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To buy or not buy (insurance)? An experiment on public funds distribution
under different rooted risks

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To buy or not buy (insurance)? An experiment on public funds distribution under different rooted risks

Abstract The distribution of income and wealth resulting from risk-taking behavior significantly affects cooperation and risk-sharing in many areas in many governmental programs, including health insurance and agricultural production. This paper studies redistributive decision making and fairness preferences under different rooted risks using a laboratory experiment, in the treatment of which the subjects can endogenously determine whether they want to buy insurance before they face one of three possible outcomes that will be realized with equal probability. If the first outcome is realized, a high payment will be delivered regardless of whether the subject buys insurance or not. The second risk is an avoidable loss contingent upon the subject buying insurance. The third outcome is an inevitable loss, i.e., minimum payment will be delivered no matter if the subject has or does not have insurance. Then we investigate fairness preferences of randomly paired subjects who are informed about the choices and outcomes for both parties and are asked to make redistributive tasks. The experimental design mimics the scenario of risk-sharing in health insurance and agricultural production. We find that how people make redistributive decisions depends on the insurance purchase decisions and income inequality. The results provide some policy implications for improving insurance efficiency. (JEL: C91, D31, D63)

I. Introduction

The distribution of income and wealth can significantly affect stability and potential for development in a society, since people often disagree about “fair” allocation and redistribution of income and wealth (Alesina and Angelotos, 2005; Alesina and Glaeser, 2004; etc). A wide range of economic questions, such as taxation of income and inheritances, Medicare insurance coverage, and risk sharing in agricultural production, are in a close connection with how fairness preferences of people are shaped and changed in distinct contexts.

In spite of the growing consensus of the importance of fairness in understanding distributive decisions and for making efficient public policy design, researchers are far away from agreement about criteria for justice and interpretation of fairness preferences in many different situations. A difficult question in the contemporary debate on distributive justice concerns over fairness in situations associated with risk sharing and insurance choice. In this

paper, we investigate experimentally redistributive decision-making and fairness preferences under different rooted risks. In order to mimic the risk-sharing and insurance purchase in a laboratory environment, subjects are provided with the opportunity to redistribute their earnings in a pure-luck control or an option-luck treatment. In the option-luck treatment (treatment for brevity), the distribution phase is preceded by a phase of an insurance purchase decision, in which subjects can endogenously determine whether they want to buy insurance before one of three possible risky outcomes that will be realized with equal probability. If the first outcome is realized, a high payment will be delivered regardless of whether the subject buys insurance or not. The second outcome is a financial loss that can be alleviated by insurance. The third outcome is an inevitable loss, i.e., minimum payment will be delivered regardless of whether or not the subject purchased insurance. Put it simple, subjects have the freedom to make a choice over safer or risky options. In the pure-luck control, subjects are not provided the chance to buy insurance, instead the risk distributions are exogenously assigned. Each participant is randomly assigned to one of the two risk distributions in the option-luck treatment group. The redistribution phase in the pure-luck control is the same as the option-luck treatment. The subjects are randomly paired with other participants in the session, and the subjects with higher earnings in the first phase are informed about the insurance purchase choices and the outcomes for both parties and are asked to decide the amounts for redistribution down to their counterparts. By design, therefore, the only difference between the control and the treatment lies in the source of inequality, i.e., the reason subjects lose money is either due to pure luck or to their decision to purchase insurance or not.

The experimental design enables us to understand whether people are more willing to help other persons who bought insurance than the others who did not. In other word, the experimental results indicate whether people believe individuals should be responsible for their financial loss if they did not purchase insurance.

Our results support some findings from previous experimental studies that individuals trade off self-interest and fairness allocation (e.g., Rabin, 1993; Fehr and Schmidt, 1999; Bolton and Ockenfels, 2000; Charness and Rabin, 2002). And also, our results show that in case of relatively lower inequality or salience of extreme low payoff, people support accountability principle, according to which people should be responsible for their financial loss due to not buying insurance. But we do not find evidence for consideration of accountability in other

scenarios.

The findings from our experiment capture some important features of risk sharing and insurance purchase in public policies, such as health insurance plans and agricultural production. For example, Patient Protection and Affordable Care Act evoked a hot debate over the appropriate coverage of health insurance plans from different views of fairness. Chronic diseases such as obesity and cardiovascular disease are sometimes caused by genetic makeup. But obesity also often comes out of unhealthy life habits, e.g., binge eating and night eating. In the view of the accountability principle, obese people should pay for their own healthcare if the disease is a result of their risky behavior. With respect to the findings from our experiment, most people may follow the accountability principle, considering that the consequential inequality caused by obesity is relatively small compared to more lethal diseases such as AIDS and cancer. The proposed large income disparities approach proposed to explain the discrepancy in consequential egalitarianism and the accountability principle would explain why most people would agree that an HIV infected child deserves medical care and sympathy, since he is not responsible for mother-to-child transmission. An adult is responsible for safe sexual behavior to avoid HIV, yet proper medical care and equal respect may still be warranted.

The rest of the paper proceeds as follows. In section II we provide an overview of relevant literature on fairness and redistribution mainly in moral philosophy and experimental economics. Section III describes the design and procedures of our experiment. Section IV illustrates our main results and discusses the nexus between findings in the laboratory and public policy. Section V concludes and discusses directions for further research.

II. Related Literature

In spite of ubiquity and appeal in our ethical lives, the bases for desert judgment are far from agreement. One of the most influential principles of justice is strict egalitarianism that would always propose an equal split of the earnings even in cases involving production (Lamont and Favor, 1996). Rawls (1971)'s alternative principle, which he calls Difference Principle relaxes the strong suggestion of strict equality so long as the inequalities in question would make the least advantaged in society materially better off. Liberal egalitarianism argues that only inequalities that arise from factors under the individual's control should be accepted. It argues that people should be responsible for their choices but not for their luck (Arneson, 1989; Lippert-

Rassmussen, 2001; Roemer, 2009; Vallentyne, 2002). This principle is equivalent to the accountability principle in the economics literature (Konow, 1996, 2000).

As economists, we pay more attention to positive analysis in the regard to how people actually think and behave in redistribution. There is an extensive literature in behavioral and experimental economics regarding social preferences and distributive justice. Social preferences explain the deviations from pure self-interested behaviors in the laboratory and field experiments (Camerer, 2003). There is a continuously growing body of experimental studies on fairness preferences and redistribution; however, there is no consensus among economists over the interpretation of fairness in different contexts, especially when there is ambiguity about desert due to luck, choice, and effort (Konow, 2003). The results from our experiment suggest the dependence of fairness judgment on the distinct contexts, rather than a universal standard.

The least controversial finding might be that people are more willing to accept income inequality resulting from work effort rather than from windfall (e.g., Cherry et al., 2002; Durante et al., 2014; Fershtman et al., 2012; Hoffman et al., 1994; Oxoby and Spraggon, 2008). For instance, Hoffman et al. (1994) find that the dictators behave more selfishly if the distributive right is earned by scoring high in a knowledge quiz compared to randomly assigned. Cherry et al. (2002) find almost no sharing when the dictators earned their gains by real effort. Oxoby and Spraggon (2008) report similar results from an experiment in which earnings are determined based on the number of correct answers in exam questions. Fershtman et al. (2012) conducted dictator games and trust games preceded by tedious effort or GMAT exam questions. They also find a stronger tendency for selfish distribution compared to the standard dictator game and trust game.

de Barros et al. (2009) summarize the commonly shared view about income inequality regarding different sources that “people usually tolerate (and maybe agree with) income inequality arising from differences in choices made, effort extended, and talents put to use by individuals, while they view as fundamentally unfair inequality arising from differences in opportunities.” However, since the multiplicity of desert judgment and fairness views lies in the ambiguity in varying situations, distributive justice and fairness preferences become more complicated and controversial when choice, luck, merit and effort come together.

III. Experimental Design and Procedures

There are three pairs of treatments and controls in our experimental design. Consider the Low Income Inequality (LII) treatment as an illustrative example. Each session in the treatment includes two phases, an insurance purchase choice followed by the distribution phase. In the first phase, given an endowment of 20 points (Experimental Currency Unit, each point=\$0.50), participants were informed that one of three possible outcomes would be realized with equal probability. Before the outcome was unfolded, the subjects were asked to decide whether or not to buy an insurance to protect against potential losses. The insurance cost is 5 points in the LII treatment. The subjects were informed that in case of outcome A, 20 points will be delivered regardless of whether you buy insurance or not. Hence net payment is 15 points for a participant who purchased insurance, or 20 points for a participant without insurance. Outcome B caused a potential loss that can be recovered by the insurance. If the subject did not buy the insurance, only 10 points will be delivered. Otherwise, 20 points will still be delivered implying a net payoff of 15 points. Outcome C is an inevitable loss irrespective of insurance. The subjects always received a net payment of 10 points in the case of outcome C.

To avoid confusion, the subjects also observed the net payoff structure described in Table 1.

[insert Table 1 here]

Therefore, in the treatments, participants can endogenously choose the risk situation they prefer. The freedom to choose implies accountability. And also, since the participants can only insure against loss in case of outcome B but not loss from outcome C, accountability becomes an important consideration in distributive decisions. For example, if subject 1 bought the insurance before facing outcome C and subject 2 did not buy the insurance before facing outcome B had the same earnings; however, the distribution under fairness concerns toward them might be different because of their accountability.

During the second phase of the treatments, participants were anonymously and randomly matched with a sequence of eight others and were asked to make redistribution decisions between group counterparts. In case of a tie in earnings, the computer skipped the redistribution task. In each matching, the high income participant was provided with the information about the insurance buying decision of their counterpart, and their realized outcome. Only one of the

redistribution outcomes was chosen to be binding. The redistribution outcomes were not shown to everyone until the end of experiment. Therefore, our design excludes the wealth effect and reputation effect. As summarized in Table 2, there are 11 scenarios in the Low Income Inequality Treatment, in which the subjects made distribution based on the insurance purchase choice and luck of each party in the first phase.

[insert Table 2 here]

In the corresponding control of LII treatment, subjects were not provided a chance to buy insurance. The risky scenarios are exogenously assigned to them. Each participant was randomly assigned to one of the risky scenarios in the treatment group. That is, one half of them have $2/3$ probability to earn 15 and $1/3$ probability to earn 10, while the other half has $1/3$ probability to earn 20 and $2/3$ probability to earn 10. The redistribution phase in the control groups is the same as the treatment groups. By this design, therefore, the only difference between control and treatment is the reason why subjects lose money, due to pure luck or also by their choice to purchase insurance or not. Note that this design allows for more informative statistics by comparing distributive decisions between the control and treatment.

To check the robustness of the findings at different levels of income inequality, we designed and conducted two other pairs of treatments and controls by the same procedure that only differed in the parameters, i.e., insurance cost and coverage. The two treatments, namely medium income inequality (MII) and high income inequality (HII), are described in the Table 3.

[insert Table 3 here]

At the end of the experiment subjects filled out a post-experimental questionnaire, including demographic questions such as gender, age, and field of study, as well as attitudes about the experimental procedures and payoff.

The experiment was conducted at the Economics Research Laboratory (ERL) at Texas A&M University in October and November 2014. The experiment was computerized with the software “z-Tree” (Fischbacher, 2007). The recruitment was conducted with the Online Recruitment System for Economic Experiments (ORSEE) (Greiner, 2004). A total of 228 participants are students of both genders (85 females) and various majors studying at Texas A&M University. We use between-subject design. Each subject participated in one session only. Each session lasted approximately 30 minutes. Before entering the experimental laboratory, participants were told that they would receive a show-up fee of \$10 upon completion of the tasks

and they would also have the potential of extra payoffs based on their randomly assigned role, luck and performance. But they were not provided with the details of the experiment. The average payment was \$16, including the show-up fee. After being seated at separate computer terminals, subjects received written instructions that were also read aloud by the experimenters. To ensure complete understanding by all subjects, a set of test questions that were computerized in z-Tree had to be correctly answered before the experiments began.

IV. Results

We start with the statistics of insurance purchase choices made by participants in the first phase of the treatments. There are 228 participants in our experiment. 78 participants were assigned into the pure-luck control group, while other 150 subjects participated in the treatment sessions (option-luck treatment). Table 4 shows that 111 (74%) of 150 treated participants chose the safer option. In our LII treatment and MII treatment, about two-thirds of subjects chose to buy insurance. Not surprisingly, in the HII treatment where the potential loss resulting from not buying insurance is higher, 47 out of 56 subjects (84%) chose to buy the insurance.

[insert Table 4 here]

We then further our analysis by comparing the overall average distributive decisions made by subjects in the second phase of the controls and treatments. The histograms in Figure 1 depict the distributions of transfers made by the distributors. The individuals trade off fairness and self-interests. People are reluctant to make equal earnings in both of the controls and treatments. The distinction between the controls and treatments is clear. Overall, the distributors in the treatments did not transfer to their counterparts at all amongst over 60% of transfer decisions. And about one fifth of transfers were less than 20% of gross earnings before redistribution. In contrast, the distributors made significantly higher transfers to counterparts in the control groups. Slightly over 40% of transfers were zero, while more than 40% of transfers were equal or more than 20% of their gross earnings in the first phase. The lower panel of Figure 1 conveys similar information by depicting the distribution of absolute transfers (in ECU) instead of percentage of transfers out of pre-distributed earnings.

[insert Figure 1 here]

We then provide the comparison between the controls and treatments in Figure 2, Figure 3, and Table 5. We again find sharp evidence for the different distributive behaviors with or

without the opportunity to alleviate risk by purchasing insurance. The average amount of transfer was about 2.38 ECUs (or 15.54% out of gross earnings in the first phase) in the control, significantly higher than the average transfer in the treatment, 1.07 ECUs (7.77%) ($p < 0.001$ in two side t -test, Mann-Whitney U -test and Kolmogorov-Smirnov test). The evidence supporting the significant difference in distributive decisions with or without insurance purchase opportunity has also been found in subdivided pairs of treatments and controls. Although we find significant disparities in all three pairs of treatments and controls, a further investigation into the three treatments with different parameters shows that the sharpest disparity of transfer between the treatment and control lies in the LII treatment (1.44% vs. 20.73%, 0.22 vs. 3.20 ECUs), in which the income inequality is smaller than the other two. This lends support to the notion that people have a stronger tendency to support the accountability principle when the income gap is relatively small.

[insert Figure 2 here]

[insert Figure 3 here]

[insert Table 5 here]

We now turn to investigating the distributive decisions in different situations amongst the three pairs of controls and treatments. In the LII control, the earnings of participants were entirely determined by pure luck, in particular 20 ECUs by 1/6 probability, or 15 ECUs by 1/3 probability, or 10 ECUs by 1/2 probability. On the contrary, in the LII treatment, the participants were able to alleviate the risk by purchasing insurance or choose to take risk by not purchasing insurance.

The results are summarized in Table 6 and Figure 4. Due to the limitation of sample size, we do not analyze the data in 11 scenarios separately. We first look at the overall average transfer when the income gap is 10, i.e., the distributors earned 20 and the receivers earned 10 in the first phase. In the LII control group, considering their earnings came from pure brute luck, the distributors gave 2.5 ECUs in average to the receivers. However, in the LII treatment group where the receivers can reduce the probability of earning 10 ECUs from 2/3 to 1/3 by purchasing insurance in the first phase, the distributors transfer only 1/3 ECUs. The argument that distributors consider the accountability principle when making distributive decision also holds when the income gap is 5 ECUs. In average, the distributors gave 3.3 ECUs in the control group but gave only 0.21 ECUs in the treatment. And this evidence is robust to subgrouping receivers in the treatment by whether they bought insurance in the first phase. Indeed, the transfers are

always close to zero across different scenarios in the treatment group. Therefore, we do not find the evidence to support people's consideration of the accountability within the treatment. That is, the difference between the transfer to a counterpart suffering financial loss from Event B and another counterpart suffering the same amount of loss from Event C is negligible.

[insert Figure 4 here]

[insert Table 6 here]

The results from MII are shown in Table 7 and Figure 5. The findings in LII were not completely replicated when income inequality is slightly higher in MII. Consider the scenarios when income gap is 5 ECUs. In average, the distributors gave 1.55 and 0.63 ECUs to the receivers in the control and treatment groups respectively. Within the scenarios with low income gap, we also found evidence for the accountability principle consideration in distributive decision making, in spite of the insignificance due to limited observations in 20 vs. 15 and 15 vs. 10. For instance in which the distributors earned 10 ECUs and the receivers earned 5 ECUs in the first phase. In the treatment groups, the receivers gave up the potential higher gain by choosing the safer option, whereas their earnings were determined by pure luck in the control group. The distributors gave 1.61 ECUs in average to the receivers in the control group but only 0.49 ECUs to the receivers in the treatment group. We can further subgroup receivers in the treatment by whether they bought insurance in the first phase. The results are similar.

Then we turn to analyzing the scenarios with a larger income gap. In fact, we do not find evidence to support that the accountability principle plays a considerable role in distributive decision making in cases of larger income gap. The average transfer delivered by the distributors was 2.20 and 1.84 ECUs in the control and treatment, respectively. The disparity is insignificant ($p=0.93$, Mann-Whitney U -test). The insignificant difference holds in both the 15 vs. 5 and 20 vs. 10 outcomes. Similarly, the experimental result shows that when the income gap is 15 in MII, the difference in average transfer in the control (2.83) and treatment (2.56) is insignificant. For the sake of brevity, we do not report the comparisons with or without insurance separately. But the basic findings hold. Therefore, in MII, when the income gap increases, the consideration of the accountability principle in distributive decision making becomes very weak.

[insert Figure 5 here]

[insert Table 7 here]

We finally analyze HII sessions where the income gap is the largest in our experiment. Another salience in HII is that the lower bound of gains is zero. The results are summarized in Table 8 and Figure 6. We first investigate the transfer decisions when the counterparts earned 20

and 10 ECUs in the first phase. While the distributors gave 3.11 ECUs on average to receivers in the control group in which the outcomes were entirely determined by pure brute luck, the average amount of transfer is only 0.91 ECUs in the treatment. This finding supports that high income people tend to consider the accountability principle facing medium income counterparts. However, there is no evidence to support the accountability principle consideration in other scenarios in HII. In the situations where the two counterparts earned 10 and 0 ECUs, the average transfers were indifferent between the control and treatment group (1.26 vs. 0.99, $p=0.02$, Mann-Whitney *U*-test). Dividing the receivers into two groups according to whether they bought insurance does not change the results very much. Similarly in the situation of 20 vs. 0, in which the earnings of counterparts were also zero in the first phase, there is no evidence supporting the accountability principle either. Not shown in the table, the difference between the transfer to a counterpart suffering financial loss from Event B (avoidable loss) and another counterpart suffering the same amount of loss from Event C (inevitable loss) is negligible.

[insert Figure 6 here]

[insert Table 8 here]

According to the above analysis, our experimental results can be summarized as below.

- i) When the income gap is relatively small, people hold a fairness view based on accountability principle.
- ii) When in the income gap is relatively large or the counterpart's earning is extremely low, i.e., zero in our experiment, people do not make distributive decision according to the accountability principle.
- iii) People do not make significant differences within treatment regarding whether the loss comes from Event B or C.

V. Concluding Remarks

This paper has reported the results of a laboratory experiment investigating how people respond to different sources of risks in consideration of distributive justice. Our findings confirm some results from previous experimental studies that individuals trade off self-interest and fairness allocation and tend to understand fairness based on the accountability principle sometimes. By comparing the distributive decisions with respect to exogenously and

endogenously chosen risks, we shed light on the fairness preferences and public fund redistribution in an experiment. People show a strong tendency to the accountability principle in case of relatively lower inequality, but not in case of large income inequality or salience of extreme low payoff. Therefore, the appropriate public fund policy making should consider the specific contexts varying in the choice, luck, income gap, and so on.

There are a few open questions yet answered in this paper. This experiment was conducted with college students. It would be interesting to examine whether there are different fairness preferences among people in naturally occurring markets.

REFERENCES

- Alesina, Alberto and George-Marios Angeletos.** 2005. "Fairness and Redistribution." *American Economic Review* 95 (4): 960-80.
- Alesina, Alberto and Edward Ludwig Glaeser.** 2004. *Fighting Poverty in the Us and Europe: A World of Difference*. Oxford: Oxford University Press.
- Arneson, Richard J.** 1989. "Equality and Equal Opportunity for Welfare." *Philosophical studies* 56 (1): 77-93.
- Bolton, Gary E. and Axel Ockenfels.** 2000. "ERC: A Theory of Equity, Reciprocity, and Competition." *American Economic Review* 90 (1): 166-93.
- Camerer, Colin.** 2003. *Behavioral Game Theory: Experiments in Strategic Interaction*. Princeton, NJ: Princeton University Press.
- Cherry, Todd L.; Peter Frykblom and Jason F. Shogren.** 2002. "Hardnose the Dictator." *American Economic Review* 92 (4): 1218-21.
- de Barros, Ricardo Paes; Francisco H. G. Ferreira; José R. Molinas Vega and Jaime Saavedra Chanduvi.** 2009. *Measuring Inequality of Opportunities in Latin America and the Caribbean*. Washington, DC, USA: World Bank Publications.
- Charness, Gary and Matthew Rabin.** 2002. "Understanding Social Preferences with Simple Tests." *Quarterly Journal of Economics* 117 (3): 817-69.
- Cox, James C.** 2004. "How to Identify Trust and Reciprocity." *Games and Economic Behavior* 46 (2): 260-81.
- Durante, Ruben; Louis Putterman and Joël van der Weele.** 2014. "Preferences for Redistribution and Perception of Fairness: An Experimental Study." *Journal of the European Economic Association* 12 (4): 1059-86.
- Fehr, Ernst and Klaus M. Schmidt.** 1999. "A Theory of Fairness, Competition and Cooperation." *Quarterly Journal of Economics* 114 (3): 817-68.
- Fershtman, Chaim; Uri Gneezy and John A. List.** 2012. "Equity Aversion: Social Norms and the Desire to be Ahead." *American Economic Journal: Microeconomics* 4 (4): 131-44.
- Fischbacher, Urs.** 2007. "Z-Tree: Zurich Toolbox for Ready-Made Economic Experiments." *Experimental Economics* 10 (2): 171-78.
- Greiner, Ben.** 2004. "An Online Recruitment System for Economic Experiments." *University of Cologne*.
- Hoffman, Elizabeth; Kevin McCabe; Keith Shachat and Vernon Smith.** 1994. "Preferences, Property Rights, and Anonymity in Bargaining Games." *Games and Economic Behavior* 7 (3): 346-80.
- Konow, James.** 1996. "A Positive Theory of Economic Fairness." *Journal of Economic Behavior & Organization* 31 (1): 13-35.
- Konow, James.** 2000. "Fair Shares: Accountability and Cognitive Dissonance in Allocation Decisions."

American Economic Review 90 (4): 1072-91.

Konow, James. 2003. "Which is the Fairest One of All? A Positive Analysis of Justice Theories." *Journal of Economic Literature* 41 (4): 1188-239.

Krawczyk, Michał. 2010. "A Glimpse through the Veil of Ignorance: Equality of Opportunity and Support for Redistribution." *Journal of Public Economics* 94 (1–2): 131-41.

Lamont, Julian and Christi Favor. 1996. "Distributive Justice." *Stanford Encyclopedia of Philosophy*.

Lippert Rasmussen, Kasper. 2001. "Egalitarianism, Option Luck, and Responsibility." *Ethics* 111 (3): 548-79.

Nozick, Robert. 1974. *Anarchy, State, and Utopia*. New York: Basic books.

Oxoby, Robert J. and John Spraggon. 2008. "Mine and Yours: Property Rights in Dictator Games." *Journal of Economic Behavior & Organization* 65 (3–4): 703-13.

Rabin, Matthew. 1993. "Incorporating Fairness Into Game Theory and Economics." *American Economic Review* 83 (5): 1281-302.

Rawls, John. 1971. *A Theory of Justice*. Cambridge, MA: Harvard university press.

Roemer, John E. 2009. *Equality of Opportunity*. Cambridge, MA: Harvard University Press.

Vallentyne, Peter. 2002. "Brute Luck, Option Luck, and Equality of Initial Opportunities." *Ethics* 112 (3): 529-57.

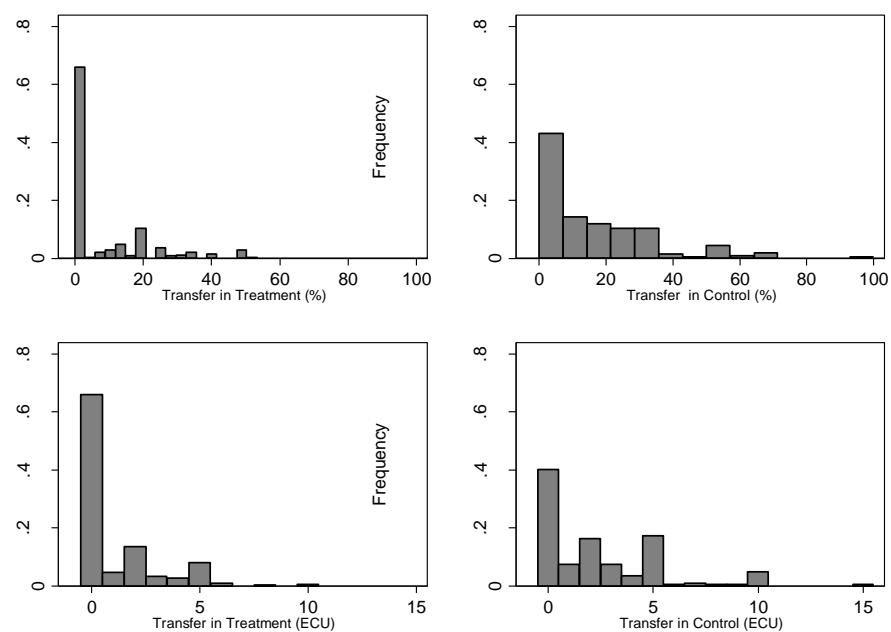


FIGURE 1. TRANSFER HISTOGRAMS

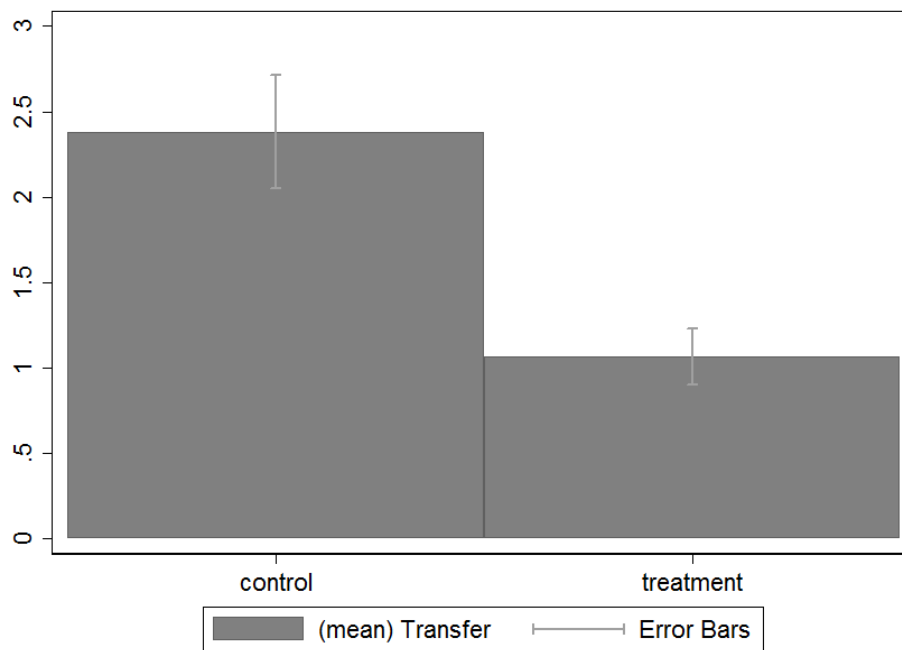


FIGURE 2. A COMPARISON OF TRANSFER IN ECU BETWEEN CONTROL AND TREATMENT

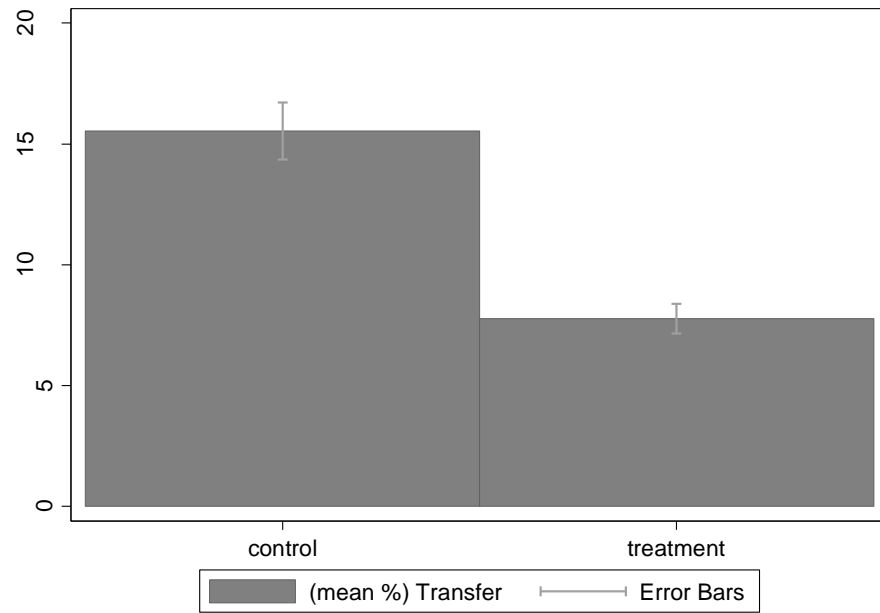


FIGURE 3. A COMPARISON OF TRANSFER IN PERCENTAGE BETWEEN CONTROL AND TREATMENT

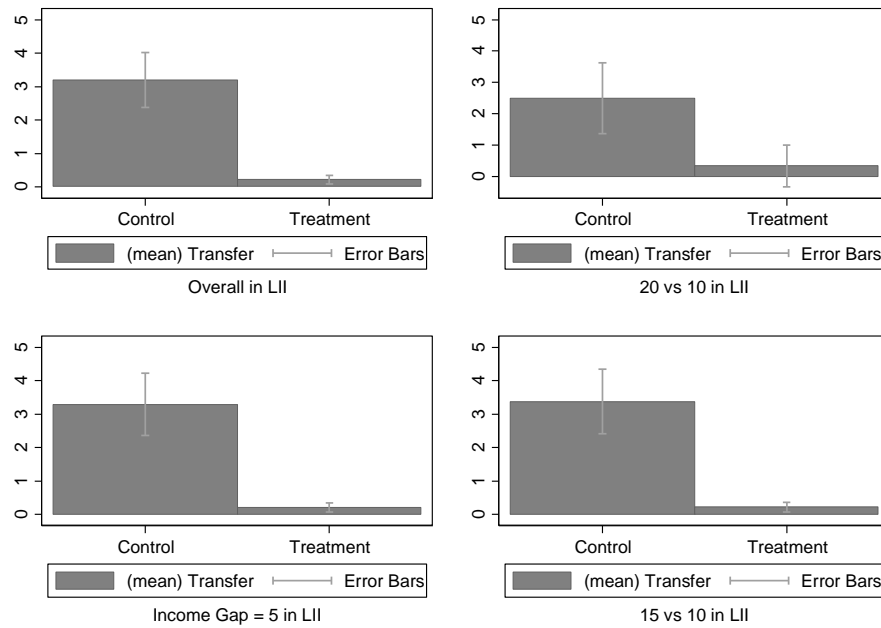


FIGURE 4. DISTRIBUTIVE DECISIONS WITHIN LII

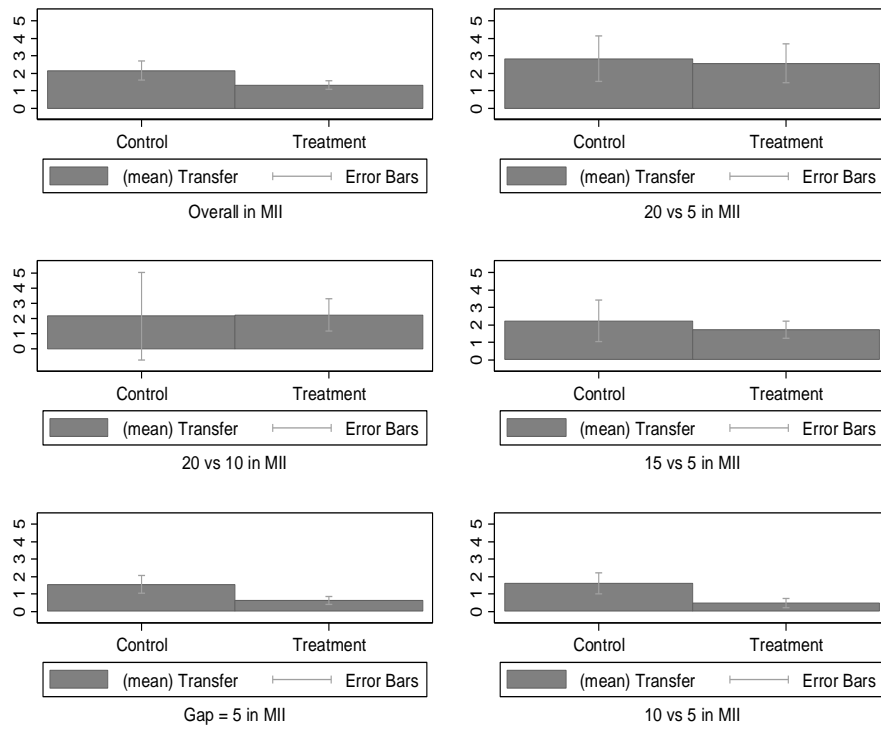


FIGURE 5. DISTRIBUTIVE DECISIONS WITHIN MII

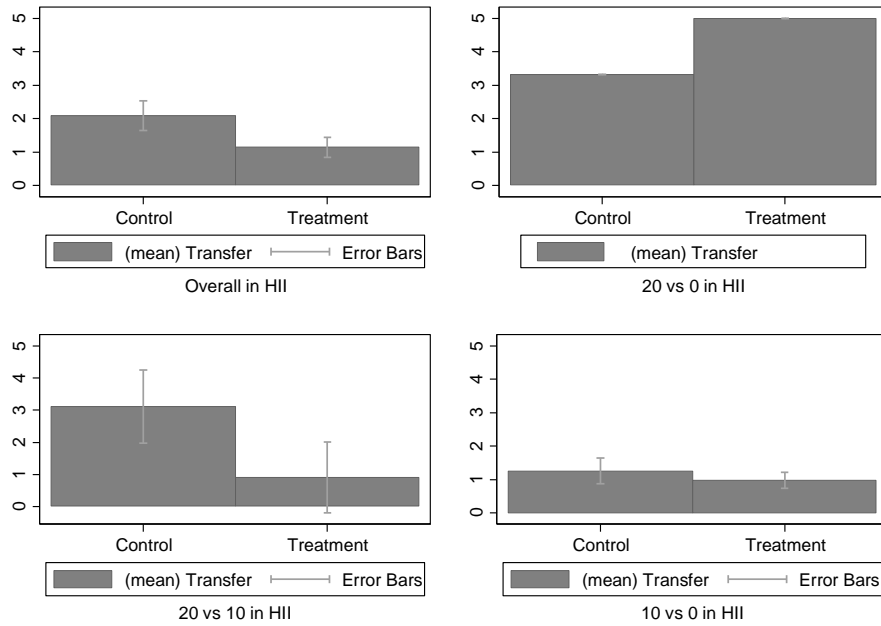


FIGURE 6. DISTRIBUTIVE DECISIONS WITHIN HII

TABLE 1—NET PAYOFF MATRIX IN THE LOW INCOME INEQUALITY TREATMENT

	A	B	C
Purchased insurance	15	15	10
Did not purchase insurance	20	10	10

TABLE 2—11 SCENARIOS IN THE SECOND PHASE OF IN THE LOW INCOME INEQUALITY TREATMENT

Scenario	Distributor			Receiver		
	Outcome	Insurance	Earning	Outcome	Insurance	Earning
1	A	NO	20	A	YES	15
2	A	NO	20	B	YES	15
3	A	NO	20	C	YES	10
4	A	NO	20	B	NO	10
5	A	NO	20	C	NO	10
6	A	YES	15	C	YES	10
7	A	YES	15	B	NO	10
8	A	YES	15	C	NO	10
9	B	YES	15	C	YES	10
10	B	YES	15	B	NO	10
11	B	YES	15	C	NO	10

TABLE 3 NET PAYOFF MATRIX IN MII AND HII TREATMENTS

MII Treatment			
	A	B	C
Purchased insurance	15	10	5
Did not purchase insurance	20	5	5
HII Treatment			
	A	B	C
Purchased insurance	10	10	0
Did not purchase insurance	20	0	0

TABLE 4 INSURANCE PURCHASE CHOICES MADE BY TREATED SUBJECTS IN THE FIRST PHASE

	Insurance purchase		
	Yes	No	Total
LII	20	10	30
MII	44	20	64
HII	47	9	56
	111	39	150

TABLE 5 TRANSFERS COMPARISON BETWEEN CONTROLS AND TREATMENTS

	Transfer (%)			Transfer (ECU)		
	Treatment	Control	<i>p</i> -value	Treatment	Control	<i>p</i> -value
Total	7.77 (0.71)	15.54(1.26)	0.00	1.07 (0.01)	2.38(0.20)	0.00
	(N=334)	(N=202)		(N=334)	(N=202)	
LII	1.44 (0.50)	20.73 (3.29)	0.00	0.22(0.08)	3.20 (0.49)	0.00
	N=58	N=50		N=58	N=50	
MII	8.46 (0.98)	13.56 (1.88)	0.02	1.32 (0.15)	2.14 (0.33)	0.04
	N=157	N=72		N=157	N=72	
HII	9.96 (1.42)	14.06 (1.67)	0.01	1.14 (0.18)	2.09 (0.27)	0.00
	N=119	N=80		N=119	N=80	

Notes: Standard errors are in parentheses. *p*-values are reported for Mann-Whitney *U*-tests.

TABLE 6 DISTRIBUTIVE DECISIONS IN THE LII

Distributor		Receiver		Transfer (ECU)		
Outcome	Insurance	Outcome	Insurance	Control	Treatment	<i>p</i> -value
20	NO	10	YES/NO	2.50 (0.56)	0.33 (0.33)	0.03
				N=6	N=6	
20	NO	15	YES	3.30 (0.55)	0.21 (0.08)	0.00
15	YES	10	YES/NO	N=44	N=52	
15	YES	10	YES/NO	3.38(0.58)	0.22 (0.08)	0.00
				N=42	N=50	
15	YES	10	YES	3.38(0.58)	0.32 (0.14)	0.00
				N=42	N=22	
15	YES	10	NO	3.38(0.58)	0.14 (0.10)	0.00
				N=42	N=28	

Notes: Standard errors are in parentheses. *p*-values are reported for Mann-Whitney *U*-tests.

TABLE 7 DISTRIBUTIVE DECISIONS IN MII

Distributor		Receiver		Transfer (ECU)		<i>p</i> -value
Outcom e	Insurance	Outcom e	Insurance	Control	Treatment	
20	NO	15	YES	1.55	0.63	
15	YES	10	YES	(0.29)	(0.14)	0.00
10	YES	5	YES/NO	N=29	N=78	
10	YES	5	YES/NO	1.61(0.35)	0.49(0.17)	0.00
				N=18	N=49	
10	YES	5	YES	1.61(0.35)	0.60 (0.29)	0.01
				N=18	N=25	
10	YES	5	NO	1.61(0.35)	0.38 (0.15)	0.00
				N=18	N=24	
20	NO	10	YES	2.20 (0.65)	1.84 (0.27)	0.93
15	YES	5	YES/NO	N=20	N=61	
20	NO	10	YES	2.14 (1.49)	2.21(0.60)	0.56
				N=7	N=14	
15	YES	5	YES/NO	2.23(0.66)	1.72(0.29)	0.52
				N=13	N=47	
20	NO	5	YES/NO	2.83 (0.76)	2.56 (0.64)	0.99
				N=23	N=18	

Notes: Standard errors are in parentheses. *p*-values are reported for Mann-Whitney *U*-tests.

TABLE 8 — DISTRIBUTIVE DECISIONS IN HII

Distributor		Receiver		Transfer (ECU)		<i>p</i> -value
Outcome	Insurance	Outcome	Insurance	Control	Treatment	
20	NO	10	YES	3.11 (0.65) N=18	0.91 (0.61) N=11	0.02
10	YES	0	YES/NO	1.26(0.23) N=46	0.98 (0.15) N=103	0.14
10	YES	0	YES	1.26(0.23) N=46	0.82 (0.16) N=71	0.06
10	YES	0	NO	1.26(0.23) N=46	1.34 (0.32) N=32	0.85
20	NO	0	YES/NO	3.31 (0.74) N=16	5.00 (2.24) N=5	0.42

Notes: Standard errors are in parentheses. *p*-values are reported for Mann-Whitney *U*-tests.