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FAIRNESS AND PERSUASION: HOW STAKEHOLDER COMMUNICATION AFFECTS IMPARTIAL DECISION MAKING

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Fairness and persuasion: How stakeholder communication affects impartial decision making

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Abstract
We study experimentally to what extent distributive fairness decisions by impartial authorities are influenced by stakeholders' fairness opinions. In a three-player allocation game, we compare COMMUNICATION treatments, in which one of the stakeholders states her opinion prior to the allocation decision, to a BASELINE without communication. We find that stakeholders who state their opinion are allocated significantly less money than their counterparts in the BASELINE. Asymmetric reactions to the statements appear to be the driving force behind this result: Authorities deviate from their initial fairness judgment and follow stakeholders' opinions if the requests are moderate; they largely ignore high monetary requests.

JEL classification
C91; D63; D83; K40

Keywords
Fairness; Communication; Third-party decision maker; Benevolent dictator; Experiment

1. Introduction

Impartial decision making is an ideal that is demanded of public officials such as judges, jurors, public administrators, or politicians. It also extends to organizations: Team leaders or managers are required to settle conflicts between subordinates, distribute bonuses fairly, etc. In most instances, these decisions not only involve the mere aggregation of hard facts, but also a normative assessment of fairness which goes beyond a simple "right or wrong" taxonomy. This paper aims at understanding how the affected stakeholders might influence such fairness decisions. Stakeholders regularly state their case on the subject matter prior to an authority's decision (e.g., the parties to the judge, subordinates to managers). Apart from factual information, these statements may also convey stakeholders' fairness opinions. It is a crucial question whether and how authorities incorporate the opinions in their decisions. On the one hand, as the sense of fairness may differ substantially among the parties (Cappelen et al., 2007), authorities could regard stakeholders' fairness opinions as valid additional information for their decisions (cf. Hole, 2011). On the other hand, authorities might discount stakeholders' fairness opinions for the fact that these opinions are likely to be biased by self-interest (cf. Babcock and Loewenstein, 1997; Konow, 2000).
To shed light on the question outlined above, we use the controlled environment of a laboratory experiment and apply a three-player allocation game, in which an authority allocates money between two stakeholders. The setting creates a potential conflict of fairness norms. Depending on the

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treatment, the authority either receives or does not receive a fairness opinion from a stakeholder prior to her decision. We can causally infer whether sharing fairness opinions with authorities is to the stakeholders' monetary benefit or detriment. Moreover, our experimental design allows us to analyze which kinds of opinions are likely to influence authority decisions.

Previous experimental studies on the influence of stakeholder communication on distributive fairness decisions have focused on stakeholder–stakeholder interactions using standard dictator games. In these studies, the communicating stakeholder usually benefits, in monetary terms, from the opportunity to speak (e.g., Andreoni and Rao, 2011; Mohlin and Johannesson, 2008; Xiao and Houser, 2009). Interactions between stakeholders and impartial authorities ("benevolent dictators") have so far merely been studied to infer the subjects' "true" fairness preferences, without referring to the stakeholders' influence on decisions (e.g., Konow, 2000; Charness and Rabin, 2002; Engelmann and Strobel, 2004; Croson and Konow, 2009; Cappelen et al., 2013). To the best of our knowledge, this paper is the first to build the bridge and inform about the stakeholders' influence through communication on impartial decision making.

2. The three-player allocation game

At the beginning of the experiment, participants are randomly assigned one of three roles: the authority and the stakeholders (called "players X and Y"). The authority receives a flat payment of €5 and does not benefit from the allocation decision. The three-player allocation game consists of four steps.[1]

Step 1:
Players X and Y produce 2000 experimental currency units (ECU) in a real-effort task. They have to count zeroes in a table of zeroes and ones. Due to an asymmetric workload (player X has to solve 12 tables, player Y has to solve 4) and an asymmetric piece-rate (player X produces 150 ECU per table, player Y produces 50 ECU per table), player X contributes 1800 ECU and player Y contributes 200 ECU to the total amount. These asymmetries induce a potential normative conflict between players (cf. Nikiforakis et al., 2012), as different focal fairness rules could be applied to the allocation problem. Allocations of 1000 ECU for both players are supported by the focal fairness rule of equality; 1500 ECU for player X and 500 ECU for player Y by an input equity notion of fairness (player X solves three times as many tables as player Y); and 1800 ECU for player X and 200 ECU for player Y by an output equity notion of fairness (player X produces nine times as many ECU as player Y).

Step 2:
All three players indicate in private which allocation of the total amount between player X and player Y they consider as fair (in the following called "initial fairness judgment"). It is made explicit that this judgment will not be communicated to any other player and has no payoff consequences.

Step 3—the treatment variation:
In two COMMUNICATION treatments, player X communicates her opinion about a fair allocation to the authority. In Narrow COMMUNICATION, this message is restricted to the allocation in numbers. In BROAD COMMUNICATION, player X can additionally send a free-form written message to the authority. No COMMUNICATION takes place in the BASELINE. The authority and player Y do not communicate in any treatment.

[1] See the online appendix for an English translation of the instructions.

Step 4:
The authority is asked to allocate the 2000 ECU between players X and Y "fairly" (allocation increments: 100 ECU).

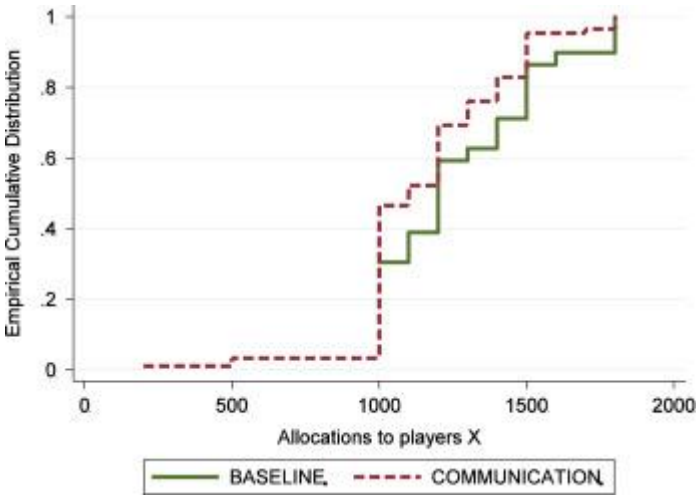

Fig. 1: Allocations to players X (in ECU).

3. Procedures

The experiment was conducted at the Cologne Laboratory for Economic Research using z-tree (Fischbacher, 2007) and participants were recruited via ORSEE (Greiner, 2015). With a total of 444 participants, we collected 59 independent observations for the BASELINE and 88 independent observations for the COMMUNICATION treatments.[2] The three-player allocation game investigated in this paper was the first part of a session, which included further experimental parts, reported in Kleine et al. (2013).[3] The session ended with post-experimental questions including socio-demographics. Participants had a mean age of 25 years; 53% were female. Sessions lasted about 90 min on average. The experimental currency was converted into Euro (2 ECU = 0.01 EUR) at the end of the session and paid out in cash.

4. Results

Due to very similar patterns in the COMMUNICATION treatments,[4] we present the results by pooling the data of the COMMUNICATION treatments and comparing them jointly to the BASELINE. Note that the results of this paper also hold when comparing each COMMUNICATION treatment to the BASELINE separately.
Fig. 1 illustrates that authorities allocate less money to players X who have stated their opinion (mean: 1165 ECU, sd = 263.94) than to those players X in the BASELINE (mean: 1271 ECU, sd = 261.99). The difference is statistically significant (Mann-Whitney test: $|z| = 2.170, p = 0.030$). The results hold

[2] One independent observation was excluded from NARROW COMMUNICATION, as one subject erroneously participated twice.
[3] Experimental instructions for each part were consecutively provided to participants, so that participants were unaware of the content of later parts. Hence, even if participants in the role of the authority expected some form of interaction with stakeholders in later parts, they could not know with whom they would interact, which should lead them to consider "impartially" the interest of both stakeholders.
[4] The authorities' initial fairness judgments and actual allocations are similar and differences insignificant between the COMMUNICATION treatments. The only noteworthy difference is that players X in NARROW COMMUNICATION request somewhat more than in BROAD COMMUNICATION. The authorities' reactions to these requests are again very similar.

if we control for socio-demographics in an OLS regression.[5] Communication has detrimental effects on stakeholders' payoffs.

In the following, we turn to the underlying reasons for this negative effect of communication on allocations to players X. The initial fairness judgments of the authorities (i.e., the amount they considered fair for players X) are not significantly different across treatments (mean BASELINE: 1290 ECU, sd = 263.72; mean COMMUNICATION: 1247 ECU, sd = 303.22; Mann–Whitney test: $|z| = 0.970$, $p = 0.332$). Consistently, treatment differences in allocations remain significant when we control for authorities' initial fairness judgments in an OLS regression (COMMUNICATION coefficient: $-81.05\ (ECU), p = 0.019$).[6] Moreover, in the BASELINE, authorities do not deviate systematically from their initial fairness judgment when making the allocation decision (mean deviation: −19 ECU, sd = 180.49; Wilcoxon signed-rank test: $|z|$ = 0.846, p = 0.39), whereas authorities in the COMMUNICATION treatments allocate significantly lower amounts to players X than the amounts they initially considered fair (mean deviation: −82 ECU, sd = 264.16; Wilcoxon signed-rank test: $|z|$ = 2.956, p = 0.003). We infer from this that direct reactions to messages from players X are the main cause for the allocation differences between treatments.

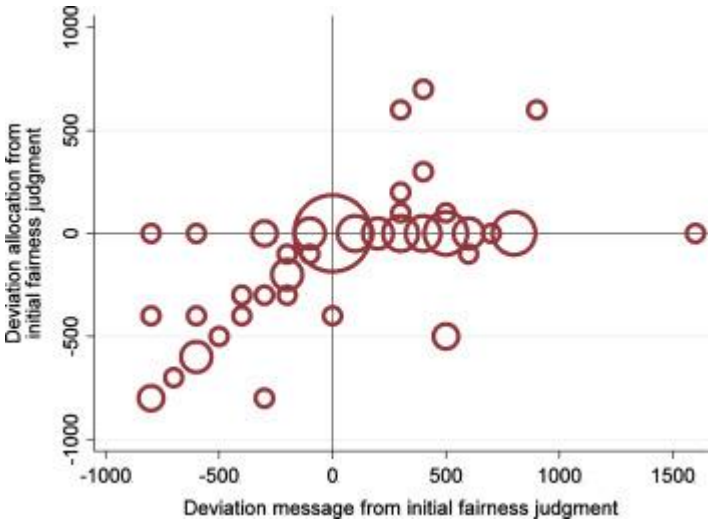

Fig. 2: Influence of messages on decisions by authorities (deviations in ECU).

Fig. 2 shows the authorities' reactions to messages from players X in the COMMUNICATION treatments. It illustrates how authorities deviate from their initial fairness judgment (*y*-axis) in reaction to differences between their initial fairness judgment and the requested allocation from players X (*x*-axis); the bigger the circle, the higher the number of observations. When players X request a higher amount than initially considered fair by the authorities, the vast majority of authorities do not deviate from the initial fairness judgment (Spearman rank test for requests above the authority's initial fairness judgment: $N = 42, \rho = -0.128, p = 0.419$).[7] By contrast, when receiving requests that are lower than the initial fairness judgment, only few authorities stick to their initial fairness judgment

[5] See Table A.1 in the online appendix for OLS regressions with and without controls for socio-demographics.

[6] In the OLS regression, we regress the authorities' initial fairness judgments and a COMMUNICATION dummy variable (equal to 1 if observation from NARROW or BROAD COMMUNICATION) on the allocations for players X, see Table A.1 in the online appendix.

[7] The correlation between the deviation of the requests from the initial fairness judgment and the deviation of the allocations from the initial fairness judgment is tested.

and the majority reduce the allocation to players X (Spearman rank test for requests below the authority's initial fairness judgment: $N = 26, \rho = 0.587, p = 0.002$).

5. Disscussion

Using a three-player allocation game, we show a negative effect of communication on allocations to communicating stakeholders. This is in contrast to the findings on communication in standard dictator games. In the dictator game, communication from recipients to dictators seems to diminish the influence of monetary self-interest on dictators' decisions. Recipients receive higher allocations when communication is present. In the three-player allocation game, impartial authorities face a different problem. If the authorities want to follow stakeholders' requests, they have to adjust their initial fairness judgment, which arguably was already the result of an unbiased view on the allocation problem.
In this light, the observed decision patterns can be interpreted as the authorities' attempt to account for the expectations of both stakeholders (cf. Battigalli and Dufwenberg, 2007, for related models on guilt aversion). According to this view, an authority forms beliefs about stakeholders' expectations and incorporates them in her own fairness judgment. These beliefs can be updated if the authority receives a request that is lower than her initial fairness judgment. The authority can infer that when she follows such a moderate request she does not violate the expectation of the communicating stakeholder. Simultaneously, she increases the allocation to the other stakeholder and thereby lowers the probability of disappointing this stakeholder's expectation.

6. Conclusion

We study whether and under which circumstances stakeholders can persuade impartial authorities of their fairness opinions. By comparing COMMUNICATION treatments to a BASELINE, we find clear evidence for stakeholder influence on the authorities' allocation decisions. Importantly, this influence is to the stakeholders' detriment: authorities allocate significantly less money to stakeholders who state their opinion in the COMMUNICATION treatments than to their counterparts in the same role in the BASELINE. Our analysis within the COMMUNICATION treatments indicates that this effect can be attributed to the authorities' asymmetric reactions to moderate and high requests by stakeholders. Authorities adjust their fairness judgments "downwards" and follow stakeholders' opinions if the stakeholders ask for less money than initially considered fair by the authorities. By contrast, the authorities largely ignore monetary requests that are above their initial fairness judgments.

References

Andreoni, J., Rao, J.M., 2011. The power of asking: How COMMUNICATION affects selfishness, empathy, and altruism. J. Public Econ. 95 (7–8), 513–520.

Babcock, L., Loewenstein, G., 1997. Explaining bargaining impasse: The role of self-serving biases. J. Econ. Perspect. 11 (1), 109–126.

Battigalli, P., Dufwenberg, M., 2007. Guilt in games. Amer. Econ. Rev. 97 (2), 170–176.

Cappelen, A.W., Hole, A.D., Sørensen, E.O., Tungodden, B., 2007. The pluralism of fairness ideals: An experimental approach. Amer. Econ. Rev. 97 (3), 818–827.

Cappelen, A.W., Konow, J., Sørensen, E.Ø., Tungodden, B., 2013. Just luck: An experimental study of risk-taking and fairness. Amer. Econ. Rev. 103 (4), 1398–1413.

Charness, G., Rabin, M., 2002. Understanding social preferences with simple tests. Quart. J. Econ. 117 (3), 817–869.

Croson, R., Konow, J., 2009. Social preferences and moral biases. J. Econ. Behav. Organ. 69 (3), 201–212.

Engelmann, D., Strobel, A., 2004. Inequality aversion, efficiency and maximin preferences in simple distribution experiments. Amer. Econ. Rev. 94 (4), 857–869.

Fischbacher, U., 2007. Z-tree: Zurich toolbox for ready-made economic experiments. Exp. Econ. 10 (2), 171–178.

Greiner, B., 2015. Subject pool recruitment procedures: Organizing experiments with ORSEE. J. Econ. Sci. Assoc. 1 (1), 114–125.

Hole, A.D., 2011. COMMUNICATION and fair distribution. Ration. Soc. 23 (2), 234–264.

Kleine, M., Langenbach, P., Zhurakhovska, L., 2013. How voice shapes reactions to impartial decision makers: an experiment. MPI Collective Goods Preprint No. 2013/11.

Konow, J., 2000. Fair shares: accountability and cognitive dissonance in allocation decisions. Amer. Econ. Rev. 90 (4), 1072–1091.

Mohlin, E., Johannesson, M., 2008. COMMUNICATION: content or relationship? J. Econ. Behav. Organ. 65 (3–4), 409–419.

Nikiforakis, N., Noussair, C.N., Wilkening, T., 2012. Normative conflict and feuds: the limits of self-enforcement. J. Public Econ. 96 (9–10), 797–807.

Xiao, E., Houser, D., 2009. Avoiding the sharp tongue: Anticipated written messages promote fair economic exchange. J. Econ. Psychol. 30 (3), 393–404.