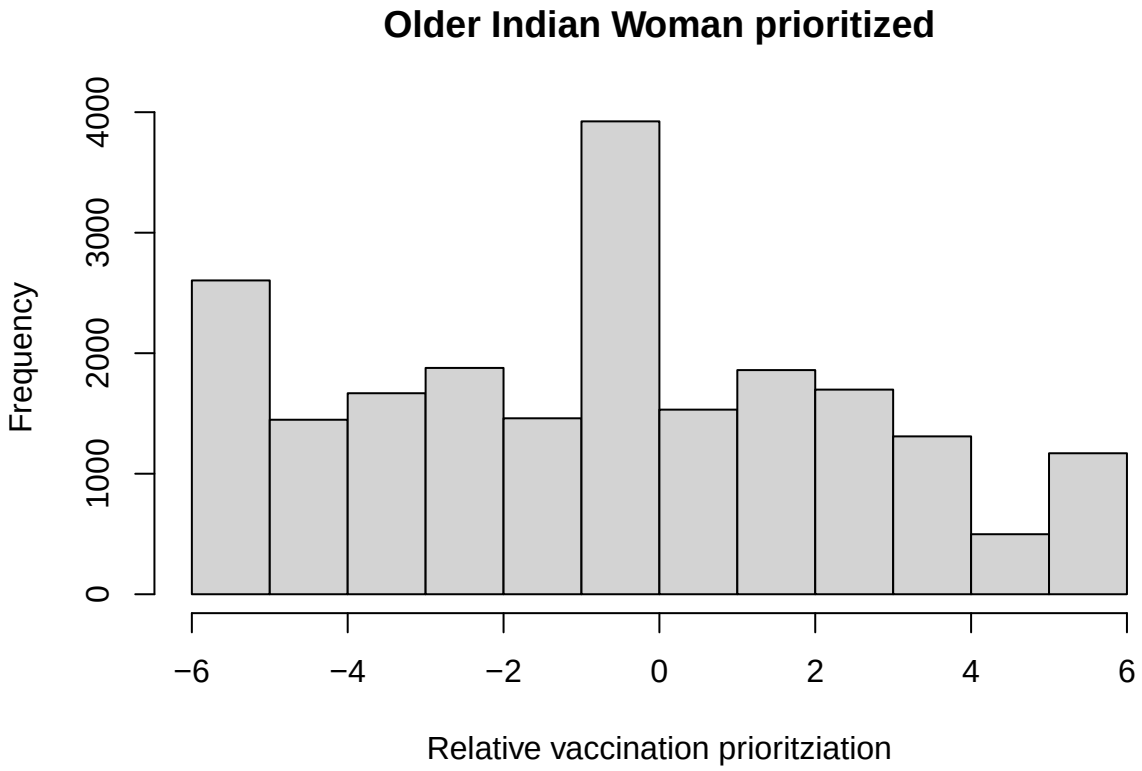


- Note complementarity in giving
- Invariance to numbers of other countries: discuss

3.2 Nudges on solidarity

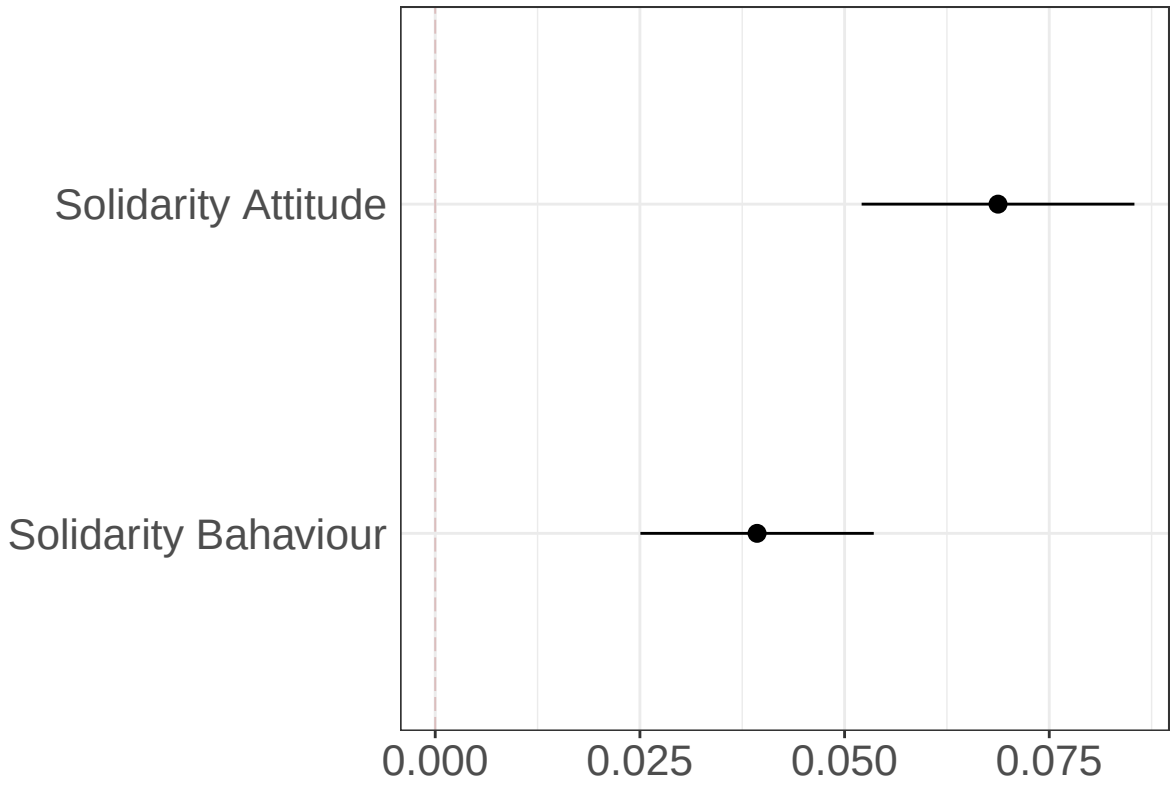
3.2.1 Individual solidarity measure

- Attitudinal
- Behavioral
- Should an older Indian woman be prioritized over a young German?



3.2.2 Video treatment

```
figure_video
```



3.2.3 Longer term effects on solidarity.

term	estimate	std.error	statistic	p.value	conf.low	conf.high	df	outcome
(Intercept)	4.32	0.02	204.67	0	4.28	4.36	16798	solid_indian_bund
treatment_video	0.08	0.03	2.82	0	0.03	0.14	16798	solid_indian_bund

3.3 Interpretation

Solidarity on giving

term	estimate	std.error	statistic	p.value	conf.low	conf.high	df	outcome
(Intercept)	0.89	0.04	20.45	0	0.81	0.98	21047	log(cash + 1)
solid_german_bund	0.02	0.01	4.10	0	0.01	0.03	21047	log(cash + 1)
solid_indian_bund	0.09	0.01	16.57	0	0.08	0.10	21047	log(cash + 1)

Longer term effects on giving

term	estimate	std.error	statistic	p.value	conf.low	conf.high	df	outcome
(Intercept)	0.84	0.06	14.26	0.00	0.72	0.95	16792	log(cash +
trading_factorHigh	0.01	0.03	0.58	0.56	-0.04	0.07	16792	log(cash +
risk_factorHigh	0.09	0.03	3.57	0.00	0.04	0.15	16792	log(cash +
treatment_video	0.01	0.02	0.30	0.76	-0.03	0.04	16792	log(cash +
round	0.02	0.02	0.83	0.41	-0.02	0.05	16792	log(cash +
solid_german_bund	0.02	0.01	2.98	0.00	0.01	0.03	16792	log(cash +
solid_indian_bund	0.08	0.01	14.30	0.00	0.07	0.09	16792	log(cash +
trading_factorHigh:risk_factorHigh	-0.04	0.04	-1.12	0.26	-0.11	0.03	16792	log(cash +

3.3.1 Structural analysis

In our pre-analysis plan we stipulated a model in which citizens place a value on own contributions x_i, given contributions by others $n\overline{x}_{-i}$. Their utility reflects gains from total contributions, which reflect both altruism and risks, costs of own contributions. and costs of deviation from a norm of giving in line with contributions by others.

We begin with a simplification in which utility is given by:

$$u_i = (\alpha + \beta Z_1 + \delta Z_2)\left(n_{-i}\overline{x}_{-i} + x_i\right) - x_i^2 - \gamma(x_i - \overline{x}_{-i})^2$$

–>

Optimal contributions are then given by:

$$x_i^* = \frac{\alpha_i}{1+\gamma} + \frac{\beta}{2+2\gamma}Z_1 + \frac{\delta}{2+2\gamma}Z_2 + \frac{\gamma}{1+\gamma}\overline{x}_{-i}$$

The parameters here can be estimated with ordinary least squares.

	parameter	value
gamma	gamma	0.73
beta	beta	2.55
delta	delta	4.08
gamma_lwr	gamma_lwr	0.06
gamma_upr	gamma_upr	3.67

To do: extend. [1]

4 Discussion

Risk: YES Peer effects: SOMEWHAT Base solidarity: YES

[1] The model in the pre-analysis plan has utility:

$$(\alpha_i + \beta_i Z_1 + \delta Z_2)\log\left(\sum_j x_j\right) - x_i^2 - \gamma(x_i - \kappa\overline{x}_{-i})^2$$

which in turn implies optimal contributions given by:

$$x_i^* = \frac{-(n_{-i} + \gamma(n_{-i} - \kappa))\overline{x}_{-i} + \sqrt{((n_{-i} + \gamma(n_{-i} - \kappa))\overline{x}_{-i})^2 + 4(1+\gamma)(\gamma\kappa n_{-i}\overline{x}_{-i}^2 + (\alpha_i + \beta_i Z_1 + \delta Z_2)/2)}}{2(1+\gamma)}$$

We see again that γ appears in the denominator.