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Abstract

This study analyzes how perceptions of income inequality relate to donation behavior by examining approximately 10,000 taxpayers across South Korea. We focus on people's perceptions of current and future income inequality and find the following: First, increasing the perception of income inequality promotes donation behavior. The results are the same when considering intrinsic altruism estimated using the experimental method. Second, if they have an optimistic outlook on income inequality, they donate less, and if they have a negative outlook, they donate more. Third, in the group with the highest altruism, the current income inequality has an insignificant effect on increasing donation, because the donation level of such a group is already high. However, the donation level of the group with lower altruism becomes significantly higher when it perceives income inequality as high. Our results are consistent with theoretical predictions that greater inequality increases charitable giving.

Keywords: altruism, charity, donation, income inequality, South Korea

1. Introduction

Income inequality is rising worldwide and is an important economic issue (Saez, 2021). The prediction in the traditional theory of voluntary public good provision is that as income inequality intensifies, the supply of individual public goods increases (Bergstrom et al., 1986). However, most empirical and laboratory evidence has shown inconsistent results (Chan et al., 1996; Côté et al., 2015; Duquette and Hargaden, 2021); some empirical studies have failed to establish a clear relationship between income inequality and donations (Payne and Smith, 2015; Duquette, 2018).

To solve the contradiction between the theory and the varying research results, we took an approach different from previous studies. First, this study focuses on the perception of income inequality by taxpayers. In reality, individuals may have incomplete information about the income distribution of the entire society. According to indicators such as the Gini coefficient, even though income inequality is improving, people may not be able to feel it. Therefore, it is worthwhile to analyze microdata on the perception of income inequality.

Second, donation behavior may appear differently depending on the time-inconsistent characteristics of the perception of income inequality. The current perception of income inequality may be inconsistent with the anticipated future inequality. Individuals may think that future income inequality may ease or increase, and this may also affect current donation behavior. For example, even if income inequality is severe, people do not react if income inequality is expected to decrease in the future.

Korea's tax and financial panel data are of high quality and provide adequate information to investigate taxpayers' perceptions of income inequality. One important obstacle is that it is difficult to estimate altruism empirically. The major difference between the consumption of donation and that of other goods is that altruism is a critical factor in donation behavior. If altruism is not considered and treated in the same way as general goods, biased results may be obtained. To solve this problem, we identified the altruism factors of taxpayers by using experimental methods. To this end, we examined the consequences of controlling altruism on the supply of local public goods.

The analysis established important empirical evidence: as awareness of income inequality increases, donation behavior increases. The main result was robust, regardless of the perception of current and future income inequality. This effect of increased giving is also observed on the extensive margins, which indicates whether they participate in donation. However, in the case of intensive margins, only the case of future income inequality was statistically significant. The positive coefficient of inequality is robust when we include additional controls for intrinsic altruism following the experimental method.

Consequently, we looked at reactions in terms of current donations to expectations of intensifying or alleviating income inequality in the future. These different prospects may induce different donation behaviors, even if current perceptions of income inequality are common. Our results show that if the participants had an optimistic outlook on income inequality, they donated less, and if they had a negative outlook, they donated more. These results support our main intuition that income inequality increases donations.

Next, we checked the heterogeneity of major factors. First, regarding heterogeneity based on income class, income inequality and donation showed a positive correlation for all classes. In the case of high-income groups, donations were made more than twice as much as other groups as income inequality increased. Second, we examined how individuals respond to income inequality according to the degree of altruism. In the group with the highest altruism, current income inequality had little effect on donations and was not statistically significant. However, the group with low altruism displayed a significant effect of income inequality.

The remainder of this paper is organized as follows. Section 2 discusses existing literature on this topic. Section 3 explains the data and variables. The empirical results are presented in Section 4, followed by the conclusion in the last section.

2. Literature review

The economic theories of public good provision predict that, as income inequality grows, the voluntary supply of public goods by high earners increases and social welfare improves since the freeriding problem is mitigated when fewer individuals control a large part of the resources in the economy (Bergstrom et al., 1986; Itaya et al., 1997).

Based on the model of voluntary public good provision by Bergstrom et al. (1986), we can show that the expansion of income inequality will lead to an increase in donations by high-income earners or a reduction in the number of donors. This is because, when the income disparity is large, high-income earners cannot expect public good provision by others, and low- and middle-income earners who used to donate will stop when they

observe that high-income earners are earning more than when the income disparity is small. Therefore, income disparity will have different effects on charitable giving.

Andreoni (1990) suggests a warm glow model and distinguishes pure altruistic behavior from non-pure altruistic behavior when studying donations. Joy-of-giving alleviated the problem of free riders by adding the satisfaction people feel when making donations (Duquette and Hargaden, 2021). Therefore, even in Andreoni's (1990) model, the conclusion that income inequality increases donations remains unchanged.

Fehr and Schmidt (1999) suggested theoretical models of inequality aversion. The theoretical result is the same: when income inequality increases, high-income people increase donations and low-income people reduce them. Derin and Uler (2010) used US data to verify whether the theory was empirically correct. Our results are consistent with this theory.

Based on this theoretical prediction, many empirical and experimental studies have investigated the relationship between inequality and public good provision focusing on charitable giving, because the most common way for an individual to supply public goods in a real society is charitable giving. However, most empirical and experimental studies have shown inconsistent results.

Table 1 provides a comprehensive overview of the literature on inequality and donations. Most empirical approaches measure the relationship between income inequality and donation behavior using indices for specific income inequality, such as the

Gini coefficient (Payne & Smith, 2015; Fateh Ahmad & Majid, 2021). On the other hand, there are studies using laboratory experimental methods (Duquette and Hargaden, 2021).

Table 1 here

Payne and Smith (2015) use Canadian data from 1991 to 2006 to study how changes in income inequality measured at the neighborhood and municipality levels affect charitable giving. Overall, their results were consistent with theory, but strong statistical results failed. Derin-Güre and Uler (2010) examine US General Social Survey data from 1996 and find a positive relationship between inequality and giving for high-income groups and a negative correlation for low-income groups; there was no significant impact on voluntary contributions for the middle-income group.

In contrast, there is substantial literature that shows that donations will decrease as income inequality increases. Côté et al. (2015), through both survey and experimental data, found that the tendency of high-income individuals to be less generous only applies when inequality is high. Duquette and Hargaden (2021) repeatedly gave different income distributions to participants in the experiment and examined how donation behavior changed. Donation activities in the experiment were followed by donation activities in real life. In the experiment, the authors observed a tendency strongly contrary to theory. Ahmad and Majid (2021) used the Pakistan Centre for Philanthropy's 2014 Indigenous Individual Philanthropy Survey and predicted a negative correlation between inequality and giving when observable needs are controlled. Regardless of whether it is survey data or experimental research, there is no consensus on the relationship between income and donations.

Thus, several empirical studies have shown inconsistent—and even contrary—results on theoretical predictions. This emphasizes the need for more empirical evidence and a different approach.

3. Measuring inequality on giving

We apply the following regression model:

$$Y_i=\beta_0 + \beta_1 inequality_i + \beta_0 altruism_i + X_i+\omega_i$$

where Y_i is the logged amount of charitable contributions for individual i. $inequality_i$ is an indicator of the perception of income disparity, which is a multinomial variable ranging from 1 (small gap) to 5 (large gap). If a dummy variable was taken when the variable was considered nonlinear, it is reported in the Appendix, and the main result remained unchanged. X_i is a vector of socio-economic characteristics: logged income, logged house price, gender, education, religion, job, age, and household members. $altruism_i$ indicates the logged intrinsic altruism measured by the experimental method.

The most distinctive aspect of donation behavior compared to general consumption activities is altruism. Andreoni (1990) suggests the existence of pure and impure altruistic behavior in donations. The former implies giving behavior is a voluntary act of supplying public goods, and the latter indicates that individuals are satisfied with the donation behavior itself. Actual donation behavior appears as the sum of pure altruism and non-pure altruism. Based on this, we designed a survey to estimate internal altruism.

The objective of this survey was to measure taxpayers' degree of inner altruism. Each individual was asked how much money they would like to donate to the local supply of public goods after distributing 1 million won equally. The details are explained below.

The envelope contains a profit of KRW 1 million you earned. If you donate these proceeds to society, your donation will be combined with other donations to provide public goods (parks, streetlights, etc.) in your area. However, no one knows whether you donated or the amount of your donation.

Question. *If you were in this situation, how much of your 1 million won would you donate?*

We can obtain a within-experiment charity distribution that indicates the sum of pure and impure altruistic behavior in taxpayers. Figure 1 shows the distribution of the within-experiment characteristics. The survey revealed that 21% of people did not donate at all at the given amount, and the cumulative distribution of those who donated less than 20% of the amount was 85%; 0.7% donated all of the money in the envelope.

Figure 1 here

Figure 2 shows the distribution of values that naturally log the donation of the person who donated.

Figure 2 here

3.1. Data description

This study uses data from the 2019 National Survey of Tax and Benefit (NasTaB) by the South Korean Institute of Public Finance. Data are collected for a representative Korean population to examine the administration and functioning of the tax policy. In 2019, they conducted an experimental survey on people's willingness to donate for public goods. The survey was conducted through face-to-face interviews. Approximately 10,000 taxpayers are included in this study after deleting those who have no income and those younger than 18 years or older than 65 years.

Descriptive statistics are presented in Table 2. Table 3 presents the statistics of the continuous variables. Question about donations: How much did you donate last year? Although there are non-cash giving types of donations in South Korea, it is common to donate by cash. If a taxpayer needs a receipt for tax benefits, the donation organization issues a receipt by converting the value of the item into an amount.

Tables 2 and 3 here

4. Result

4.1 Main result

Table 4 presents the main regression results between the perception of income inequity and giving. Panel A reports a positive correlation between the perception of income inequality and giving. Columns 1 and 2 illustrate that for a one-point increase in the perception of present and future income inequality, donations increase by 13.9% and 14%,

respectively. The results showed similar positive values regardless of the time of income inequality. Columns 3 and 4 show the results of controlling altruism. The results show a similar coefficient of income inequality. The analysis results of other econometric models are presented in the Appendix. Although there were differences in significance level and coefficient values, the result that an increase in income inequality promotes donation behavior has not changed.

Table 4 here

Panels B and C report the extensive and intensive margins, respectively. The dependent variable in the extensive margin includes individuals who donated. For the intensive margin, the dependent variable is the donation amount, which is greater than zero. In panel B, in the extensive margin case, the perception of present and future income inequality is significantly related to donations.

In the case of the intensive margin, the results are not significant in columns 1 and 3, and the relationship between the present income inequality and giving is not clear. However, in columns 2 and 4, the higher the awareness of income inequality in the future, the higher the donation. However, compared to the main results, its influence was almost halved.

4.2 Effect of positive or negative outlooks on income inequality

Table 5 examines how current donations change according to optimistic or pessimistic prospects for future income inequality. People may have different thoughts on how to

predict future income inequality. These different prospects may induce different donation behaviors, even if they share their current perceptions of income inequality.

Table 5 here

The group that expects income inequality to worsen in the future showed a tendency to donate more than the group that thinks income inequality will remain the same as it is now. On the contrary, groups who thought income inequality would improve showed a tendency to donate less. When all factors were controlled, the group that predicted positive income inequality made about 7.4% more donations, and the group that predicted negative income inequality reduced donations by about 15.1%.

Overall, the results support the main finding that income inequality increases donations. Even if the current perception of income inequality remains the same, if people think that income inequality will worsen, they will increase the amount of donations. Conversely, even if the current income inequality is considered serious, the current donation amount can be reduced if income inequality is expected to be alleviated in the future. These results mean that the time-inconsistency characteristic of income inequality also affects donation behavior.

4.3 Income

In this section, we examine how each income quintile responds to income inequality. The theoretical prediction is that as income inequality increases, donations will increase for high-income earners and decrease for low-income earners.

The empirical analysis presented in Table 6 shows that donations increased as income inequality intensified in all income quintiles. However, in the case of high-income groups, more than twice as much donations were made compared to other groups as income inequality increased. In the case of high-income earners, donations increased by about 20% as awareness of current income inequality increased by one point. Taxpayers in the other income sections increased donations by approximately 10%. They reacted more sensitively to current than to future income inequality. However, taxpayers in other income sections are more sensitive to future income inequality. High-income earners were more sensitive to current inequality, and low-and middle-income earners were more sensitive to expected future inequality.

Table 6 here

This is consistent with several theoretical predictions that the supply of public goods increases as income inequality increases. However, contrary to theoretical predictions, donations also increased in low-income people as income inequality increased.

4.4 Degree of altruism and donation behavior

Table 7 shows the degree of donations' responses to income inequality according to the degree of altruism that people inherently have. Figure 1 shows the distribution of donations representing people's altruism, measured through experimental methods. Based on this result, we divided the participants into four groups according to the degree of altruism.

Table 7 here

In the group with the highest altruism, the current income inequality had an insignificant effect on increasing donation, because the donation level of such a group has already been high. However, the donation level of the group with low altruism was significantly high when this group perceived income inequality as high. Therefore, in the case of high altruism, income inequality does not seem to affect donation behavior. However, despite having high altruism, there was a statistically significant positive correlation with future income inequality.

5. Conclusion

Considering the increasing global income inequality, it is important to observe changes in taxpayers' donation behavior. However, several recent empirical experimental studies have presented evidence contrary to the theoretical predictions.

This study focused on taxpayers' perceptions of inequality and found empirical evidence that donation behavior and income inequality had a positive correlation. In particular, high-income earners were more sensitive to income inequality than low- and middle-income earners. We further identify that the group that thought income inequality would alleviate reduced donations, and the group that thought income inequality would intensify increased donations. Finally, it was confirmed that regardless of the amount of altruism, donors responded positively to income inequality. Although the group with high altruism did not show significant results in current income inequality, their donation behavior had a positive correlation with future income inequality. Overall, the results were consistent with theoretical predictions.

Although our study had difficulty revealing causal relationships due to the inability to observe large exogenous variations due to artificial manipulation, it contributes to identifying real people's perceptions nationwide and to achieving results consistent with theory. In addition, our study showed that taxpayers may predict what future inequality will be and change donation behavior accordingly. When income inequality intensifies, this empirical evidence will provide good support for enacting government policies.

References

Andreoni, J. (1990). Impure altruism and donations to public goods: A theory of warm-glow giving. *The economic journal*, *100*(401), 464-477.

Bergstrom, T., Blume, L., & Varian, H. (1986). On the private provision of public goods. Journal of public economics, 29(1), 25-49.

Chan, K. S., Mestelman, S., Moir, R., & Muller, R. A. (1996). The voluntary provision of public goods under varying income distributions. *Canadian Journal of Economics*, 54-69.

Côté, S., House, J., & Willer, R. (2015). High economic inequality leads higher-income individuals to be less generous. Proceedings of the National Academy of Sciences, 112(52), 15838-15843.

Derin-Güre, P., & Uler, N. (2010). Charitable giving under inequality aversion. *Economics Letters*, *107*(2), 208-210.

Duquette, N. J. (2018). Inequality and philanthropy: High-income giving in the United States 1917–2012. Explorations in Economic History, 70, 25-41.

Duquette, N. J., & Hargaden, E. P. (2021). Inequality and giving. Journal of Economic Behavior & Organization, 186, 189-200.

Fateh Ahmad, H., & Majid, H. (2021). Disaggregating the Effects of Inequality on Informal Giving: Evidence From Pakistan. Nonprofit and Voluntary Sector Quarterly, 08997640211013899.

Fehr, E., & Schmidt, K. M. (1999). A theory of fairness, competition, and cooperation. The quarterly journal of economics, 114(3), 817-868.

Itaya, J. I., De Meza, D., & Myles, G. D. (1997). In praise of inequality: public good provision and income distribution. Economics Letters, 57(3), 289-296.

Payne, A. A., & Smith, J. (2015). Does income inequality increase charitable giving?. *Canadian Journal of Economics/Revue canadienne d'économique*, *48*(2), 793-818.

Saez, E. (2021, May). Public Economics and Inequality: Uncovering Our Social Nature. In *AEA Papers and Proceedings* (Vol. 111, pp. 1-26).

Table 1. Literature on inequality and giving

Type	Reference	Contribution	Country	Data set	Finding
Theory	Bergstrom et al (1986)	Mitigating free-riding problem			Positive
	Andreoni (1990)	Adding joy-of-giving			Positive
	Fehr and Schmidt (1999)	Considering Inequality-aversion			Positive
Empirical Evidence	Payne and Smith (2015)	Community-level	Canada	Census division, Forward sortation area	Ambiguous
	Duquette (2018)	High-income household in 1917-2012	United States	IRS (Internal Revenue Service), Statistics of Income Reports	Negative
	Fateh Ahmad & Majid (2021)	Household level	Pakistan	PCP's 2014 household-level survey	Negative
	Derin-Güre and Uler (2010)	Examine Fehr and Schmidt (1999)	United States	General Social Survey (828 individuals)	Positive
Lab Experiment	Côté, House and Willer (2015)	Focus on high-income earners	United States	1,498 individuals for survey data, 704 individuals for experimental data	Negative
	Duquette and Hargaden (2021)	Linked real-world charity	United States	2,880 individuals	Negative

Table 2. Descriptive statistics

Variable	Value	Frequency	Percent
Gender (1: male, 0: female)	Male	5,978	54.75
	Female	4,941	45.25
Education			
Middle school (1: yes 0: no)	Yes	4,635	42.45
	No	6,284	57.55
High school (1: yes 0: no)	Yes	6,235	57.10
	No	4,684	42.90
Upper college (1: yes 0: no)	Yes	49	0.45
	No	10,870	99.55
Religion			
No religion or others (1: yes 0: no)	Yes	7,098	65.01
	No	3,821	34.99
Protestantism (1: yes 0: no)	Yes	1,911	17.50
	No	9,008	82.50
Catholic (1: yes 0: no)	Yes	629	5.76
	No	10,290	94.24
Buddhism (1: yes 0: no)	Yes	1,281	11.73
	No	9,638	88.27
Job	Total	10,919	100
Manager (1: yes 0: no)	Yes	547	5.01
	No	10,372	94.99
Expert (1: yes 0: no)	Yes	728	6.67
	No	10,191	93.33
Clerk (1: yes 0: no)	Yes	2,809	25.73
	No	8,110	74.27
Service, personnel (1: yes 0: no)	Yes	2,152	19.71

	No	8,767	80.29
Salesperson (1: yes 0: no)	Yes	1,332	12.20
	No	9,587	87.80
Agricultural, forestry, or fishery worker (1: yes 0: no)	Yes	226	2.07
	No	10,693	97.93
Technician (1: yes 0: no)	Yes	1,238	11.34
	No	9,681	88.66
Device, machine manipulation, or assembly personnel (1: yes 0: no)	Yes	504	4.62
	No	10,415	95.38
Labor service personnel (1: yes 0: no)	Yes	741	6.79
	No	10,178	93.21
Military (1: yes 0: no)	Yes	32	0.29
	No	10,887	99.71
Others (1: yes 0: no)	Yes	32	0.29
	No	10,887	99.71
Housework (1: yes 0: no)	Yes	204	1.87
	No	10,715	98.13
Unemployed (1: yes 0: no)	Yes	316	2.89
	No	10,603	97.11
Student (1: yes 0: no)	Yes	58	0.53
	No	10,861	99.47

Table 3. Descriptive statistics of continuous variables

Variable	Mean	Std.Dev.	Min.	Max.
ln(giving)	10,919	0.872	1.814	0
ln(Income)	10,846	7.922	0.842	3.178
ln(House price)	10,919	6.055	5.031	0
Household members	10,919	3.121	1.206	1
Age	10,919	46.279	11.935	18

Note: The unit of all monetary figures is 10,000 won.

Table 4. Effect of perception of income inequality

	(1)	(2)	(3)	(4)
Panel A. Basic [Dependent Variable: Logged charitable contribution]				
Present inequality	0.139***		0.146***	
	(0.024)		(0.240)	
Future Inequality		0.140***		0.146***
		(0.023)		(0.023)
Altruism			0.043***	0.043***
			(0.012)	(0.012)
Income	0. 317***	0.317***	0.313***	0.313***
	(0.024)	(0.024)	(0.024)	(0.024)
Observations	10.846	10,846	10,846	10,846
Adjusted R^2	0.245	0.245	0.246	0.246
Panel B. Extensive Margin [Dependent Variable: Dummy]				
Present inequality	0.035***		0.036***	
	(0.006)		(0.006)	
Future Inequality		0.032***		0.033***
		(0.005)		(0.005)
Altruism			0.010***	0.010***
			(0.003)	(0.003)
Income	0. 065***	0.065***	0.064***	0.064***
	(0.005)	(0.005)	(0.005)	(0.005)
Observations	10,846	10,846	10,846	10,846
Adjusted R2	0.196	0.195	0.197	0.196
Panel C. Intensive Margin [Dependent Variable: Logged charitable contribution]				
Present inequality	-0.014		-0.008	
	(0.037)		(0.037)	

Future Inequality		0.078*		0.083**
		(0.040)		(0.040)
Altruism			0.029	0.033
			(0.021)	(0.021)
Income	0.321***	0.319***	0.320***	0.319***
	(0.037)	(0.037)	(0.037)	(0.037)
Observations	2,236	2,236	2,236	2,236
Adjusted R2	0.304	0.305	0.305	0.306
Controls	√	√	√	√

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Controls include logged house prices, household members, gender, education dummies, religion dummies, age, and job dummies.

Table 5. Effect of present and future perception of income inequality

	Dependent Variable: Logged charitable contribution			
	(1)	(2)	(3)	(4)
Pessimistic outlook	0.071*	0.084**	0.063	0.074*
	(0.040)	(0.040)	(0.040)	(0.040)
Optimistic outlook	-0.0611	-0.128**	-0.0753	-0.151***
	(0.0526)	(0.0533)	(0.0529)	(0.0537)
Present Inequality	0.145***	0.175***	0.149***	0.182***
	(0.0249)	(0.0261)	(0.0250)	(0.0262)
Income	0.311***	0.317***	0.308***	0.312***
	(0.0236)	(0.0236)	(0.0236)	(0.0237)
Altruism			0.0303**	0.0463***
			(0.0122)	(0.0124)
Controls	√	√	√	√
Region		√		√
Observations	10,846	10,846	10,846	10,846
Adjusted R^2	0.240	0.246	0.241	0.247

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Controls include logged house prices, household members, gender, education dummies, religion dummies, age, and job dummies. We set up three dummy variables. Pessimistic outlook: The group that expects income inequality to intensify in the future=1, others=0, consistent outlook: The group that expects income inequality to be the same as the present=1, others=0; and optimistic outlook: The group that expects income inequality to ease in the future=1, others=0.

Table 6. Effect of perception of income inequality by income

	Dependent Variable: Logged charitable contribution			
	(1)	(2)	(3)	(4)
Panel A. Low income (0-25q)				
Present inequality	0.115***		0.123***	
	(0.041)		(0.041)	
Future inequality		0.145***		0.151***
		(0.039)		(0.039)
Altruism			0.053**	0.053**
			(0.021)	(0.021)
Income	0. 056	0.054	0.056	0.054
	(0.039)	(0.038)	(0.039)	(0.038)
Observations	2,768	2,768	2,768	2,768
Adjusted R^2	0.271	0.273	0.273	0.274
Panel B. Middle income (25q-50q)				
Present inequality	0.098***		0.103***	
	(0.038)		(0.038)	
Future inequality		0.115***		0.120***
		(0.038)		(0.038)
Altruism			0.047**	0.047**
			(0.020)	(0.020)
Income	-0.027	-0.036	-0.034	-0.043
	(0.217)	(0.217)	(0.217)	(0.217)
Observations	2,925	2,925	2,925	2,925
Adjusted R^2	0.245	0.246	0.246	0.247
Panel C. Middle income (50q-75q)				
Present inequality	0.099**		0.107***	

	(0.048)		(0.048)	
Future inequality		0.130***		0.139***
		(0.047)		(0.048)
Altruism			0.063**	0.064**
			(0.025)	(0.025)
Income	0.355	0.343	0.331	0.317
	(0.308)	(0.309)	(0.307)	(0.307)
Observations	2,443	2,443	2,443	2,443
Adjusted R^2	0.247	0.248	0.249	0.250
Panel D. High income (75q-100q)				
Present inequality	0.201***		0.197***	
	(0.059)		(0.059)	
Future inequality		0.155***		0.151***
		(0.055)		(0.055)
Altruism			-0.021	-0.023
			(0.031)	(0.031)
Income	0.538***	0.525***	0.543***	0.530***
	(0.124)	(0.123)	(0.124)	(0.124)
Observations	2,710	2,925	2,925	2,925
Adjusted R^2	0.228	0.227	0.228	0.227
Controls	√	√	√	√

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Controls include logged house prices, household members, gender, education dummies, religion dummies, age, and job dummies.

Table 7. Effect of perception of income inequality on altruism

	Non	Low	Middle	High
	(0)	(10-25)	(25-50)	(50<)
Dependent Variable: Logged altruism				
Present inequality	0.174***	0.125***	0.185*	0.010
	(0.049)	(0.030)	(0.102)	(0.111)
Income	0.236***	0.369***	0.115	0.258***
	(0.048)	(0.030)	(0.087)	(0.093)
Observations	2,272	6.904	866	804
Adjusted R^2	0.235	0.249	0.258	0.361
Dependent Variable: Logged altruism				
Future inequality	0.137***	0.131***	0.162*	0.335***
	(0.044)	(0.029)	(0.090)	(0.098)
Income	0.235***	0.369***	0.113	0.257***
	(0.048)	(0.030)	(0.088)	(0.093)
Observations	2,272	6.904	866	804
Adjusted R^2	0.234	0.249	0.258	0.372
Controls	√	√	√	√

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Controls include logged house prices, household members, gender, education dummies, religion dummies, age, and job dummies.

Figure legends

Figure 1: Within-experiment charity distribution

Figure 2: The distribution of donations by those who donated.

Figure 1

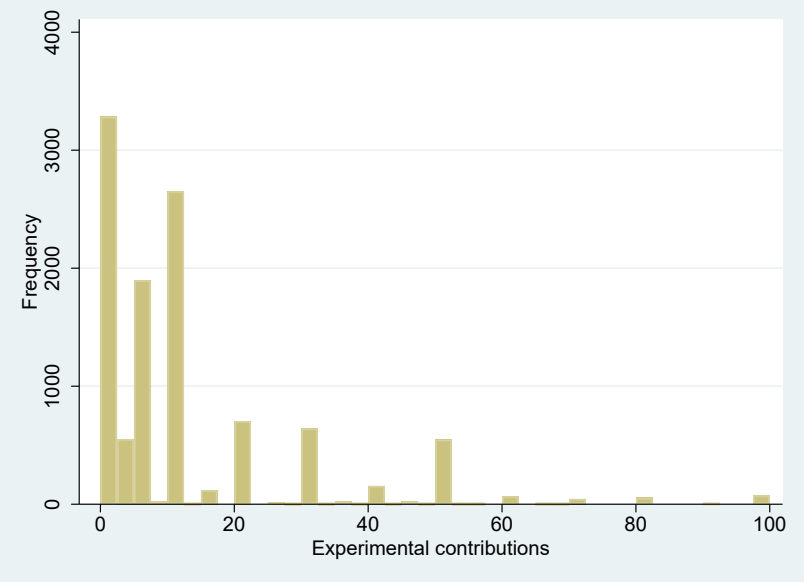
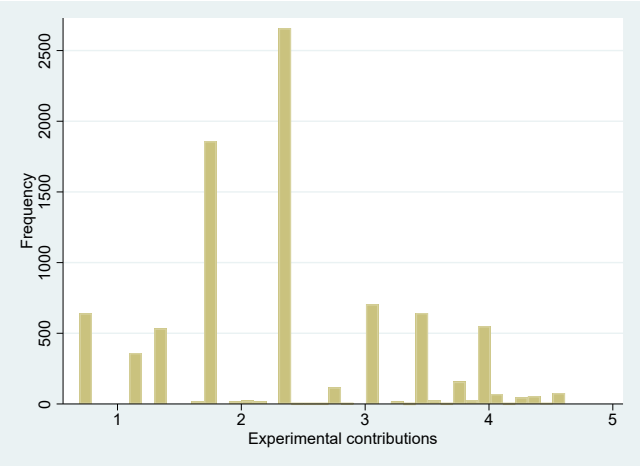
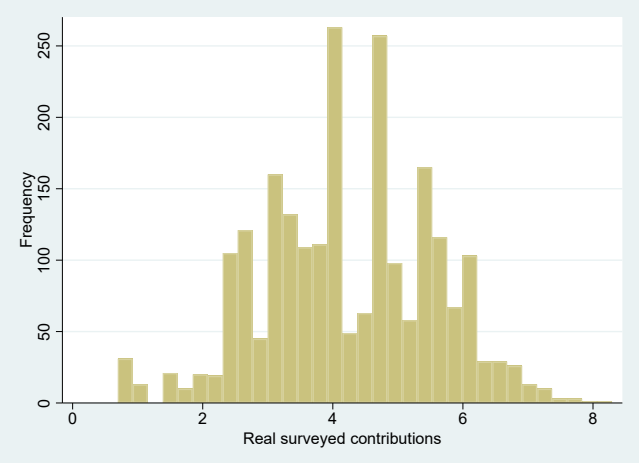

Frequency
0
1000
2000
3000
4000
0
20
40
60
80
100
Experimental contributions

Figure 2


Frequency
0
500
1000
1500
2000
2500
1
2
3
4
5
Experimental contributions


Frequency
0
50
100
150
200
250
0
2
4
6
8
Real surveyed contributions

Appendix.

Supplemental Regression Tables

Table A1. Dummy regression of the main results

	(1)	(2)	(3)	(4)
Panel A. Basic [Dependent variable: Logged charitable contribution]				
Present inequality dummy	0.895***		0.899***	
(1 = not too big, 0=others)	(0.221)		(0.222)	
Present inequality dummy	0.765***		0.781***	
(1=normal, 0= others)	(0.121)		(0.122)	
Present inequality dummy	0.906***		0.924***	
(1=a little big, 0=others)	(0.116)		(0.116)	
Present inequality dummy	1.058***		1.085***	
(1=very big, 0=others)	(0.115)		(0.115)	
Future inequality dummy		0.513***		0.495**
(1=will be slightly smaller,0=others)		(0.185)		(0.200)
Future inequality dummy		0.006		0.012
(1=normal, 0= others)		(0.071)		(0.104)
Future inequality dummy		0.292***		0.310***
(1=will be slightly large, 0=others)		(0.062)		(0.099)
Future inequality dummy		0.391***		0.410***
(1=will be very large, 0=others)		(0.061)		(0.098)
Altruism			0.043***	0.044***
			(0.012)	(0.012)
Income	0. 317***	0.318***	0.313***	0.313***
	(0.024)	(0.024)	(0.024)	(0.024)
Observations	10,846	10,846	10,846	10,846

Adjusted R^2	0.245	0.246	0.246	0.247
Controls	√	√	√	√

Table A2 Tobit model of main results

	Dependent variable: Logged charitable contribution			
	(1)	(2)	(3)	(4)
Present inequality	0.680***		0.715***	
	(0.107)		(0.107)	
Future inequality		0.663***		0.691***
		(0.107)		(0.108)
Altruism			0.212	0.206
			(0.058)	(0.058)
Income	1.464***	1.463***	1.443*	1.443*
	(0.108)	(0.108)	(0.108)	(0.108)
Observations	10,846	10,846	10,846	10,846
Control variables	√	√	√	√

Table 3 Sample selection model in main results

	(1)	(2)	(3)	(4)
Panel A. Level equation [Dependent variable: Logged charitable contribution]				
Present inequality	0.108		0.107	
	(0.083)		(0.084)	
Future inequality		0.210***		0.209**
		(0.082)		(0.082)
Altruism			0.061**	0.071**
			(0.031)	(0.031)
Income	0. 557***	0.598***	0.529***	0.570***
	(0.146)	(0.152)	(0.141)	(0.146)
Panel B. Selection equation				
Present inequality	0.149***		0.156***	
	(0.023)		(0.023)	
Future inequality		0.136***		0.142***
		(0.023)		(0.023)
Altruism			0.044***	0.043***
			(0.012)	(0.013)
Income	0.292***	0.291***	0.287***	0.287***
	(0.023)	(0.023)	(0.023)	(0.023)
Observations	10.846	10,846	10,846	10,846
Controls	√	√	√	√