Journal of the Economic Science Association (2023) 9:227–238
https://doi.org/10.1007/s40881-023-00140-8

ORIGINAL PAPER

Context and preferences for equality in the spectator game

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Received: 8 September 2020 / Revised: 6 July 2023 / Accepted: 17 July 2023 /
Published online: 10 August 2023
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Abstract
Spectator games have emerged as a tool for measuring equality preferences. To measure equality preferences, the spectators are matched with a pair of stakeholders who have been allocated unequal endowments. The spectators decide how much to redistribute from one stakeholder's endowment to the other one. We conducted a spectator experiment in which we fixed the spectators' redistribution choice set and varied context of the "no distribution" choice. We found a strong effect of the context variation. The spectators who chose not to redistribute the stakeholders' endowments increased from 12.3 to 38.0% in the treatment, making "no redistribution" more salient.

Keywords Spectator game · Measurement of inequality · Context

JEL Classification D63 · D90

1 Introduction

In the field of behavioral economics, spectator games have emerged as a tool for measuring equality preferences (Almås et al., 2020; Cappelen et al., 2013, 2020; Coffman, 2011; Engelmann & Strobel, 2004; Konow, 2000; Müller & Renes, 2021). Spectators act as a third party; they make decisions that affect the payoff of other subjects but not of themselves. To measure equality preferences, the spectators are matched with a pair of stakeholders who have been allocated unequal endowments. The spectators decide how much to redistribute from one stakeholder's endowment to the other one. Choosing equal distribution of the stakeholders' endowments is in the literature interpreted as a preference for equality (Bolton & Ockenfels, 2000;

The replication material for the study is available at Open Science Framework (OSF), accessible at https://osf.io/2mcs8/.

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https://doi.org/10.1007/s40881-023-00140-8 Published online by Cambridge University Press

Fehr & Schmidt, 1999). Cappelen et al. (2013) broadened this literature to allow for more heterogeneity in preference for fair and unfair inequality.

Our paper contributes to the literature by examining the effect of context on spectators' choices, thereby causally examining the robustness of spectators' choices of redistribution as a measurement of equality preferences. In our experiment, we varied the context by adding a "no distribution" option to the choice set and keeping the spectator's choice set of redistribution the same across treatments. To the best of our knowledge, this design has not been reported in the literature.

We found a strong effect of making "no redistribution" more salient. The share of subjects who chose not to redistribute increased from 12.3% in the baseline treatments to 38.0% in the salient treatment. The implemented inequality, measured using the Gini coefficient, increased from 0.42 in the baseline treatment to 0.56 in the salient treatment. These increases are significant, both statistically and in terms of size.

Our motivation is two-fold. First, as a large body of empirical literature has demonstrated, that context matters, and we expect that by changing the context in the spectator game, we can alter the spectator's redistribution choice (for a recent review on the role of context, see Gerlach & Jaeger, 2016).

Second, and importantly, the expectation that context matters is backed up by theory. The spectator game is rooted in Adam Smith's *The Theory of Moral Sentiments* (TMS); the spectators in the literature are interpreted as Smithian impartial spectators rather than implicated stakeholders (Aguiar et al., 2013; Cappelen et al., 2020; Konow, 2000). Smith outlines a theory for how we morally judge others as well ourselves.[1] His central premise is that humans are sociable—it is only in and through society that humans become moral beings. Society is a mirror that guides us to sense what constitutes proper actions. Through praise, blame, or no reaction to one's own actions, humans gradually sense—through experience—what others expect of them. Humans' desire for praise and fear of blame, but also their desire for praiseworthiness and fear of blameworthiness, drives their approval and disapproval mechanism. According to Smith, when we judge ourselves, we step outside ourselves and "examine our conduct as any other fair and impartial spectator would examine it" (Smith, 1759, III.i.2, p. 110). In this process we consider whether the decision aligns with general rules of conduct in the specific situation. Moreover, Roland Bénabou and Jean Tirole's theory of prosocial behavior—which also calls on Adam Smith's impartial spectator—stresses that motivations "must be inferred from their choices and the *context*" (Bénabou & Tirole, 2006, p. 1654, our italics). Changing the context without altering the output consequences may affect the subjects' perception of what behavior is considered appropriate, thus impacting their choices in the experimental situation.[2] With the theoretical lens of Adam Smith's TMS, such change in

[1] This is captured in the subtitle added in the fourth edition: "An essay towards an analysis of the principles by which men naturally judge concerning the conduct and character, first of their neighbors and afterwards of themselves". For secondary literature on Smith's moral theory, see Campbell (1971); Griswold (1999); and Smith & Wilson (2019).

[2] Insights from Smith's moral theory have also been applied to experimental situations including the

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context goes beyond changing information. Change in context may also change the moral approval and disapproval of actions (see Smith & Wilson, 2019, Ch. 6).

The remainder of the paper is organized as follows. In Sect. 2, we present our experimental design. In Sect. 3, we present the results of our experiment. We discuss possible explanations for our findings in Sect. 4. Section 5 concludes.

2 Experimental design

We randomized the subjects into either stakeholders or spectators. Upon finishing a real-effort task for 10 min, we gave the stakeholders a lottery ticket with equal probabilities of winning the whole prize, 400 bonus points or winning nothing at all.[3] We also gave them the opportunity to exchange the ticket for a guaranteed payment of 140 bonus points, a considerably lower value than the expected reward from the lottery. The stakeholders were informed that they earned bonus points based on the choices they made as well as on a redistribution phase. We informed the subjects that each bonus point they earned had a conversion rate to 1 United States (US) cent, and that we would pay them their final earnings upon completion of the experiment.

Upon finalizing the same real-effort task as the stakeholders, we randomly assigned the spectators in the two treatments to a pair of stakeholders. Both stakeholders had chosen the riskier lottery option. In this way, we created a situation where the stakeholders had chosen to participate in a lottery (like Cappelen et al., 2013). We informed the spectators of the choice the stakeholders had faced between the lottery and the guaranteed payment, that both stakeholders had chosen the lottery, and that one of the stakeholders was a loser in the lottery and the other was a winner. Only a random subsample of the spectators determines the actual payment of the stakeholders.

In the baseline treatment (B-treatment), we asked the spectators to type a number from 0 to 400 that they wanted to transfer from the winner to the loser of the lottery; the decision to transfer included the option to redistribute no money (i.e., 0). In the salient treatment (S-treatment), the spectators were first faced with the decision to exit by selecting "I do not want to redistribute" or to continue to the redistribution stage by selecting "I want to redistribute." If they chose "I do not want to redistribute," the winner of the lottery kept her or his money, and the factual redistribution was zero. If the spectator decided to enter the distribution stage, the spectator faced the same decision as in the B-treatment, including redistributing zero money.

Footnote 2 (continued)
ultimatum game (Paganelli, 2009), the dictator game (Paganelli, 2009; Serdarevic & Tjøtta, 2022), and the receiver game (Serdarevic, 2021; Tjøtta, 2019).

[3] We gave the stakeholders a set of five words, for example, "THE, EXCITING, GAME, NO, WAS." We asked them to form an expression using four of these words. Each person had 20 s before her answer was automatically submitted and she was given a new set of words.

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Text Box 1: Screen text for the B-treatment

You may determine the distribution of bonus points of two other participants that we are going to refer to as person X and person Y. Both persons have worked on the same task for 10 minutes and their payment was determined in the same way.

Person X as well as person Y initially received a lottery ticket. Person X and Person Y then chose to keep the lottery ticket. The result was that person X earned 400 bonus points from working while person Y earned 0 bonus points from working.

In the field below you can write down how many of the bonus points earned by the two participants, 400, you want to give to person Y. Person X will receive the points you do not give to person Y. Remember that your choice can decide how much each of the two other participants will be paid for the work task.

Text Box 2: Screen text for the S-treatment

You may determine the distribution of bonus points of two other participants that we are going to refer to as person X and person Y. Both persons have worked on the same task for 10 minutes and their payment was determined in the same way.

Person X as well as person Y initially received a lottery ticket. Person X and Person Y then chose to keep the lottery ticket. The result was that person X earned 400 bonus points from working while person Y earned 0 bonus points from working.

☐ I want to redistribute

☐ I do not want to redistribute

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Text Box 3: Screen text for subjects in the S-treatment conditional upon choosing "I want to redistribute" in the previous screen.

In the field below you can write down how many of the bonus points earned by the two participants, 400, you want to give to person Y. Person X will receive the points you do not give to person Y. Remember that your choice can decide how much each of the two other participants will be paid for the work task.

We collected data online using the Qualtrics Research Suite.[4] We recruited a total of 236 US-based participants from the online workplace Amazon Mechanical Turk in June 2021: 106 spectators in the B-treatment, 100 spectators in the S-treatment, and 30 stakeholders. Both the spectators and stakeholders received a fixed payment of 2 USD. We did not pay the spectators for their redistribution choices. We used a randomized matching procedure to pair the spectators and stakeholders. We informed the spectators that the "choices that you make will with some probability decide how many bonus points each of the two other participants will be paid at the end." Therefore, only a random subsample of the spectators determined the actual distributions of bonus points between the stakeholders. Among the 30 stakeholders, 21 chose the lottery and 9 chose the safe option.[5] In addition to fixed payments of 2 USD, those 21 stakeholders were paid according to their corresponding randomized drawn spectators' redistribution choice; 10 stakeholders received the guaranteed payment of 1.40 USD.

3 Results

We present the distribution of the spectator's redistribution from the lottery winner to the loser in Fig. 1. The two panels in Fig. 1 illustrate a significant difference in the spectators' redistribution across the two treatments. For the S-treatment, we set the redistribution equal to zero for those spectators who chose "I do not want to do redistribute." Among those spectators who chose "I want to redistribute," none of them chose to redistribute zero. The treatment in which "no redistribution" was salient (S-treatment), 38.0% of the spectators did not redistribute; in contrast, only

[4] Qualtrics, Provo, UT, USA (http://www.qualtrics.com).

[5] Of the 21 stakeholders, we randomly drew 10 pairs of a winner and a looser of the lottery and a corresponding 10 spectators who would determine the actual distribution of the bonus points between the looser and the winner. For the remaining stakeholder, we randomly drew whether this person would be a winner or loser of the lottery and a spectator to determine the actual payment for this person.

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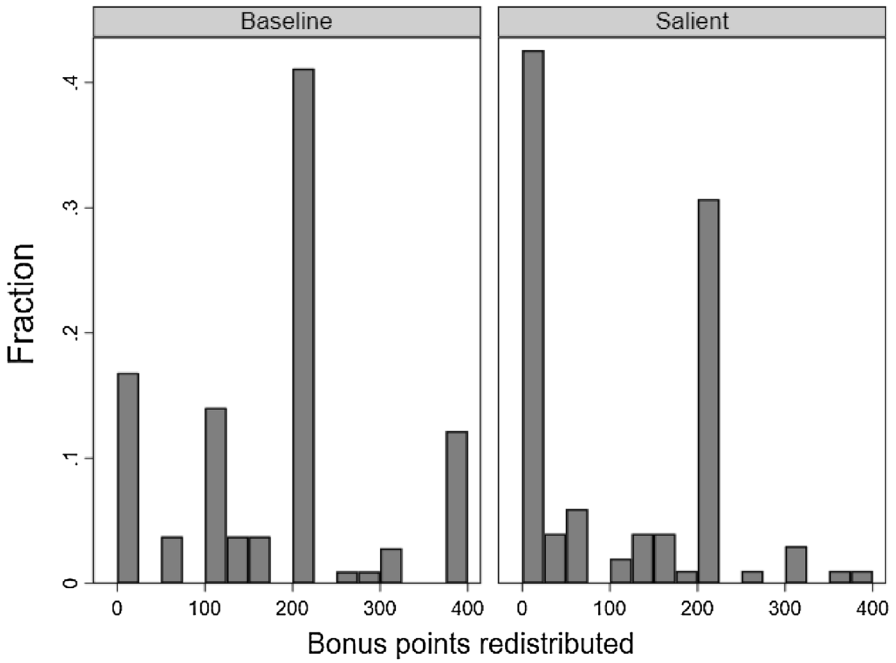


Fig. 1 Redistribution of bonus points

12.3% of the spectators in the B-treatment chose to redistribute zero. Finally, the number of spectators who chose an equal distribution dropped from 41.5% in the B-treatment to 31.0% in the S-treatment.

In Table 1, we report the main aggregate statistics. The mean redistribution dropped from 169.4 experimental units in the B-treatment to 101.6 units in the S-treatment. The inequality the spectators implemented as measured by the Gini coefficient in the corresponding two-person stakeholder situation increased considerably from 0.42 in the B-treatment to 0.56 in S-treatment.

The OLS estimated effect of the S-treatment showed a reduced redistribution by 67.6 experimental points ($p < 0.01$) and an increased implemented inequality by 0.142 ($p < 0.05$). We report the OLS regressions in the Supplementary Material. The treatment effects were robust to the inclusion of the background variables of gender, age, education, and political orientation as controls.

The Salient treatment results in a substantial decrease in the proportion of spectators who choose to redistribute everything compared to the Baseline condition. In the Baseline, 12 percent of spectators redistribute everything, while in the Salient treatment, this percentage reduces to just 1 percent. This substantial shift in behavior highlights the impact of the Salient treatment on individuals' choices regarding redistribution.

These results align with the findings from our pre-wave data collection, as reported in Telle (2016). In the pre-wave experiment, the average amount of redistribution was 157.0 in the baseline condition and 85.8 in the salient treatment. The

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Table 1 Summary statistics for treatments

	Baseline	Salient
Mean redistribution	169.4	101.6
Share of spectators who chose "I do not want to redistribute" in the S-treatment (# of subjects)		38.0 (38)
Share of spectators who chose zero redistribution (# of subjects)	12.3 (13)	38.0 (38)
Share of spectators who chose an equalizing output (# of subjects)	41.5 (44)	31.0 (31)
Implemented inequality	0.42	0.56
Age (years)	38.9	40.3
Education	4.7	4.7
Political orientation	2.8	2.9
Female	0.40	0.34
Observations	106	100

We measured the mean redistribution in experimental unit points ranging from 0 to 400. For the S-treatment, the redistribution of the spectators who chose "I do not want to redistribute" is 0. "Implemented inequality" is the mean Gini coefficient. "Education" is a scale variable from 1 to 8, where 1 = less than high school, 2 = high school/GED, 3 = some higher education, 4 = two-year college degree, 5 = four-year college degree, 6 = master's degree, 7 = doctoral degree, and 8 = professional degree (JD, MD). "Political orientation" is a scale variable from 1 to 5, where 1 = very liberal and 5 = very conservative. "Female" is a dummy variable set at 1 if the spectator is a female.

OLS regression analysis estimated a reduction of 72.6 bonus points being redistributed in the salient treatment, and this difference was statistically significant ($p < 0.01$). Note that the protocols used in the pre-wave data collection slightly differed from those reported in the current study.

4 Discussion

Making the "no redistribution" option salient substantially altered the spectators' redistribution choices. One possible explanation of the observed treatment effect is that offering the spectators in the S-treatment an exit option provided them with moral "wiggle room" to avoid making a costly decision.[6] Previous researchers reported that introducing an exit option into dictator games reduced the dictator's willingness to share the endowment (Broberg et al., 2007; Dana et al., 2006). One explanation put forward for this result is that the exit option provides the dictator with moral "wiggle room" to avoid making a decision that has a monetary and image cost. Hence, dictators acquire an option to hide their true preference for inequality due to social image concerns. Similarly, offering spectators an exit option

[6] Some may argue that choosing the option 'I do not want to redistribute' is not the same as choosing to exit the situation thus the word 'exit' is not entirely correct. However, we believe that context matters in this situation. Therefore, some subjects may still perceive the option 'I do not want to redistribute' as an exit option.

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in the S-treatment may have provided them with the chance to avoid a decision that carried an image cost, as there was no direct monetary cost for the spectators in our experiment. Thus, the exit option gives the spectators room to hide their true preferences for inequality.

However, offering the spectators an exit option may also been offering them a deliberation room. Kahneman describes decision-making as falling within a dual cognitive process comprising two systems (2009, pp. 20–21). System 1 operates intuitively, automatically, and quickly; System 2 demands reflection, deliberation, and time. In this sense, offering the spectators an exit option provided them with room to deliberate, which could influence their redistribution choices toward a true preference for equality.

Our findings may also relate to explanations of the experimenter demand effect. This effect suggests that experimental subjects respond to indications about what constitutes the appropriate behavior "demanded" of them. Here, in the S-treatment, the "demand" may become more salient.

Another possible explanation for our result is that the spectators selecting the option not to redistribute in the S-treatment were saving time, as they had to make one less decision. The participants had an incentive to make the choices as quickly as possible. However, the average time used, recorded from entering the experiment to exiting it, was quite similar in the two treatments: 976 s (standard deviation is 316 s) in the B-treatment and 1064 s (587 s) in the S-treatment.[7] In the S-treatment, the subjects who chose not to redistribute used less time than those who did chose to redistribute, at 931 versus 1146 s, respectively. However, in the B-treatment, the subjects who chose to redistribute zero points used less time than those who chose to redistribute a positive amount: 888 versus 988 s, respectively. As choices are made on the margin, however, we cannot rule out that some spectators chose the exit option to save time.

Our motivation for this paper grew out of Adam Smith's *The Theory of Moral Sentiments*, which holds that people's decisions are affected by context. The experimental spectator's situation is a complex one with a multitude of corresponding and conflicting norms. It involves taking money from one stranger and giving it to another stranger. Taking harms others, giving does good toward others. In our design, both stakeholders had chosen to participate in the lottery with a winner and a loser. According to some spectators, intervening and redistributing the outcomes of someone's voluntary choices may be considered as a norm violation. Other spectators follow norms of equalizing outcomes between the stakeholders.

Moreover, in judging the propriety of an action in a situation, we also considered the intentions among the involved agents, including the experimenters (Smith, 1759, VII.iii.3.15, p. 326). An intended harm is often judged more harshly than the same unintended harm—a well-meant "doing good" action is usually more praised than the same ill-meant "doing good" action. For example, we would blame someone for giving a bottle of wine to a friend with the intention of sharing it when that person

[7] We measured the total time of the experiment as the time from when the subjects entered the experiment to the time they logged out, including the real effort task.

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knows the friend is a former alcoholic. Keeping the spectator's redistribution choice set constant but varying the salience of the "no redistribution" choice may make the experimenter's intention clearer—it may be more proper to follow procedural norms in this situation, causing the spectators to choose not to redistribute.

To explore the spectators' motivation for their choices, after they made their redistribution choice, we asked them the following open-ended question: "What motivated your redistributive decision?" One issue with analyzing the answers to such open-ended questions is that talk is cheap; the subjects could easily rationalize their choices to make themselves look good. As these answers do not directly affect payoff, what incentive is there to tell the truth? (Farrell & Rabin, 1996). Economists are reluctant to use qualitative data for this reason. However, looking at this situation through the lens of Adam Smith, cheap talk does not come easily (for an elaboration of these arguments, see Serdarevic, 2021). Smith acknowledges that people have an incentive to cheap talk to "appear fit for society" as he puts it. However, they also have an incentive to talk honestly in order "to be really fit" for society rather than to appear fit (Smith, 1759, III.2.7, p. 117). Smith continues, the second incentive must be the stronger of the two. It is only the "weakest and superficial of mankind" who can be pleased by cheap talk to appear fit for society; "wise" people reject such talk. Humans gradually learn from their experiences to distinguish between cheap talk that is used to appear fit for society and honest talk that makes one truly fit. In this process, we struggle to avoid cheap talk and strive for honest talk. Smith's theory treats humans as weak and imperfect beings, meaning that there is no guarantee people will always reach the perfection of honest speech.

To analyze the respondents' motivations, we, therefore, classified respondents' answers into four categories[8]:

1. Procedural: The subject's motivation focuses on the "rules of the game", for example, "They both took a 50% gamble," or "I don't think it's my right to interfere."
2. Consequential: The subject's motivation focuses on outcomes and relates to consequences in terms of the redistribution of bonus points between the two participants, for example, "I just wanted to equalize bonus points and gave each participant 200 points."
3. Both category 1 and 2: Motivations related to both 1 and 2.
4. Other: When none of the above categories apply, including ambiguous and empty answers.

We recruited two independent coders from the University of Bergen. Neither had any prior experience with coding. We informed them of the main structure of the experiment but did not give them information about the two treatments or the purpose of the study. We informed the coders about the subjects' redistribution choice and their motivation. Before the coding process started, we committed to report the

[8] Our classifications are similar to the terms "consequential" and "deontology," which Aguiar et al. (2008) used to analyze answers in dictator games.

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Table 2 Summary of classification of motivations by Coder 1 and Coder 2 (Coder 2 in parentheses)

	X = points redistributed						
	X = 0	0 < X < 200	X = 200	200 < X < 400	X = 400	Total	Percentage
B-treatment							
Procedural (1)	11 (12)	0 (0)	0	0 (0)	0 (0)	11 (12)	10.4 (11.3)
Consequential (2)	0 (0)	6 (0)	39 (39)	0 (0)	1 (0)	46 (39)	43.4 (36,8)
Both (3)	0 (0)	12 (17)	0 (0)	1 (0)	0 (0)	13 (17)	12.3 (16.0)
Other (4)	2 (1)	14 (15)	5 (5)	4 (5)	11 (12)	36 (38)	34.0 (35,8)
Total	13	32	44	5	12	106	
S-treatment							
Procedural (1)	31 (33)	1 (0)	0 (0)	0 (0)	0 (0)	32 (33)	32.0 (33.0)
Consequential (2)	0 (0)	5 (1)	25 (25)	1 (0)	0 (0)	31 (26)	31.0 (26.0)
Both (3)	0 (0)	2 (4)	0 (0)	0 (0)	0 (0)	2 (4)	2.0 (4.0)
Other (4)	7 (5)	17 (20)	6 (6)	4 (5)	1 (1)	35 (37)	35.0 (37.0)
Total	38	25	31	5	1	100	

results of both coders' categorization separately, rather than combining them into a single classification.[9] The two coders differed in their categorization as follows: 11.3% in the B-treatment and 11.0% in S-treatment, see tables B2 and B3 in the supplementary material. Table 2 provides an overview of the results obtained from the two coders.

Making the "no-distribution" salient increased the percentage of answers categorized as "procedural" from 10.4 (11.3)% in the B-treatment to 32.0 (33.0)% in the S-treatment for Coder 1 (Coder 2 in parentheses). The consequential motivation decreased from 43.4 (36.8)% in the B-treatment to 31.0 (26.0)% in the S-treatment. Conditional upon choosing "no distribution," the most common motivation was procedural norms in both treatments. In the B-treatment, 13 out of 106 spectators chose "no redistribution"; 11 (12) of these 13 were motivated by procedural norms. In the S-treatment, 38 out of 100 spectators chose not to redistribute. Among these 38 spectators, 31 (33) were motivated by procedural norms. Conditional upon choosing an equal distribution, the most common motivation explanation was categorized as consequential. In the B-treatment, 44 out of 106 spectators chose equal distribution. Among these 44 spectators, the two coders categorized 39 (39) as having consequential motivation. In the S-treatment, 31 out of 100 spectators chose to equalize between the two stakeholders. Among these 31 spectators, the coders categorized 25 (25) as having consequential motivation.

[9] A description of the instruction and coding process as well as the types of motivations is included in Supplementary Material.

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5 Conclusion

We found a strong effect from making the "no distribution" option salient; it seemed to substantially alter the spectators' redistribution choices. This result suggests that either preferences for redistribution are unstable and heavily affected by decision context, or that these redistribution choices are not a direct manifestation of the underlying preferences for equality.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s40881-023-00140-8.

Acknowledgements We would like to thank Thomas de Haan, Mathias Ekström, Nina Serdarevic, and Eirik A. Strømland for their discussions and comments. We are grateful to editor Maria Bigoni and two reviewers for their comments and suggestions; we believe they improved the paper a great deal. A special thanks to Sebastian Fest for helping us conduct our experiments. Finally, thank you to Småforsk at the University of Bergen for its financial support.

Funding Open access funding provided by University of Bergen (incl Haukeland University Hospital).

Data availability The data supporting the findings of this study are available in the Open Science Framework (OSF), accessible at https://osf.io/2mcs8/. These data include raw data set, processed datasets, and code scripts.

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References

Aguiar, F., Becker, A., & Miller, L. (2013). Whose impartiality? An experimental study of veiled stakeholders involved spectators and detached observers. *Economics and Philosophy, 29*, 155–174.

Aguiar, F., Brañas, P., & Miller, L. M. (2008). Moral distance in dictator game. *Judgment and Decision Making, 3*(4), 344–354.

Almås, I., Cappelen, A. W., & Tungodden, B. (2020). Cutthroat capitalism versus cuddly socialism: Are Americans more meritocratic and efficiency-seeking than Scandinavians? *Journal of Political Economy, 128*(5), 1753–1788.

Bénabou, R., & Tirole, J. (2006). Incentives and prosocial behavior. *American Economic Review, 96*(5), 1652–1678.

Bolton, G. E., & Ockenfels, A. (2000). ERC: a theory of equity, reciprocity, and competition. *The American Economic Review*, *90*(1), 166–193.

Broberg, T., Ellingsen, T., & Johannesson, M. (2007). Is generosity involuntary? *Economics Letters, 94*(1), 32–37.

Campbell, T. D. (1971). *Adam Smith's science of morals*. Routledge.

Cappelen, A.W., Falch, R., & Tungodden, B. (2020). Fair and unfair income inequality. In K. F. Zimmermann (ed.) *Handbook of labor, human resources and population*. Springer.

https://doi.org/10.1007/s40881-023-00140-8 Published online by Cambridge University Press

Cappelen, A. W., Konow, J., Sørensen, E. Ø., & Tungodden, B. (2013). Just luck: An experimental study of risk-taking and fairness. *American Economic Review, 103*(4), 1398–1413.
Coffman, L. C. (2011). Intermediation reduces punishment (and reward). *American Economic Journal: Microeconomics, 3*(4), 77–106.
Dana, J., Cain, D. M., & Dawes, R. M. (2006). What you don't know won't hurt me: Costly (but quiet) exit in dictator games. *Organizational Behavior and Human Decision Processes, 100*(2), 193–201.
Engelmann, D., & Strobel, M. (2004). Inequality aversion, efficiency, and maximin preferences in simple distribution experiments. *American Economic Review, 94*(4), 857–869.
Farrell, J., & Rabin, M. (1996). Cheap talk. *Journal of Economic Perspective, 10*(3), 103–118.
Fehr, E., & Schmidt, K. W. (1999). A theory of fairness, competition, and cooperation. *The Quarterly Journal of Economics*, *114*(3), 817–868.
Gerlach, P., & Jaeger, B. (2016). Another frame, another game? Explaining framing effects in economic games. In A. Hopfensitz & E. Lori (Eds.), *Proceedings of norms, actions, and games (NAG 2016)*. Institute for Advanced Studies.
Griswold, C. L., Jr. (1999). *Adam Smith and virtues of enlightenment*. Cambridge University Press.
Kahneman, D. (2009). *Thinking, fast and slow*. Penguin Group.
Konow, J. (2000). Fair shares: Accountability and cognitive dissonance in allocation decisions. *The American Economic Review, 90*(4), 1072–1091.
Müller, D., & Renes, S. (2021). Fairness views and political preferences: Evidence from a large and heterogeneous sample. *Social Choice and Welfare, 56*, 679–711.
Paganelli, M. P. (2009). Smithian answers to some experimental puzzles. In J. T. Young (Ed.), *Elgar companion to Adam Smith* (pp. 181–192). Edward Elgar.
Serdarevic, N. (2021). More or less money: The love of praiseworthiness and the dread of blameworthiness. *Erasmus Journal for Philosophy and Economics, 14*(2), 1–24.
Serdarevic, N., & Tjøtta, S. (2022). Applying Adam Smith's Theory of Moral Sentiments to elicited social norms: Giving and taking in dictator games. *Social Sciences & Humanities, Open, 6*, 100290.
Smith, A. (1759). *The theory of moral sentiments*. Liberty Fund (Glasgow ed. 1976).
Smith, V., & Wilson, B. (2019). *Human economics: Moral sentiments and the wealth of nations for the twenty-first century*. Cambridge University Press.
Telle, I. O. (2016). Exit Moribus: En test på altruisme hos en upartisk tilskuer (in Norwegian). Master thesis Department of Economics, University of Bergen, Norway.
Tjøtta, S. (2019). More or less money? An experimental study on receiving money. *Journal of Behavioral Economics, 80*, 67–79.

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