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Motives for Sharing in Developing Countries: Experimental Evidence from Jakarta

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Motives for Sharing in Developing Countries: Experimental Evidence from Jakarta*

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Abstract: We implemented laboratory experiments in Jakarta, Indonesia, to identify motives for sharing, including baseline altruism, directed altruism, sanction aversion, and reciprocity. The study area is located on the periphery of the Metropolis of Jakarta, many of whose residents are migrants and are closely connected with informal institutions such as Arisan, a rotating savings and credit association in Indonesia. Using data from sample households, the experimental results show that transfers based on baseline altruism accounted for the largest amount. Because the difference in the transferred amounts arising from the revelation of dictators' identities was statistically insignificant, we combined the four motives into two: preference-related motives (baseline and directed altruism) and incentive-related motives (sanction aversion and reciprocity) for the examination of their association with real world behavior regarding sharing. The empirical results suggest the importance of incentive-related motives in explaining variations in the amount of income transfers received from and sent to others.

Keywords: sharing, altruism, reciprocity, network, experimental economics
JEL classifications: O17, C92, D03, D64

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1. Introduction

We observe various kinds of sharing behavior among poor households in developing countries, most of which occur through informal mechanisms. When such sharing is associated with explicit commitment to repay, it is regarded as informal credit; when it is not associated with such commitment, it is regarded as transfers or gifts. In reality, however, the boundary between credit and gifts is often ambiguous. Some researchers use the terminology quasi-credit to denote such transactions (e.g., Fafchamps and Lund, 2003). On the other hand, regardless of how large the commitment to repay is, such sharing usually occurs in the context of reciprocity. We refer to such economic actions as "sharing" in this study. Sharing may occur as a result of purely selfish motives to improve own utility if households' endowments are subject to risk. Such incentive-based sharing may be more effective if a household shares its resources with a known person who belongs to his network (Ambrus et al., 2012). For this reason, the importance of sharing among poor households under uncertainty in developing countries has been analyzed by various authors, starting with the pioneering work of Coate and Ravallion (1993) and Townsend (1994). To further clarify the motives and efficiency of sharing in developing countries, empirical studies have followed, such as those based on experimental economics (e.g., Leider et al., 2009; Ligon and Schechter, 2010, 2012) and those analyzing survey data with a focus on social networks (e.g., Fafchamps and Lund, 2003; Fafchamps and Gubert, 2007).

As a further extension to the first type of studies mentioned above, we implemented laboratory experiments in Jakarta, Indonesia, to identify motives for sharing, namely, baseline altruism, directed altruism, sanction aversion, and reciprocity. The study area is located on the periphery of the Metropolis of Jakarta, and many of its residents are migrants and closely connected with informal institutions such as Arisan, a rotating savings and credit association (ROSCA) in Indonesia (Geertz, 1962; Ardener, 1964). Our study differs from previous studies, which have been conducted mostly in rural areas with undeveloped financial markets; our study site is characterized by the availability of formal financial institutions. Although not all of our sample households utilized such modern financial services, accessing them is easy. Another interesting characteristic of the study area is the popularity of Arisan, which functions as both an informal credit mechanism and a forum for residents to meet regularly and construct the bonding social capital. These characteristics distinguish our study from previous ones.

Specifically, we conducted four versions of the dictator game designed by Ligon and Schechter (2012). The four versions are distinguished by variations of (i) whether the name of the dictator remains anonymous or is revealed to the recipient and (ii) whether the recipient is chosen randomly by the game administrator or is chosen by the dictator. The amount transferred from

the dictator to the recipient identifies the transferred amount based on four different motives: baseline altruism, directed altruism, sanction aversion, and reciprocity. The dictator games were conducted in one community and offered to a randomly chosen subset of households. An actual cash reward was given to participants based on the game results as well as those chosen as recipients.

The experimental results show that transfers based on baseline altruism accounted for the largest amount. Because the difference in the transferred amount due to the revelation of dictators' identities was statistically insignificant, we combined the four motivations into two: preference-related motives (baseline and directed altruism) and incentive-related motives (sanction aversion and reciprocity) for the examination of their association with real world behavior regarding sharing. The empirical results suggest the importance of incentive-related motives in explaining variations in the amount of income transfers received from others and sent to others.

The remainder of this paper is structured as follows. Section 2 describes the study area and the household survey, while Section 3 describes our laboratory experiments applied to Indonesian households. Section 4 provides descriptive analysis of transfers observed in the games. Section 5 quantifies the correlation between different transfer motives elicited in experiments and the actual sharing behavior observed in household surveys. Section 6 concludes the paper.

2. Study Area and Household Survey

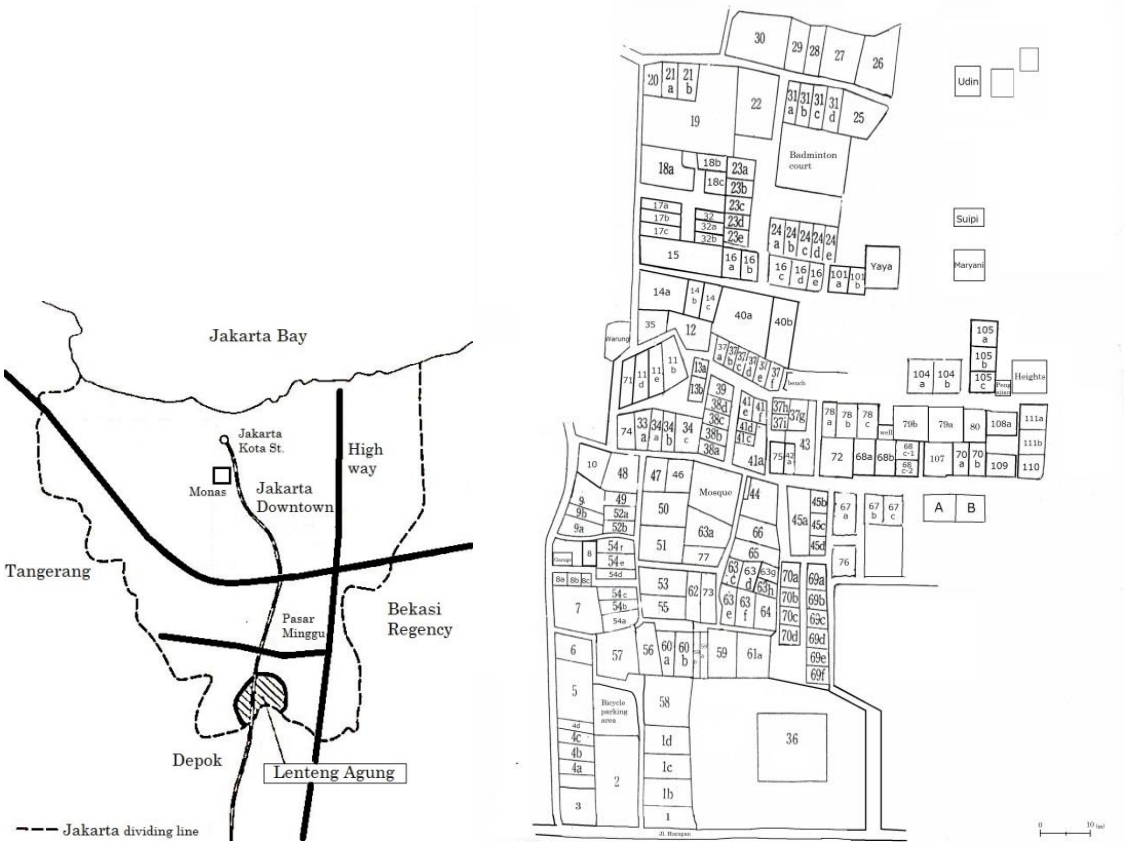
We set up household surveys and laboratory experiments in an RT[1] belonging to Lenteng Agung Township, South Jakarta City, Special Capital Region of Jakarta, Indonesia. The RT is located in a township at the southern edge of South Jakarta City (left panel, Figure 1), approximately 1 to 1.5 hours' drive from downtown Jakarta. Financial institutions, such as Bank Rakyat Indonesia (BRI) and Bank Mandiri, have branches in the nearby city and their automated teller machines are available in the township.

The RT spans an area of 1.6 hectares, segregated by a river on the right-hand side (right panel, Figure 1). There are 175 households living in the RT and they comprise approximately 740 individuals. Due to resource constraints, we were not able to conduct a detailed household survey on the census basis. Instead, we randomly selected 140 households out of 175 based on the house list for the survey. Due to the non-availability of several households, we implemented the pre-experiment survey covering 112 households.

[1] An RT is a community unit within a township, which is the smallest administration unit in Indonesia.

The summary statistics of these 112 sample households are provided in Appendix Table B1. Regarding access to formal financial institutions, 25% of the sample households had used such services. Of such institutions, the Indonesian government's cash transfer program known as Bantuan Langsung Tunai (BLT) reached 9.8% of households. Regarding informal ones, Arisan and Simpang Pinjam are important for our sample. Arisan, an Indonesian version of ROSCA, was used by 44.6% of the sample households while approximately 7% had borrowed from Arisan. Simpang Pinjam is a system of informal credit managed by a women's residential group known as PKK. The accumulated savings of PKK members are lent or given to participants via the Simpang Pinjam system. Approximately 16% of the sample households had borrowed from Simpang Pinjam. Arisan and PKK are important venues for local networks in the study area, where PKK holds monthly meetings, usually alongside Arisan.

<**Figure 1. Map of Special Capital Region of Jakarta (left) and the Surveyed RT (right)**>



Source: Prepared by the authors.

3. The Dictator Games

Each participant played four different games, which were designed following Ligon and Schechter (2012). In this paper, we refer to the game participants as "dictators" and their households as "dictator households" because the games played are known as dictator games. However, we did not use the term "dictator" when explaining the rules of the games to participants. In each game, a dictator decides what portion of Rp 50,000[2] to transfer to a recipient. The amount of Rp 50,000 is approximately half of the unskilled daily wage in the study area. To exclude the possibility that the dictator would identify himself or herself to the recipient under the anonymous portions of the games, we multiplied the amount by two and added a random component based on a number on a dice. The explanatory notes used in the games are provided in Appendix A.

Regardless of the structure of the identity revelation and the choice of recipients, an economically rational dictator with no regard for others and no reciprocal relationships with potential recipients should choose zero amounts to transfer. However, as is known in behavioral economics, this occurs rarely in both developed and developing countries. On the other hand, from a social viewpoint, a larger transfer implies higher efficiency because the money transferred will be multiplied and supplemented with a randomly added component.

The four games are distinguished by (i) whether the name of the dictator remained anonymous or was revealed to the recipient and (ii) whether the recipient was chosen randomly by the game administrator or chosen by the dictator. The four games and motives behind the transfers are summarized in Table 1:

Table 1. Four Dictator Games and Motives behind the Transfer

	Random	Chosen
Anonymous	B	B+D
Revealed	B+S	B+D+S+R

Notes: "B" is the motivation based on baseline altruism, "D" is that based on directed altruism, "S" is the sanction aversion motivation, and "R" is the reciprocity-based motivation.
Source: Prepared by the authors (as are all other tables).

When the dictator game is played in an anonymous and random way (**anonymous–random**), the dictator cannot identify who receives the money and the recipient cannot identify who has given the money. Therefore, the game reveals the transfer based on generic or baseline altruism

[2] 1 Rp (Indonesian Rupiah) = 0.00853 JPY as at December 2013.

addressed to anonymous people. We call this motive "**baseline altruism**" in this study. When the dictator can choose the recipient but the recipient is not allowed to know the identity of the dictator (**anonymous–chosen**), the dictator has an additional motive to favor his or her friends. This motive is called "**directed altruism**." When the recipient is chosen randomly but he or she is told the dictator's identity (**revealed–random**), the dictator has an additional motive to avoid social sanctions or increase his or her social reputation. This motive is called "**sanction aversion**" in this study.[3] Finally, when the dictator can choose the recipient and the recipient is told the dictator's identity (**revealed–chosen**), the dictator has an additional motive to invest in his or her friend and expects future returns as a reciprocal gift. This last motive is called "**reciprocity**" in this study. The two motives of baseline and directed altruism are preference-related while the other two motives of sanction aversion and reciprocity are incentive-related (Ligon and Schechter 2012).

Out of 112 households surveyed in the pre-experiment survey, we randomly offered an invitation to the games to 60 households. Any adult person in the household was eligible to participate. Due to other appointments or dropping out during the games, 39 dictators participated in and completed the games, and provided full information for the analysis. As shown in Appendix Table B1, the subset of households to which the dictator belongs has characteristics similar to the whole sample. On the other hand, the null hypothesis of equal means between the dictator households and the rest of the sample households was rejected slightly more frequently than implied by purely random events. Due to self-selection to actually participating in the games, the subsample of the dictator households do not completely represent the whole households in the study area. Because the opportunity cost of time is higher for males than females, the dictators were more likely to be females in our final sample of dictators (the female ratio was 82%; see Appendix Table B2). In the anonymous–random and revealed–random games, the recipient household was chosen randomly out of the 112 households surveyed. In the anonymous–chosen and revealed–chosen games, the dictator was free to choose someone belonging to any of the other 111 households surveyed (112 households less his or her own household).

To ensure that the transfer amount chosen appropriately identifies the four motives in Table 1, we had to design the experiments so that there is no possibility of ex ante and ex post commitments between dictators and recipients. Regarding ex ante commitments, first, we did not disclose the structure of the games before the dictators arrived for the experiment. Second, during the games, the field assistants constantly monitored the participants to ensure they did

[3] Ligon and Schechter (2012) refer to it as "sanction." Because sanction is a negative statement, we replace it in this study with a positive statement, that is, "sanction aversion."

not talk to each other. In addition, the use of mobile phones was prohibited during the games. These measures were well implemented, nullifying the opportunity for dictators to pre-commit with potential recipients.

Regarding ex post commitments, first, we added a random component to the amount the recipient would receive. Second, each recipient received a lump sum from the anonymous games, without distinguishing which part came from which game. These measures made it difficult for dictators to convince their recipients that they had in fact sent particular amounts of money to those recipients.

We carefully explained the abovementioned framework to the participants. Therefore, we believe that the transfer amounts chosen within each game appropriately identify the four motives in Table 1. In the two types of Chosen games, we asked the dictator to choose the same person for both games and we randomly chose one of the two games for the whole community regarding the actual cash transactions (it turned out that Anonymous–Chosen games were converted to cash instead of Revealed–Chosen games). All games were completed in approximately three hours. After the games were completed, dictators received and kept the cash amounts they kept for themselves in the dictator games.

A few days after the games, we visited all dictator and recipient households. During each visit, we first delivered the money accredited to them as a recipient household. We then implemented a post-experiment survey focusing on their networks and past sharing behavior. We also asked each dictator about his or her relationships with all of the other 111 households in our survey, which were potential recipients of the games, although only one among them had actually been chosen in the games as the recipient. This part of the survey data provides us with empirical information on social networks.

Table 2 summarizes the realized amounts of payments. Out of 112 households, 78 received payments from the experiments. The average payment was Rp 112,880, which corresponds to 0.343% of the average annual household income. Out of 39 dictators, 30 received transfers from other dictators in addition to the money they kept themselves in the dictator games. In addition, there were 39 households that received transfers without participating in the dictator games (pure recipients). This means that 69 households received payments as transfers from other dictators.

Table 2. Realized Amounts of Payment from the Experiments

(Rp 1,000)	All households that received transfers	Dictator households that received no transfers from other dictators	Recipient households that did not play the dictator role	Dictator households that also received transfers from other dictators
Mean	112.89	111.11	52.95	191.33
Std. Dev.	77.70	23.82	31.53	58.06
Min	5	55	5	90
Max	340	140	135	340
Obs (*n*).	78	9	39	30

4. Transfer Amounts Attributed to Each Motive

Table 3 shows summary statistics of the portion of Rp 50,000 that each dictator transferred to a recipient. As different motives are accumulated from left to right columns, the average transferred amounts increase. Under the anonymous–random game, dictators transferred on average Rp 12,950 (26% of Rp 50,000), which increased to Rp 14,100 (28%) under the anonymous–chosen game and Rp 16,030 (32%) under the revealed–chosen game. The range of transfer as a percentage of the full amount is consistent with experimental findings from developing countries. For example, Cárdenas and Carpenter (2008) report that non-student individuals in developing countries transfer on average 26–42%. Our range is also similar to findings from rural Paraguay by Ligon and Schechter (2012).

However, unlike the results of Ligon and Schechter (2012), the differences across the four games are not always statistically significant. By applying a simple mean comparison, we find that out of six comparisons, only one is statistically significant, although marginally: the difference between the anonymous–random game and the revealed–chosen game (*p*-value of 0.06).

Table 3. Transferred Amounts from Dictators (*n* = 39)

(Rp 1,000)	Anonymous–Random (AR)	Anonymous–Chosen (AC)	Revealed–Random (RR)	Revealed–Chosen (RC)
Mean	12.949	14.103	14.744	16.026
Std. Dev.	6.759	10.122	9.455	9.402
Min	0	0	0	0
Max	25	50	50	50

Using observed amounts of transfers under the four types of dictator games, we calculate the contribution to the total transfer attributable from each of the four elements of baseline altruism (*B*), directed altruism (*D*), sanction aversion (*S*), and reciprocity (*R*). Table 1 implies the following mathematical structure of the decomposition:

$$T_i = \begin{bmatrix} \tau_i^{AR} \\ \tau_i^{AC} \\ \tau_i^{RR} \\ \tau_i^{RC} \end{bmatrix} = \begin{bmatrix} B_i \\ B_i + D_i \\ B_i + S_i \\ B_i + D_i + S_i + R_i \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 1 & 1 & 0 & 0 \\ 1 & 0 & 1 & 0 \\ 1 & 1 & 1 & 1 \end{bmatrix} \begin{bmatrix} B_i \\ D_i \\ S_i \\ R_i \end{bmatrix} = \mathbf{P}M_i$$

where τ_i^g is the transfer amount from dictator *i* under game *g*; *g* = AR, AC, RR, or RC; T_i is a vector of transfer amounts from dictator *i* distinguished by games; M_i is a vector of transfer amounts from dictator *i* distinguished by motives; and P is a conversion matrix. Then, the transfer amounts distinguished by motives can be calculated by $M_i = \mathbf{P^{-1}}T_i$. Table 4 reports the results of this decomposition.

Table 4. Transferred Amounts from Dictators Decomposed into Four Motives (*n* = 39)

(Rp 1,000)	Baseline altruism	Directed altruism	Sanction aversion	Reciprocity
Mean	12.949	1.154	1.795	0.128
Std. Dev.	6.759	10.910	9.833	12.798
Min	0	-25	-15	-40
Max	25	40	40	35
Standard Error	1.082	1.747	1.575	2.049
p-val. for mean=0	0.000	0.513	0.262	0.950

The averages of transferred amounts were positive for all four motives. One important finding from Table 4 is that the transfer based on baseline altruism accounted for Rp 12,950, the largest amount of the transfer at more than 80% of the total four motives.

However, although the averages of transferred amounts are positive for all motives, the average

is significantly different from zero only for baseline altruism. For the three remaining motives, the average is statistically insignificant. This lack of statistical significance is due to several dictators not behaving in the games as expected by the standard theory, resulting in negative values of motives attributable to directed altruism, sanction aversion, and reciprocity. If the sample size was large, we could remove those dictators who did not behave as the theory expects (i.e., render transfers under all four motives non-negative). However, out of 39 dictators, only 12 satisfied the theoretical expectation. If we examine these 12 dictators only, their average baseline altruism accounted for 60% of the total four motives. The dominance of the baseline altruism motive is consistent with the findings by Forsythe et al. (1994). In our settings, it is possible that because of the high efficiency of transfer (i.e., the doubling of the amount and a randomly added component), the transfer based on baseline altruism increased (Fisman et al., 2007).

Analyzing the data in more detail, we find that it is difficult to distinguish between anonymous and revealed games in our experimental design. In other words, the dictators did not show a strong tendency to increase transfers under the revealed settings in comparison with the anonymous settings. We offer two explanations for this. First, by construction, in the anonymous games, the recipient will in any case be among the 112 households in the community (RT). As the community is small and all residents know each other to some extent, the baseline altruism identified through our experiments is not precisely the kind of generic altruism displayed towards completely anonymous people, but rather the sum of generic altruism plus altruism directed toward any average person in the RT. The revealed games only add to this structure an altruism element directed to a specific individual in the RT. It is possible that the addition of the last type of altruistic element is negligible in comparison with the first two types of altruism. Second, as the RT is a small residential unit, the act of being revealed as a person who transferred a large amount of money in the games could have adversely affected the psychological gain from behaving as a dictator. If some dictators have such a preference, they may have chosen to transfer less under the revealed settings than under the anonymous settings.

Taking this into account, we combine four motives into two for further analysis: preference-related motives (baseline and directed altruism) and incentive-related motives (sanction aversion and reciprocity). The summary statistics under this broader classification are given in Table 5. Although only marginally significant at the 20% level, the incentive-related transfers become more positive under the broader motives.

Table 5. Transferred Amounts from Dictators Decomposed into Two Motives (*n* = 39)

(Rp 1,000)	Preference-related (baseline altruism + directed altruism)	Incentive-related (sanction aversion and reciprocity)
Mean	14.103	1.923
Std. Dev.	10.122	8.241
Min	0	-20
Max	50	20
Standard Error	1.621	1.320
p-value for mean=0	0.000	0.155

5. Transfer Motives and Household Characteristics and Behavior

Using transfer motives elicited from the experiments described in Sections 3 and 4, we can analyze the choice of the recipient by each dictator, following Ligon and Schechter (2010); the impact of socioeconomic characteristics on each motive; and the impact of each motive on actual sharing behavior. In this paper, we report preliminary results from a mixture of the last two: association among transfer motives, observed characteristics of dictator households, and the actual sharing behavior of dictator households. As the preliminary exercise does not control for endogeneity problems, the results cannot be interpreted as causal relationships but only as correlation. In correlation analysis, it is arbitrary to choose which among the transfer motives, observed household characteristics, and behavior is to be used as the dependent variable. Therefore, we provide three tables. Table 6 shows bivariate correlation between, on the one hand, transfer motives, and, on the other, actual sharing behavior and dictator's characteristics; Table 7 for multiple regression results using the actual sharing behavior as the dependent variable; and Table 8 for multiple regression results using the transfer motives as the dependent variable. We use the amount of transfers (given as a gift; received as a gift; lent as a credit; borrowed as a credit) during the last one year for each dictator as the main variable to represent the actual sharing behavior.

Table 6 shows that the preference-related motives are correlated with fewer number of variables listed than the incentive-related motives are. Using the 10% significance level, the preference-related motives ($B+D$) are positively correlated with the dummy of borrowing experience with Arisan and negatively correlated with one variable in the communication

frequency indicators (*OR degree 12*); the incentive-related motives (*S+R*) are positively correlated with two variables of actual sharing behavior for gifts given (*Given dummy, small* and *Given amount*), one for gifts received (*Received amount*), two for communication frequency (*OR degree 12* and *OR degree 14*), and one for the length of residence of the dictator (*Residing years*); and negatively correlated with the house rent (*Monthly rent*). The two cases of negative correlation are difficult to explain. All of the cases with positive correlation indicate that frequent communication and sharing experiences are associated with higher willingness to share with neighbors. Among the positive and statistically significant coefficients in Table 6, the correlation of Arisan participation and preference-related motives is notable. This implies either that Arisan experiences lead to higher altruism among participants or that those individuals with higher altruistic preference tend to join Arisan more. As both routes are plausible considering the literature (Geertz, 1962; Ardener, 1964), identifying each route is an important future research topic.

As our main aim is to examine how actual economic sharing is related to experimentally elicited motives to share with others, Table 7 reports results when the sharing variables are used as the dependent variable. In all eight regression results reported in the table, coefficients on the preference-related transfer motives and coefficients on the incentive-related transfer motives are positive, indicating that those dictators with higher tendency to share with others in laboratory games tend to share with others more in real economic settings, even after controlling for the dictator household's characteristics. In particular, the coefficients on incentive-related motives on the amount given and received are statistically significant. This may indicate that incentive motives activate gift exchange in both directions. We find another marginally significant coefficient for the preference-related motives in the borrowed amount regression. While we expected that preference-related motives would explain gift transfers more than they explain credit transfers, the empirical results show an opposite pattern, although it is statistically weak. Further investigation of this issue is left for future studies.

Other explanatory variables in Table 7, which were included mostly as controls, have the expected signs when statistically significant. For example, higher income is positively correlated with the amount given, showing the affordability of gift exchange induced by income effects. Unexpectedly, the past experience of bank borrowing is not correlated with transfer behavior. The coefficients on communication frequency (*OR degree 14*) show mixed signs: they are positive for the amount borrowed, as expected, but negative on the amount exchanged as a gift.

Table 6. Bivariate Correlation between Transfer Motives and Sharing Behavior/Dictator's Characteristics

		Preference related motives (*B+D*)				**Incentive-related motives (*S+R*)**			
		OLS coef.	S.E.	R2	*p*-value	OLS coef.	S.E.	R2	*p*-value
Actual sharing behavior									
Gifts given	*Given dummy, large*	-1.894	[4.54]	0.005	*0.68*	1.667	[3.70]	0.006	*0.65*
	Given dummy, small	-1.722	[3.89]	0.005	*0.66*	6.889	[2.97]	0.127	*0.03*
	Given amount	-0.007	[0.01]	0.010	*0.55*	0.018	[0.01]	0.085	*0.07*
Gifts received	*Received dummy, large*	-1.265	[4.91]	0.002	*0.80*	5.824	[3.88]	0.057	*0.14*
	Received dummy, small	-6.250	[6.08]	0.028	*0.31*	5.139	[4.95]	0.028	*0.31*
	Received amount	-0.012	[0.02]	0.014	*0.48*	0.035	[0.01]	0.178	*0.01*
Credit given	*Lent dummy, large*	-1.894	[4.54]	0.005	*0.68*	1.667	[3.70]	0.006	*0.65*
	Lent dummy, small	0.946	[7.45]	0.000	*0.90*	-4.662	[6.01]	0.016	*0.44*
	Lent amount	0.001	[0.01]	0.001	*0.88*	0.006	[0.01]	0.030	*0.29*
Credit received	*Borrowed dummy, large*	5.241	[3.66]	0.053	*0.16*	4.138	[2.99]	0.049	*0.17*
	Borrowed dummy, small	0.921	[10.39]	0.000	*0.93*	-7.105	[8.38]	0.019	*0.40*
	Borrowed amount	0.005	[0.00]	0.041	*0.22*	0.000	[0.00]	0.000	*0.97*
Dictator's characteristics									
Demographic	*Number of household members*	1.103	[1.12]	0.026	*0.33*	-0.584	[0.92]	0.011	*0.53*
	Number of adult males	0.254	[1.95]	0.001	*0.90*	-0.596	[1.58]	0.004	*0.71*
	Dictator male dummy	-4.130	[4.23]	0.025	*0.33*	1.138	[3.48]	0.003	*0.75*
	Dictator age	0.185	[0.15]	0.041	*0.22*	0.045	[0.12]	0.004	*0.72*
	Muslim dummy	-7.912	[4.74]	0.070	*0.10*	5.647	[3.89]	0.054	*0.16*
	Residing years	-0.172	[0.10]	0.068	*0.11*	0.201	[0.08]	0.141	*0.02*
Job	*Informal sector*	-4.186	[3.35]	0.040	*0.22*	-0.900	[2.78]	0.003	*0.75*
	ln income	-0.242	[2.31]	0.000	*0.92*	-0.594	[1.88]	0.003	*0.75*
	Bonus dummy	-0.003	[0.01]	0.002	*0.79*	0.005	[0.01]	0.012	*0.51*
House	*Monthly rent*	-0.001	[0.01]	0.001	*0.85*	-0.009	[0.00]	0.076	*0.09*
Financial activities	*Bank borrowing dummy*	3.030	[4.53]	0.012	*0.51*	-5.227	[3.61]	0.054	*0.16*
	Simpang Pinjam borrowing dummy	-4.706	[4.85]	0.025	*0.34*	1.235	[4.00]	0.003	*0.76*
	Arisan borrowing dummy	10.206	[4.62]	0.117	*0.03*	-1.059	[4.00]	0.002	*0.79*
	Insurance dummy	-4.324	[7.41]	0.009	*0.56*	5.878	[5.99]	0.025	*0.33*
	BLT receiving dummy	-2.802	[4.04]	0.013	*0.49*	-0.847	[3.31]	0.002	*0.80*
Network	*OR degree 12*	-0.188	[0.09]	0.111	*0.04*	0.142	[0.07]	0.096	*0.06*
	OR degree 14	-0.063	[0.05]	0.043	*0.21*	0.087	[0.04]	0.126	*0.03*
Community	*Arisan*	-0.167	[3.38]	0.000	*0.96*	2.292	[2.72]	0.019	*0.41*
	Karan Tarna	-0.278	[3.90]	0.000	*0.94*	2.556	[3.15]	0.018	*0.42*

Notes: Each row corresponds to a regression where $B+D$ or $S+R$ is regressed on the explanatory variable shown in the second column. The number of observations is 39. Estimated by OLS. Standard errors are in brackets. Italics show *p*-values for the test that the slope coefficient is zero. See Appendix Table B3 for the definition of explanatory variables except for transfer motives and see Table 5 regarding the transfer motives.

Table 7. Correlates of Actual Sharing Behavior

	Dependent variable = Sharing amount realized in the last one year (1,000 Rp.):							
	Basic model				Extended model			
	Given amount	*Received amount*	*Lent amount*	*Borrowed amount*	*Given amount*	*Received amount*	*Lent amount*	*Borrowed amount*
Transfer motives								
Preference-related	0.5581	0.7873	2.1285	10.8668	0.4821	0.6976	2.4225	11.0719
(B+D)	[1.48]	[1.50]	[3.11]	[7.16]	[1.39]	[1.34]	[3.11]	[6.92]
	0.71	*0.60*	*0.50*	*0.14*	*0.73*	*0.61*	*0.44*	*0.12*
Incentive-related	5.8686	5.8083	6.479	6.7605	7.1009	6.8725	7.0458	1.7517
(S+R)	[4.50]	[3.09]	[4.23]	[9.06]	[4.63]	[3.03]	[5.75]	[12.28]
	0.20	*0.07*	*0.13*	*0.46*	*0.13*	*0.03*	*0.23*	*0.89*
Dictator's characteristics								
Dictator age	-0.6946	1.0919	4.221	-1.7826	-0.8357	1.0509	3.0556	-0.8632
	[1.46]	[1.25]	[5.11]	[3.51]	[1.42]	[1.31]	[3.56]	[3.65]
	0.64	*0.39*	*0.41*	*0.62*	*0.56*	*0.43*	*0.40*	*0.81*
Dictator male	-122.602	-30.1529	-40.1164	19.4443	-119.644	-25.1299	-72.4078	18.0061
	[51.97]	[37.25]	[63.39]	[103.40]	[51.71]	[33.38]	[90.31]	[118.16]
	0.02	*0.42*	*0.53*	*0.85*	*0.03*	*0.46*	*0.43*	*0.88*
ln income	86.8668	41.8561	92.3752	-41.7228	82.8179	39.9266	69.1557	-18.5481
	[47.74]	[33.70]	[78.18]	[64.06]	[45.58]	[29.89]	[49.79]	[66.49]
	0.08	*0.22*	*0.25*	*0.52*	*0.08*	*0.19*	*0.17*	*0.78*
Bank rent					1.4093	-13.2698	198.0995	-67.8275
					[68.34]	[36.40]	[213.09]	[127.57]
					0.98	*0.72*	*0.36*	*0.60*
OR degree 14					-0.8854	-0.8818	1.1902	3.0966
					[0.81]	[0.57]	[1.04]	[2.22]
					0.28	*0.13*	*0.26*	*0.17*
Intercept	-1158.67	-591.857	-1424.9	695.2361	-1050.95	-516.264	-1137.75	182.6387
	[693.64]	[491.26]	[1282.14]	[1035.58]	[630.20]	[423.94]	[867.32]	[1012.69]
	0.10	*0.24*	*0.27*	*0.51*	*0.11*	*0.23*	*0.20*	*0.86*
R2	0.3417	0.2697	0.1284	0.0621	0.3836	0.3423	0.2174	0.1329
Adj_R2	0.242	0.159	-0.0036	-0.08	0.2444	0.1938	0.0407	-0.0629

Notes: The number of observations is 39. Estimated by OLS. Standard errors are in brackets. Italics show *p* -values for the test that the coefficient is zero. See Appendix Table B3 for the definition of explanatory variables except for transfer motives and see Table 5 regarding the transfer motives.

Because the results in Table 7 suggest that a critical role is played by incentive-related motives in shaping actual sharing behavior, the correlates of such motives are examined further by using them in Table 8 as the dependent variable. Table 8 shows that the across-dictator variation in preference-related motives ($B+D$) is almost random and not correlated with household characteristics, such as dictators' demographics, assets, and networks. In contrast, several variables are significantly correlated with incentive-related motives ($S+R$). For example, communication frequency (*OR degree 14*) has a significantly positive coefficient in the $S+R$ regression. This may indicate that frequent communication networks contribute to a higher level of incentive-related motives of residents, which results in more active gift exchange behavior.

Table 8. Correlates of Transfer Motives

	Dependent variable:			
	Basic model		Extended model	
	B+D	*S+R*	*B+D*	*S+R*
Given amount	-0.0116	0.0109	-0.0141	0.0142
	[0.01]	[0.01]	[0.01]	[0.01]
	0.40	*0.38*	*0.29*	*0.16*
Received amount	-0.0114	0.0301	-0.0125	0.0305
	[0.02]	[0.01]	[0.02]	[0.01]
	0.57	*0.04*	*0.54*	*0.02*
Lent amount	-0.005	0.0076	-0.0048	0.008
	[0.01]	[0.00]	[0.01]	[0.00]
	0.47	*0.05*	*0.42*	*0.05*
Borrowed amount	0.0076	-0.0035	0.0097	-0.0063
	[0.01]	[0.00]	[0.01]	[0.00]
	0.31	*0.19*	*0.23*	*0.01*
Dictator age	0.2122	-0.0306	0.1884	0.0055
	[0.22]	[0.14]	[0.23]	[0.13]
	0.35	*0.83*	*0.41*	*0.97*
Dictator male	-5.1986	3.9671	-5.2622	4.2748
	[3.54]	[3.18]	[2.81]	[3.14]
	0.15	*0.22*	*0.07*	*0.18*
ln income	3.2514	-3.5399	2.765	-2.7841
	[3.04]	[2.79]	[2.99]	[2.61]
	0.29	*0.21*	*0.36*	*0.30*
Bank rent			2.344	-4.3839
			[4.65]	[3.60]
			0.62	*0.23*
OR degree 14			-0.082	0.0975
			[0.06]	[0.04]
			0.16	*0.02*
Intercept	-38.847	50.7162	-27.1804	34.218
	[47.68]	[42.84]	[45.70]	[39.96]
	0.42	*0.25*	*0.56*	*0.40*
R2	0.1585	0.2679	0.2404	0.4729
Adj_R2	-0.0315	0.1025	0.0047	0.3093

The number of observations is 39. Estimated by OLS. Standard errors are in brackets. Italics show *p* - values for the test that the coefficient is zero. See Appendix Table B3 for the definition of explanatory variables except for transfer motives and see Table 5 regarding the transfer motives.

6. Conclusion

In this study, we analyzed microdata regarding sharing motives and behavior collected from household surveys and laboratory experiments conducted in Jakarta, Indonesia. For the laboratory experiments, we conducted four versions of the dictator game to identify four motives for sharing: baseline altruism, directed altruism, sanction aversion, and reciprocity. The experimental results show that baseline altruism accounted for the largest amounts of transfers. This confirms the pattern observed in the literature. However, contrary to findings from rural Paraguay (Ligon and Schechter, 2012), we found that the difference in the transferred amount due to the revelation of dictators' identities was statistically insignificant. This could be due to our experimental design in which generic altruism is mixed with altruism directed towards any average person in the community.

The statistical significance of our results improved when we combined the four motives into two: preference-related motives (baseline and directed altruism) and incentive-related motives (sanction aversion and reciprocity). Thus, we used the broader classification of sharing motives to examine their association with real world behavior regarding sharing. The empirical results suggest the importance of incentive-related motives in explaining the variation of the amount of income transfer receipts from others and those sent to others. This confirms the findings from rural Paraguay reported by Ligon and Schechter (2012). Because our experimental setting, an urban area with high numbers of migrants, differs substantially from the setting in Paraguay, our results contribute to deepening understanding of sharing motives in developing countries. Although the study area is characterized by good access to formal financial institutions, we were not able to find significant correlation between bank use experience and sharing behavior or motives. We found that correlation of Arisan and other informal credit institutions with actual sharing behavior was insignificant, although the Arisan experience was positively and significantly correlated with the level of altruistic motives to share with others. The impact of formal and informal financial institutions on sharing motives and behavior needs to be quantified further in future research.

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Appendix A. Explanation Notes for the Experiments[4]

[The following instructions were read to the participants.]

Thank you very much for coming today. Today's games will last two to three hours, so if you think that you will not be able to remain for the entire time, let us know now. Before we begin, I want to make some general comments about what we are doing and explain the rules of the games that we are going to play. We will play some games with money. Any money that you win in the games will be yours. Akifumi Ado will provide the money. However, you must understand that this is not his money, it is money given to him by his university to carry out his research.

All decisions you take here in these games will be confidential or, in some cases, also known by your playing partner. This will depend on the game and we will inform you in advance whether your partner will know your identity.

Before we continue, I must mention something very important. We invited you here without you knowing anything about what we are planning to do today. If you decide at any time that you do not want to participate for any reason, you are free to leave, whether or not we have started the game. If you let me know that you are leaving, I will pay you for that part of the game that you played before leaving. If you prefer to go without letting me know, that is fine too.

You cannot ask questions or talk while in the group. This is very important. Please be sure that you understand this rule. If a person talks about the game while in this group, he or she cannot play the game today and will not earn any money. Do not worry if you do not understand the game well while we discuss the examples here.

Each of you will have the opportunity to ask questions in private to make sure you understand how to play.

This game is played in pairs. Each pair consists of two players (Player 1 and Player 2). In each game, Akifumi Ado will give Rp 50,000 to each of you here today, and you are all Player 1s. Player 1 decides how much money to keep and how much to send to Player 2. Player 1 can send between 0 and Rp 50,000 to Player 2. Player 2 will receive any money Player 1 sends, multiplied by two, plus an additional contribution from us. Player 1 takes home whatever he does not send to Player 2. Player 1 is the only person who makes a decision. Player 1 decides how to divide the Rp 50,000 and the game ends.

The additional contribution is determined by the roll of a dice. The additional contribution will be Rp 5,000 multiplied by the roll of the dice. The multiplication factor is the roll of the dice times 2 if it lands on any number between 1 and 5. If it lands on 6, there will be no additional contribution. Thus, if the dice lands on 1, Player 2 will receive an additional Rp 5,000; if it lands on 2, Player 2 will receive an additional Rp 10,000; if it lands on 3, Player 2 will receive an additional Rp 15,000; if it lands on 4, Player 2 will receive an additional Rp 20,000; and if it lands on 5, Player 2 will

[4] The actual explanations were provided in the Indonesian language, not in English.

receive an additional Rp 25,000. However, if it lands on 6, there will be no additional contribution for Player 2.

From 4 to 8 September 2013, we will conduct a survey about you. It will last for two hours. After all the games finish today, we will ask you when you will be at home during this period.

Now we will review four examples in which [P1] is "I play P1"; [P2] is "I play P2"; and [UI student] is "I play a mediator." P1 is all of you here; P2 is a person living in this RT, except any of your household members; and the mediator is a UI student.

[Demonstrate with the Rupiah board, pushing Player 1's offer to Player 2.]

1. Here you have Rp 50,000. Imagine that Player 1 (that is, you) chooses to send Rp 10,000 to Player 2. Then, you (Player 1) will take home Rp 40,000 (Rp 50,000 less Rp 10,000). Player 2 will receive Rp 20,000 (Rp 10,000 multiplied by 2) plus the additional amount. If the dice lands on 5, Player 2 will receive an additional contribution of Rp 25,000, which means he or she will receive Rp 45,000 in total. If the dice lands on 1, Player 2 will receive an additional contribution of Rp 5,000, which means that he or she will receive Rp 25,000 in total.

2. Here is another example. Imagine that Player 1 chooses to send Rp 35,000 to Player 2. Then, Player 1 will take home Rp 15,000 (Rp 50,000 less Rp 35,000). Player 2 will receive Rp 70,000 (Rp 35,000 multiplied by 2) plus the additional amount. If the dice lands on 3, Player 2 will receive an additional contribution of Rp 15,000, which means he or she will receive Rp 85,000 in total. If the dice lands on 6, Player 2 will not receive any additional contribution, which means he or she will receive Rp 70,000 in total.

3. Here is another example. Imagine that Player 1 chooses to allocate Rp 0 to Player 2. Then, Player 1 will take home Rp 50,000 (Rp 50,000 less Rp 0). Player 2 will receive Rp 0 plus the additional amount. If the dice lands on 2, Player 2 will receive an additional contribution of Rp 10,000, which means he or she will receive Rp 10,000 in total.

4. Here is another example. Imagine that Player 1 chooses to allocate Rp 50,000 to Player 2. Then, Player 1 will take home Rp 0 (Rp 50,000 less Rp 50,000). Player 2 will receive Rp 100,000 (Rp 50,000 multiplied by 2) plus the additional amount. If the dice lands on 4, Player 2 will receive an additional contribution of Rp 20,000, which means he or she will receive Rp 120,000 in total.

That is how simple the game is. We will play four different versions of this game as follows. Player 2 will always be a household in this community.

1.) (AR game) In one version, Player 2's household will be chosen by a lottery we conduct. The same family can be drawn multiple times. It could be someone who is participating in the games here today, or it could be another household in this RT. It cannot be your own household. You will

not know who is chosen as Player 2. Only Akifumi Ado knows who plays with whom, and he will never tell anyone. They may be happy to receive a lot of money but cannot thank you, or they may be sad to receive only a little or no money but they cannot get angry with you, because they are never going to know that this money came from you or that you decided to send little or no money. You will not know the roll of the dice in this version of the game.

2.) (RR game) In another version, Player 2's household will also be chosen by a lottery. The same household can be drawn multiple times. We will conduct a lottery independently from the first game, so Player 2 will not necessarily be the same household as that in the first game. In this version, you will discover the identity of Player 2 after all of the games today, and Player 2 will also discover your identity. After the games, we will visit the randomly drawn Player 2's household and we will explain the rules of the game, That is, we will explain that [John Smith] gave so much money and then the dice landed in such a way, but that when [John Smith] was deciding how much to give, he did not know who the money was going to. They may be happy to receive a lot of money, and will be able to thank you, or they may get angry with you if they receive only a little or no money, because they will know that you made the decision whether or not to send the money and in what amount.

3. and 4.) (Chosen game) In the next two versions, you can choose the identity of Player 2. You can choose any household in this RT and we will give the money to a member of that household who is over 18 years of age. There will be two versions of this game, only one of which will count for your earnings today. You must choose the same household as recipient in both games and you cannot choose your own household.

3.) (AC game) In one version, we will not tell Player 2's household that you chose them and we will make it difficult for them to figure out your identity. That person will never know that you were the one who sent the money. They may be happy to receive a lot of money, or sad to receive a little or no money, but they have no way of figuring out that the money came from you. Even if you go to them afterwards and tell them that you chose them and sent them money, they may not believe you. You will not know the exact amount they receive because we add an additional contribution, X, to the amount sent and also because they will receive all their earnings together at the same time, including the additional contribution X, which we alone know. They will not know who sent which part or if they were chosen by a Player 1 or the lottery.

4.) (RC game) In the other version, we will tell Player 2's household that you chose them to send money to and you will both know the roll of the dice. The household members may be angry with you if you send little or no money or thank you if you send a lot.

After all of you play all four versions, I will gather you here again and toss a coin in front of you. This is to decide which of the last two games is converted into cash. If the coin lands on heads, the Player 2 households chosen will know who chose them. I will go to their house to give them the

money, explain the rules of the game to them, and tell them that you chose them and how much money you sent them. If the coin lands on tails, the Player 2 household chosen will not know who sent them the money. We will not tell them that the money came from you, and they will not be able to find out. Remember that you decide how much you want to send when you choose the household and they know that the money comes from you, as well as when they do not find out where the money comes from. However, only one of these two versions will count for money in this RT, depending on the toss of a coin. I will toss the coin in front of you after you have all played.

We now are going to talk personally with each of you one-on-one to play the game. You will play with either [Investigator 1] or [Investigator 2] in private. We will explain the game again and ask you to demonstrate your understanding with a couple of examples. You will play the game with real money. Please do not speak about the game while you are waiting to play. You can talk about soccer, the weather, medicinal herbs, or anything else other than the games. You also have to stay here together; you cannot go off in small groups to talk quietly. Remember, if anyone speaks about the game, we will have to stop playing.

Dialogue for the game

Suppose that Player 1 chooses to send Rp 24,000 to Player 2. In this case, how much would Player 1 take home? [Rp 26,000] How much would Player 2 receive? [Rp 48,000] If the dice falls on 3, what would the additional contribution be? [Rp 15,000] Then, how much would Player 2 receive in total? [Rp 63,000] If the dice falls on 1, what would the additional contribution be? [Rp 5,000] Then, how much would Player 2 receive in total? [Rp 53,000].

[The order of playing these games is chosen randomly for each player.]

Here I give you four small stacks of Rp 50,000 each worth a total of Rp 200,000.

Now we will play the game in which neither you nor Player 2 know each other's identity. They may be happy to receive a lot of money but cannot thank you, or they may be sad to receive only a little or no money but they cannot get angry with you. This is because they are never going to know that this money came from you or that you decided to send no money.

Now, take one of the stacks of Rp 50,000. Please give me the amount you want me to give to Player 2's household; or if you do not want to give anything, then do not hand me anything. I will double any money you give me, add the additional contribution, and give it to a randomly chosen household in your village.

Now we will play the game in which you and Player 2 will know each other's identity after the

end of the games today. They may be happy to receive a lot of money and will be able to thank you, or they may be sad if they receive little or no money and may get angry with you. This is because they will know that the money was sent by you or that you decided to send no money.

Now, take one of the stacks of Rp 50,000. Please give me the amount you want me to give to Player 2's household; or if you do not want to give anything, then do not hand me anything. I will double any money you give me, add the additional contribution, give it to a randomly chosen household in your village, inform them of the rules of the game, and explain how much you sent and that you sent it without knowing to whom you were sending.

In the next two games, you choose the household to which you want to send money. Now, tell me which household you want to send money to.

Now we will play the game in which the recipient household is not going to know that you chose them. Take one of the stacks of Rp 50,000. Please give me the amount you want me to give to [*name*]; or if you do not want to give anything, then do not hand me anything. I will double any money you give me and add the additional contribution. The recipient is not going to be able to figure out who chose them. They may be happy to receive a lot of money, or sad to receive only a little or no money, but they have no way of figuring out that the money came from you or that you decided to send no money. Even if you tell them that you chose them and sent them money, they may not believe you. You will not know the exact amount they receive because we add the additional contribution to the amount sent and also because they will receive all their earnings together at the same time. They will not know who sent which part or if they were chosen by a Player 1 or the lottery.

Now we will play the game in which the recipient household will know that you chose them. Take one of the stacks of Rp 50,000. Please give me the amount you want me to give [*name*]; or if you do not want to give anything, then do not hand me anything. I will double any money you give me, add the additional contribution, give it to Player 2's household, tell them the rules of the game, and explain that you chose them and how much you sent. They may be angry with you if you send little or no money, or thank you if you send a lot.

Now you must wait while the rest of the players make their decisions.

After all Player 1s finish all games, please gather here again. We will toss a coin in front of all of you and after that give you your payment.

Remember that you cannot talk about the game while you are waiting to be paid. Before leaving, please go outside to chat a bit with the enumerator named Ever.

The end

[After all participants have made their decisions, talk to them as a group one last time.]

Now I will flip a coin. *[If heads:]* The coin landed on heads, which means that the Player 2 households chosen will know who chose them and how much money they sent. *[If tails:]* The coin landed on tails, which means that the Player 2 households chosen will not discover who sent them money. Now I will speak with you one at a time for the last time to give you your winnings and to tell you who was drawn in the lottery to receive money from you in the revealed version of the game.

[Call players in one at a time.] In the anonymous game, you kept [Rp *X*]. In the game in which you will discover who you sent the money to, you kept [Rp *Y*] and [*name*] will receive [Rp *M*] since their name was chosen in the lottery. In the game in which you chose your partner, [*if the coin landed on heads*] its members will know who sent the money or [*if the coin landed on tails*] its members will not find out who sent the money; you keep [Rp *Z*] and [*if the coin landed on heads*] Player 2 will receive [Rp *M*].

[If received money in the anonymous game or chosen game:] You also received [Rp *G*] from an anonymous Player 1. [*If received in revealed game*] You also received [Rp *H*] from a Player 1 who did not know he or she was playing with you; his or her name is [*name each*] and he or she sent you this amount [*M*], which was doubled, and then the dice landed on [*D*]. [*If received in chosen revealed game*] You also received [Rp *J*] in total from a Player 1 who chose you; his or her name is [*name each*] and he or she sent you this amount [*M*], which was doubled, and then the dice landed on [*D*].

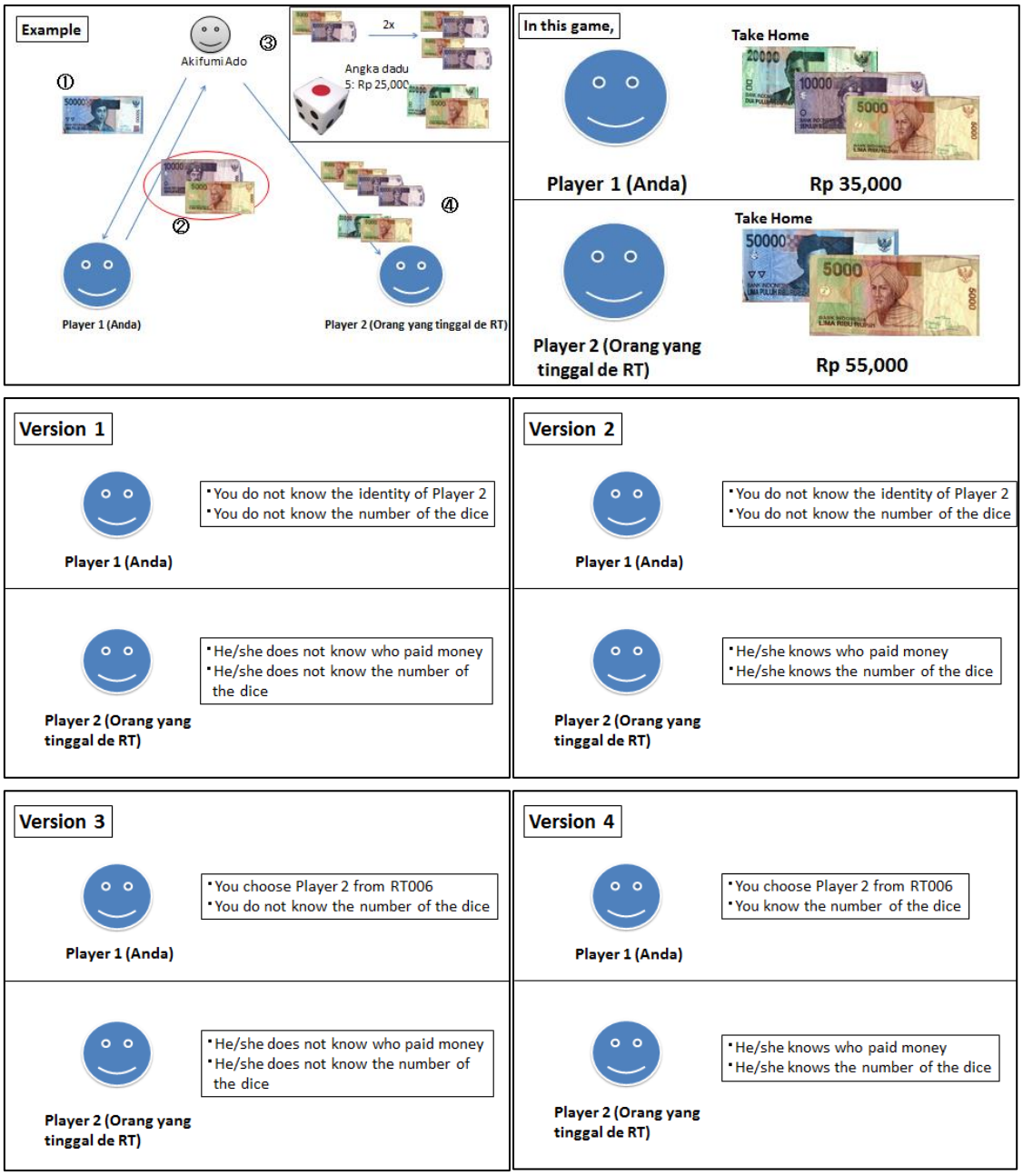
That means you have won a total of [Rp $X+Y+Z+G+H+J$].

Thank you for playing with us here today. The game is now over.

After we finish handing out the money here, we will go to the households of the appropriate Player 2s to give them their winnings.

I ask you to allow us to conduct a simple survey with you over 4–8 September. Would you let us know when you are free? The survey will last about two hours.

Appendix Figure A1. Handouts Used in the Experiments



Appendix Table B1. Characteristics of Sample Households

	(1) All sample households	(2) Subset of households to which the dictator belongs	*p* -value for the null that the mean is the same
Number of observations (*N*)	112	39	
Demographic characteristics			
Head's age (years)	44.22	42.13	*0.18*
Number of household members	4.18	4.31	*0.53*
% of adult males	35.47	35.12	*0.22*
% of those under the age of 20	38.06	40.72	*0.04*
% of those in the working age (20 to 65)	59.78	58.08	*0.96*
% of those above the age of 65	2.15	1.20	*0.60*
Religion			
% of Muslims	83.12	85.12	*0.74*
% of Buddhists	12.61	11.90	*0.91*
% of Christians	4.27	2.98	*0.72*
Ethnicity	50.00	44.05	
% of Jawa			*0.78*
% of Sunda	14.10	8.33	*0.06*
% of Betawi	28.21	38.69	*0.24*
% of others	7.70	9.00	*0.77*
Education status of household members			
% of elementary level	28.40	25.68	*0.33*
% of junior high school	22.72	26.35	*0.18*
% of high school	40.99	43.24	*0.28*
% of university and more	7.90	3.38	*0.05*
Housing conditions			
% of living in a rented housed	48.42	53.85	*0.05*
Area of the housing (square meters)	60.62	54.49	*0.30*
Number of rooms	3.71	3.31	*0.08*
Occupation and income			
% of white collar jobs in the formal sector	20.00	18.18	*0.89*
% of blue collar jobs in the formal sector	35.61	32.47	*0.34*
% of informal sector jobs	44.39	49.35	*0.31*
Average income per month (1,000 Rp.)	2764.26	2556.09	*0.38*
Previous experience of financial activities			
% with bank borrowing	25.00	15.38	*0.07*
% with borrowing from Simpang Pinjam	16.07	12.82	*0.74*
% with borrowing from friends/acquaintance	40.18	41.03	*0.90*
% with borrowing from Arisan	7.14	12.82	*0.23*
% with insurance	12.50	5.13	*0.05*
% who attends Arisan	44.64	38.46	*0.47*
% of Bantuan Langsung Tunai (BLT) recipients	9.82	20.51	*0.02*

Note: The last column tests the null hypothesis that the mean of the subset of households to which the dictator belongs (n =39) is the same as the mean of the rest of households (n =73) allowing different variance.

Appendix Table B2. Characteristics of Dictators

Number of observations	39
Demographic characteristics	
Age (years)	34.23
% of males	17.95
Religion	
% of Muslims	87.18
% of Buddhists	10.26
% of Christians	2.56
Ethnicity	
% of Jawa	41.03
% of Sunda	10.26
% of Betawi	38.46
% of others	10.30
Education status	
% of elementary level	20.51
% of junior high school	23.08
% of high school	51.28
% of university and more	5.13

Appendix Table B3. Definition and Summary Statistics of Variables Used in Regression Analysis

Category	Variable name	Definition	Mean	Std. Dev.	Min	Max
Actual sharing behavior (in the last 1 year)						
Gifts given	*Given dummy, large*	Whether the dictator household gave something more than Rp 100,000 to someone live in the RT (Yes=1, No=0)	0.154	0.361	0	1
	Given dummy, small	Whether the dictator household gave something more than Rp 20,000 to someone live in the RT (Yes=1, No=0)	0.231	0.421	0	1
	Given amount	Total amount the dictator hh gave something to someone live in the RT (Rp 1,000)	82.28	133.36	0	750
Gifts received	*Received dummy, large*	Whether the dictator household received something more than Rp 100,000 to someone live in the RT (Yes=1, No=0)	0.128	0.334	0	1
	Received dummy, small	Whether the dictator household received something more than Rp 20,000 to someone live in the RT (Yes=1, No=0)	0.077	0.266	0	1
	Received amount	Total amount the dictator household received something from someone live in the RT (Rp 1,000)	73.15	99.48	0	500
Credit given	*Lent dummy, large*	Whether the dictator household lent something more than Rp 100,000 to someone live in the RT (Yes=1, No=0)	0.154	0.361	0	1
	Lent dummy, small	Whether the dictator household lent something more than Rp 20,000 to someone live in the RT (Yes=1, No=0)	0.051	0.221	0	1
	Lent amount	Total amount the dictator hh lent something to someone live in the RT (Rp 1,000)	102.82	233.97	0	1400
Credit received	*Borrowed dummy, large*	Whether the dictator household borrowed something more than Rp 100,000 to someone live in the RT (Yes=1, No=0)	0.256	0.437	0	1
	Borrowed dummy, small	Whether the dictator household borrowed something more than Rp 20,000 to someone live in the RT (Yes=1, No=0)	0.026	0.158	0	1
	Borrowed amount	Total amount the dictator household borrowed something from someone live in the RT (Rp 1,000)	195.13	379.29	0	2100
Dictator's characteristics						
Demo-graphic	*Number of household members*	Number of household members (number)	4.308	1.453	2	9
	Number of adult males	Number of adult males elder than 18 years in the household (number)	1.487	0.843	1	5
	Dictator male dummy	Whether the dictator is a male (Yes=1, No=0)	0.179	0.384	0	1
	Dictator age	Dictator's age (years)	34.231	10.944	17	67
	Muslim dummy	Whether the dictator is a Muslim (Yes=1, No=0)	0.872	0.334	0	1
	Residing years	How long the dictator stays in the survey area (years)	24.308	15.198	0	52
Job	*Informal sector*	Whether the dictator works in the informal sector (Yes=1, No=0)	0.641	0.480	0	1
	ln income	log (total income in the dictator household in the last year)	14.592	0.711	13.202	16.258
	Bonus dummy	Total bonus received by the dictator household in the last year (Rp 1,000)	96.21	180.11	0	1041.67
House	*Monthly rent*	Monthly rent paid for the housing (Rp 1,000)	176.13	257.77	0	850
Financial activities	*Bank borrowing dummy*	Whether the dictator hh has borrowed money from the bank in the past (Yes=1, No=0)	0.154	0.361	0	1
	Simpang Pinjam borrowing dummy	Whether the dictator hh has borrowed from Simpang Pinjam in the past (Yes=1, No=0)	0.128	0.334	0	1
	Arisan borrowing dummy	Whether the dictator hh has borrowed money from Arisan in the past (Yes=1, No=0)	0.128	0.334	0	1
	Insurance dummy	Whether the dictator hh has purchased insurance in the past (Yes=1, No=0)	0.051	0.221	0	1
	BLT receiving dummy	Whether the dictator household has received BLT (Yes=1, No=0)	0.205	0.404	0	1
Network	*OR degree 12*	The number of households the dictator talks "very often" and "often" in the past 1 month	21.03	17.67	0	68
	OR degree 14	The number of households the dictator talks at least onece in the past 1 month	51.79	33.07	0	107
Communit	*Arisan*	Whether the dictator household members join in Arisan (Yes=1, No=0)	0.385	0.487	0	1
	Karan Tarna	Whether the dictator household members join in Karan Tarna (Yes=1, No=0)	0.231	0.421	0	1