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Property Rights and Fairness: A Tale of Two Koreas

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Highlights

- We study the impact of institutions and cultures on preferences for giving.
- Native-born South Koreans are compared with North Korean refugees in lab experiments.
- Subjects play dictator games under three different treatments: unearned, earned and pooled treatments.
- North Korean refugees showed different preferences regarding extensive and intensive margins of giving, relative to native-born South Koreans.
- Our results corroborate the notion that institutions and cultures matter in shaping social norms about distributive fairness.

Abstract

We compare two groups of non-student Korean population—native-born South Koreans (SK) and North Korean refugees (NK)—with contrasting institutional and cultural backgrounds. In our experiment, subjects play dictator games under three different treatments where the source of the income is varied: firstly, the income is exogenously given to the subject; secondly, earned by the subject's own effort; thirdly, individually earned by the subject and an anonymous partner and then pooled together. We find that preferences for giving depend on the income source in different ways for the SK and NK subjects. The SK subjects become more selfish when an income is individually earned than when it is given exogenously. However, the NK subjects are not responsive to the earned income treatment but behave more pro-socially when individually earned incomes are pooled. The pro-sociality of NK subjects is related to life experiences in North Korea. Our results corroborate the notion that institutions and cultures matter in shaping social norms about distributive fairness.

JEL Classification: C92, C93, D03, P20.

Keywords: Selfish Behavior; Institutions; Division of Korea; Dictator Game; Earnings.

1 Introduction

Institutional arrangements of property rights and incentives, which put binding restrictions to human behavior, vary widely across nations and are a key to economic development and the prosperity of a nation (e.g., Acemoglu and Robinson (2012)). They also influence the evolution of social values and norms that are pervasive in a society (e.g. Tabellini (2008) and Bowles (1998)).

How can we assess the role of property rights in shaping social preferences? One popular method used in lab experiments is to compare giving behavior in dictator games between the baseline that the initial endowment is given by luck (unearned income) and the case that it is legitimized with efforts (earned income). The consensus in the literature is that the subjects in the dictator games behave in a more self-interested manner in the earned income case. See, for example, see Cherry, Frykblom, and Shogren (2002), List and Cherry (2008), and Oxoby and Spraggon (2008) among others. These experimental results are consistent with the notion that the property rights are important in shaping social preferences. More generally, researchers have designed a variety of dictator games and experimented them in different settings. For example, List (2007) shows that in a modified dictator game, many fewer subjects are willing to transfer money when the action set includes taking. His results point to the importance of the rules of a game and broadly that of institutions. Fershtman, Gneezy, and List (2012) consider different variants of dictator games and find a preference for selfishness when competition over resources is added to the dictator game. All these experimental results suggest that economic institutions matter in other-regarding preferences. However, there are intrinsic limitations of extrapolating these experimental results. Above all, all the subjects in the aforementioned papers are recruited from the undergraduate student body at universities in the US and Canada.

In this paper, we start with the following research question: to what extent are the findings in the literature true for individuals who experienced different economic and political institutions in their lives? The purpose of this paper is to address this question by lab experiments using a sample that consists of native-born South Koreans and North Korean

refugees. The sample of North Korean refugees is unique in that they were born in North Korea and spent a significant part of their earlier life in a society that is based on the dictatorship and a centrally planned economy. If economic institutions such as the property rights are important in determining the giving behavior in the dictator games, as suggested by the earned income treatment in the literature, it is expected that the North Korean refugees may behave differently in comparison with undergraduate students from more advanced countries. To explore this possibility in a lab experiment, we recruit North Korean refugees as well as native-born South Koreans (each group being a representative sample from its respective non-student population) and conduct lab experiments by varying the sources of the initial endowment in the dictator games.

In our experiments, the subjects consists of 161 North Korean refugees (whom we call NK subjects) and 161 native-born South Koreans (SK subjects) and they do not know the group identity of participants. There were three treatments: unearned, earned, and pooled income treatments. The first two are standard in the literature. In the unearned income treatment, the initial endowment is exogenously given to the subjects by the experiment; while, in the earned income treatment, the subjects earn the initial endowment by taking the Raven progressive matrices test prior to playing the dictator game. The third treatment, which we call the *pooled income* treatment, is new in the literature. In this treatment, each subject takes the Raven test to earn her individual endowment; after that, she is informed that she be matched to a partner to pool the endowments of both parties. The randomly chosen dictator then allocates the pooled income to his or her partner.

The underlying hypotheses are as follows: first, the NK subjects may not differentiate the earned and unearned incomes in the same way as undergraduates in more advanced countries because they grew up in a communist society, and as a consequence, may not possess the same notion of the property rights as do native-born citizens in a capitalist market economy; second, the NK subjects may behave differently, depending on whether the income is earned by *sole* efforts or by *joint* efforts, since they are from a society that is totalitarian and uses comradeship as propaganda.

We contribute to the literature that uses dictator games to see the importance of insti-

tutions and cultures in shaping social preferences. For example, Jakiela (2011, 2015) shows that the effects of institutional components of the dictator games such as the status of the dictator or the earned income differ substantially between the sample of the US student body and that of rural villagers in Kenya. She contributes the differential experimental results to differences in cultures. As a related study, Jakiela, Miguel, and Velde (2015) find that higher academic achievement shifts young Kenyan women toward a 50-50 split norm in a modified dictator game.[1] Our subjects are different in many ways from those in Kenya. In particular, the NK subjects provide a unique opportunity to examine the role of different sources of the initial endowment in the dictator games. Just as the setting in Kenya provides an exemplary case for investigating the external validation for those in less advanced countries, our setting presents an ideal environment for studying the giving behavior of those who may possess a different notion of the property rights.

More broadly, our paper is related to the literature studying the effect of the property rights. A number of historical and empirical studies have shown that property rights and supporting legal system have played a crucial role for economic growth through the development of financial markets, investment, innovation and efficient resource allocation. See, for example, North and Thomas (1970), Barro (1996), Acemoglu and Johnson (2005) and Shiue and Keller (2007) among others. Di Tella, Galiani, and Schargrodsky (2007) exploit a natural experiment that induced an allocation of property rights in a squatter settlement in the outskirts of Buenos Aires. They find that squatters with legal titles report beliefs favoring a free market. Bubb (2013) investigates the factors that affect the evolution of property rights institutions using a regression discontinuity design at the international border in Africa.

This paper also contributes to the recent emerging literature that combines traditional lab experiments with historical contexts. For example, Callen, Isaqzadeh, Long, and Sprenger (2014) conduct experiments on a sample of Afghanistan civilians to investigate the relationship between violence and economic risk preferences. In our previous work (Kim, Choi, Lee, Lee, and Choi, 2017), we find that the North Korean refugees behave very differently from

[1] Jakiela and Ozier (2016) design a lab experiment to study the economic impacts of social pressure to share income with kin and neighbours in rural Kenyan villages.

South Korean students in the dictator games with unearned incomes. In this paper, we show that they behave differently compared to non-student native-born Koreans when the source of the income is exogenously varied.

Our experimental results yield a few noteworthy findings. On one hand, we find that native-born South Koreans give nothing to anonymous partners by 16 percentage points more on average in the earned income treatment than in the unearned income treatment, while the earned income treatment does not influence North Koreans refugees' behavior significantly. Therefore, the results in the earned income treatment suggest that the NK subjects own a different notion of the property rights in comparison to the SK subjects whose average behavior corroborates the findings in the literature.

On the other hand, North Korean refugees make zero offers by 20 percentage points less on average within the unearned income treatment when the randomized endowment decreases from 90K South Korean Won (KRW) to 30K KRW; whereas differential endowments do not affect South Koreans significantly. This indicates that the SK and NK subjects have different endowment effects on the extensive margin of giving behavior.

Furthermore, North Korean refugees give larger share in the pooled income treatment than in the unearned income treatment, regardless of the endowment level in the unearned income treatment. This provides another piece of evidence that the NK subjects' average behavior is difficult to explain using the simple logic of the earned property rights.

We interpret that our experimental results point to the importance of economic institutions as well as the prevalence of individual heterogeneity regarding social preferences. Regarding the individual heterogeneity in dictator games, see Cappelen, Hole, Sørensen, and Tungodden (2007) and Fisman, Jakiela, Kariv, and Markovits (2015), for example. Cappelen, Hole, Sørensen, and Tungodden (2007) study a dictator game in which the distribution phase is preceded by a production phase. They find that the experimental subjects consist of several groups of individuals who are motivated by different fairness ideals. Fisman, Jakiela, Kariv, and Markovits (2015) find sharp differences in distributional preferences between subjects of varying degrees of eliteness. They report among other things that Yale Law School subjects are less fair-minded and more efficiency-focused than relatively less elite

subjects.

The remainder of the paper is organized as follows. Section 2 describes the experimental design and Section 3 provides descriptive statistics of the baseline variables and checks the balance across the treatments. Section 4 presents main experimental results and Section 5 investigates treatment effect heterogeneity. Section 6 concludes and Appendix A contains additional experimental results that are not included in the main text. Online Appendices contain detailed experimental instructions in both Korean and English.

2 Experimental Design

2.1 Preliminaries

All subjects in our experiment played dictator games. We presented a subject with a series of budget sets with varying prices for payoffs between self and other, given a level of income m:

$$\pi_0 + p\pi_1 = m,$$

where the relative price of giving (p) was 1/3, 1/2, 1, 2, or 3. The money allocation between *self*, denoted by π_0, and *other*, denoted by π_1, must satisfy this budget constraint. In order to facilitate their decision makings with the five different prices, subjects were allowed to transfer the multiples of 10% of the income m in each decision problem and the allocation decision was computerized.

2.2 Treatments

There were three treatments by exogenously varying the source of income (m). In the baseline treatment (the *unearned income treatment* hereafter), the income was exogenously given to subjects by the experiment. The amount of income was either 30K, 60K, or 90K in KRW. One of them was equally likely chosen and assigned to each subject. Given a randomly chosen income level, the subject played dictator games as described above.

In the second treatment, prior to playing a dictator game, subjects took the standard Raven progressive matrices test in 20 minutes.[2] If he or she solved less than 24 problems correctly [between 24 and 30; more than 30, respectively], the subject earned 30K [60K; 90K, respectively]. The information about earnings was announced publicly before subjects started the test. Once they finished the test, they were informed of their earnings. In the stage of solving the Raven test, subjects were informed of the existence of the next stage in which they would take part in a decision-making experiment with earned income but not informed of the detail of that experiment. Subjects then were asked to play the dictator games with their earned income. We call the second treatment the dictator game with individually earned income (the *earned income treatment* hereafter).

In the third treatment, subjects took the Raven test in 20 minutes as in the previous treatment. Subjects were told that they would earn 15K [45K, respectively] if the number of correct answers was less than 27 [at least as many as 27, respectively]. Each subject was also informed that his or her partner matched in the next stage engage in the same task and thus that the total sum of the money earned by him-/herself and his or her partner was either 30K or 60K if the subject earned 15K, or either 60K or 90K if the subject earned 45K. After they observed their individual earnings, subjects moved on and played dictator games with the total sum of incomes. Because subjects did not know how much their partner earned, they made the allocation decisions in each of the two cases where their partner earned 15K or 45K. We call the third treatment the dictator game with individually earned income being pooled together (the *pooled income treatment* hereafter). The experimental design is summarized in Table 1.

In determining subjects' payoffs, we use the following matching. Subjects in the baseline treatment were randomly matched with those in the treatment with individually earned income. For the treatment with the pooled income, subjects were randomly matched with their partners within that treatment. Because the number of participants was the same

[2]The standard Raven progressive matrices test contains five different sets (from set A to set E), each of which includes 12 questions. Questions become increasingly difficult, requiring higher level of cognitive capacity to analyze information and recognize patterns of diagrams. We use 36 questions from sets C, D, and E.

Table 1: Experimental design

Treatment	Own income	Other income	Source of income
Unearned×30K	30K		Random
Unearned×60K	60K		Random
Unearned×90K	90K		Random
Earned×30K	30K		Score $<$ 24
Earned×60K	60K		24 $\leq$ Score $<$ 30
Earned×90K	90K		Score $\geq$ 30
Pooled×30K	15K	15K	Both: Score $<$ 27
Pooled×60K(Self:15K)	15K	45K	Self: Score $<$ 27 & Other: Score $\geq$ 27
Pooled×60K(Self:45K)	45K	15K	Self: Score $\geq$ 27 & Other: Score $<$ 27
Pooled×90K	45K	45K	Both: Score $\geq$ 27

Notes: The treatments "Earned", "Pooled" and "Unearned" refer to the earned income, pooled income and unearned income treatments, respectively. The variable "Unearned×30K" refers to the unearned income treatment with earnings of 30K (in KRW) and other variables are defined similarly. In the earned income and pooled income treatments, prior to playing a dictator game, subjects take 36 questions from the standard Raven progressive matrices test in 20 minutes. "Score $<$ 24" indicates that the correct answer is greater than 24 questions and other expressions are understood analogously.

between NK and SK, each NK or SK subject faced equally likely a partner from their in-group or out-group. The information on the matching algorithm was publicly announced during the experiment. Specifically, the subjects were informed that they would be matched with an NK or SK subject with 50-50 percentages.

2.3 Procedures and Recruitment

The experiments were conducted in collaboration with a branch of a leading global survey company in Seoul, South Korea. The company has had ample experiences of conducting surveys with a representative sample of native-born South Koreans and with NK refugees in South Korea, prior to our study. We use the stratified sampling method in terms of socio-

demographic information in order to recruit SK and NK subjects as representative as their own populations.

Table 2: Information on experiments

Session number	Treatment	Session date and time	Number of Participants
Native-Born South Koreans			SK Total: 161
1	Earned	May 24 at 11:00	28
2	Earned	May 24 at 15:00	26
3	Pooled	May 26 at 14:00	26
4	Pooled	May 26 at 19:30	27
5	Unearned	May 30 at 14:00	27
6	Unearned	May 30 at 19:30	27
North Korean Refugees			NK Total: 161
7	Earned	May 27 at 14:00	34
8	Earned	May 27 at 19:30	23
9	Pooled	May 28 at 14:00	39
10	Pooled	May 28 at 19:30	13
11	Unearned	May 29 at 14:00	31
12	Unearned	May 29 at 19:30	21

Notes: The treatments "Earned", "Pooled" and "Unearned" refer to the earned income, pooled income and unearned income treatments, respectively. The number of total participants is 322.

We conducted the experiments in 12 sessions over 6 days, two sessions per day, in late May 2014. Table 2 presents information on sessions and treatments as well as the number of participants in a given session. In total, 322 subjects took part in our study with the half of them being NK and SK subjects, respectively. The randomization was carried out at the session level.

3 Baseline Variables and Randomization

This section provides descriptive statistics of the baseline variables and checks the balance across the treatments.

3.1 Comparison between NK and SK Subjects

Table 3 presents the summary statistics of subjects' individual and household characteristics. It is not suprising that the NK and SK subjects are substantially different in almost all regards. Among the NK subjects, there are more females. This reflects the fact that the percentage of females in the population of the NK refugees is about 70%. The NK subjects are younger on average by about 2 years. They are much less likely to be married, their average household size is bit smaller and also the average number of children is smaller.

Table 3: Summary Statistics

	SK		NK			
	Mean	SD	Mean	SD	p-value	Sample size
Male*	.491	.501	.286	.453	.000144	322
Age	42.9	11.8	40.6	12.1	.0835	322
Married*	.689	.464	.373	.485	5.73e-09	322
Post-secondary education*	.82	.385	.236	.426	6.32e-31	322
Household size	3.25	1.12	3.09	2.58	.485	322
Number of children	.957	.918	.621	.821	.000622	322
Household income	523	262	150	134	4.70e-40	304
Household expenditure	423	231	122	94.3	2.47e-38	308
Working*	.602	.491	.416	.494	.000777	322
Middle or upper class (subjective)*	.64	.482	.13	.338	4.89e-24	322
Stock market participation*	.565	.497	.0807	.273	1.66e-23	322
Saving, fund, or insurance*	.845	.363	.478	.501	5.84e-13	322
Risk aversion	40.8	20.5	36.7	32.6	.183	322
Protestant*	.242	.43	.677	.469	2.18e-16	322
Atheist*	.472	.501	.267	.444	.000124	322
Health Status*	.596	.492	.28	.45	4.62e-09	322
Stressed*	.398	.491	.447	.499	.368	322
Discrimination*	.0683	.152	.142	.233	.000926	322

Notes: The table shows the mean and standard deviation of each variable for native-born South Koreans (SK) and North Korean refugees (NK) separately. The p-value for testing the equality between two means is shown in the second last column. Household income and expenditure are monthly and their units are 10,000 KRW. The variables with $*$ are binary indicator variables. The risk aversion variable is measured by asking the minimum probability (in percentage) of precipitation for carrying an umbrella.

There is a significant gap in education. It is difficult to compare education because the education system is completely different between NK and SK. But according to the South Korean government (the Ministry of Unification), higher education in NK is equivalent to 2- or 4-year college/university education in SK. Based on this standard, about 80% of SK subjects are higher educated while only about 24% of NK subjects are higher educated.

Household economic and financial conditions are very different. The average monthly household income is about 5,200K KRW for SK, whereas that of NK is 1,500K KRW, less than 30% of SK average income.[3] The average monthly expenditure is also significantly higher for SK. About 64% of SK subjects believe that their households are middle or upper classes while the percentage is only 13% for NK. About 60% of SK subjects are currently working, while only 42% of NK subjects are working. Only 8.1% of the NK subjects have trade stocks, while 57% of the SK subjects experiences the stock market. 85% of the SK subjects hold some sorts of financial assets (savings, funds, or insurance), while 48% of the NK subjects do so.

We also try to measure risk aversion by asking the minimum probability of precipitation for carrying an umbrella. We intentionally chose this question because the concept of risk could be somewhat different between the NK and SK subjects. According to this measure, NK subjects are a bit more risk averse; however, the difference is statistically insignificant.

A majority of the NK subjects (68%) are Protestants and only 27% of them have no religion. The omitted category here is other religions. It is because in South Korea, many NGOs for NK refugees' settlement are based on churches. In terms of subject health measure, NK subjects are less healthy; 28% of them responded that they have good or above average health status, while 60% of the SK subjects responded so. Lastly, NK subjects are more likely to be emotionally stressed and to feel discriminated. The former is not statistically significant.

[3]According to the National Statistical Office's Household Income and Expenditure Survey 2014, the average monthly household income is 4,300K KRW. The average income of our sample is a bit higher, probably because our sample includes only households in Seoul and Kyung-ki province, which are more affluent than the other areas.

3.2 Randomization across Treatments

Table 4: Summary Statistics by Treatment: Native-Born South Koreans (SK)

	Unearned		Earned		Pooled			
	Mean	SD	Mean	SD	Mean	SD	p-value	n
Male	.463	.503	.5	.505	.509	.505	.88	161
Age	42.2	12.1	42.9	11.7	43.6	11.7	.837	161
Married	.667	.476	.722	.452	.679	.471	.811	161
Post-secondary education	.796	.407	.852	.359	.811	.395	.743	161
Household size	3.41	1.14	3.19	1.1	3.15	1.13	.441	161
Number of children	.926	.908	.926	.908	1.02	.951	.835	161
Household income	533	293	548	268	487	222	.458	158
Household expenditure	379	204	476	256	411	224	.0993	153
Working	.556	.502	.63	.487	.623	.489	.691	161
Middle or upper class	.685	.469	.648	.482	.585	.497	.556	161
Stock market participation	.593	.496	.519	.504	.585	.497	.699	161
Saving, fund, or insurance	.852	.359	.815	.392	.868	.342	.742	161
Risk aversion	37	22.1	44.2	17.8	41.1	20.9	.189	161
Protestant	.278	.452	.204	.407	.245	.434	.671	161
Atheist	.407	.496	.593	.496	.415	.497	.0942	161
Health Status	.556	.502	.63	.487	.604	.494	.732	161
Stressed	.463	.503	.407	.496	.321	.471	.322	161
Discrimination	.0778	.188	.0704	.141	.0566	.12	.768	161

Notes: The table shows the mean and standard deviation of each variable by treatment. The p-value for testing the equality of means across treatments is shown in the second last column. The sample size (n) is given in the last column.

In Tables 4 and 5, we compare subjects' characteristics across three treatment groups. We find that within the NK or SK subjects, there are little differences in both individual and household characteristics across different treatment groups. If we look at the p-values for testing the equality of means across treatments, none of the p-values are smaller than 0.05 and most of them are quite large. This indicates that the balance between treatment groups is achieved by the randomization. Since the SK and NK subjects are markedly different, as seen in Section 3.1, we will estimate the treatment effects separately for SK and NK and focus on average differences across treatments within the NK or SK subjects.

Table 6 presents summary statistics for the baseline variables that are specific to the NK

Table 5: Summary Statistics by Treatment: North Korean Refugees (NK)

	Unearned		Earned		Pooled			
	Mean	SD	Mean	SD	Mean	SD	p-value	n
Male	.288	.457	.298	.462	.269	.448	.945	161
Age	40.2	12.7	41.4	12.6	40	11.1	.802	161
Married	.365	.486	.368	.487	.385	.491	.977	161
Post-secondary education	.231	.425	.193	.398	.288	.457	.505	161
Household size	2.71	2.33	3.3	2.78	3.25	2.61	.433	161
Number of children	.558	.777	.632	.879	.673	.81	.77	161
Household income	125	81.7	144	145	180	161	.103	146
Household expenditure	105	70.9	118	106	143	99.4	.124	155
Working	.404	.495	.316	.469	.538	.503	.0611	161
Middle or upper class	.154	.364	.123	.331	.115	.323	.828	161
Stock market participation	.0385	.194	.0877	.285	.115	.323	.349	161
Saving, fund, or insurance	.519	.505	.368	.487	.558	.502	.111	161
Risk aversion	40.3	34.4	30.9	34.1	39.5	28.6	.247	161
Protestant	.654	.48	.737	.444	.635	.486	.48	161
Atheist	.269	.448	.246	.434	.288	.457	.881	161
Health Status	.231	.425	.298	.462	.308	.466	.637	161
Stressed	.423	.499	.474	.504	.442	.502	.868	161
Discrimination	.138	.236	.137	.23	.15	.237	.951	161

Notes: The table shows the mean and standard deviation of each variable by treatment. The p-value for testing the equality of means across treatments is shown in the second last column. The sample size (n) is given in the last column.

Table 6: Summary Statistics by Treatment: North Korean Refugees (NK)—NK Specific Variables

	All		Unearned		Earned		Pooled			
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	p-value	n
Years of stay in SK	6.91	3.47	6.85	3.44	7.04	3.64	6.83	3.36	.942	161
Age at SK arrival	33.7	12.2	33.4	12.8	34.4	13	33.2	10.9	.855	161
Months of stay at a third country	41	42.6	42.8	46.6	39.9	39.8	40.3	42.2	.932	161
Subjective assimilation to SK	.578	.495	.615	.491	.509	.504	.615	.491	.429	161
Reason for defection: Economic	.435	.497	.385	.491	.474	.504	.442	.502	.644	161
Reason for defection: Political	.28	.45	.288	.457	.281	.453	.269	.448	.977	161
Reason for defection: Family	.186	.391	.231	.425	.158	.368	.173	.382	.599	161
Years in NK	30	12.8	29.6	13.9	30.8	13.6	29.3	10.9	.804	161
Number of family members in NK	3.84	1.59	3.87	1.52	3.82	1.64	3.85	1.64	.991	161
Household income in NK (in 1000 PKW)	116	471	140	624	50.9	187	165	516	.467	137
Economic class in NK: high	.267	.444	.231	.425	.281	.453	.288	.457	.772	161
Economic class in NK: middle	.323	.469	.25	.437	.333	.476	.385	.491	.338	161
Economic class in NK: low	.41	.493	.519	.505	.386	.491	.327	.474	.125	161
Perceived private property holding	.288	.32	.336	.33	.234	.283	.3	.343	.243	161
Secondary job	.429	.496	.423	.499	.439	.501	.423	.499	.982	161
Communist party member	.174	.38	.154	.364	.158	.368	.212	.412	.688	161

Notes: The table shows the mean and standard deviation of each variable by treatment. The p-value for testing the equality of means across treatments is shown in the second last column. The sample size (n) is given in the last column.

subjects. The first two columns in Table 6 show the average and standard deviation of each variable. In our sample, the average NK subjects stayed in SK for 7 years and arrived in SK at the age of 34 by travelling through third countries such as China for 41 months. About 60% of them felt assimilated to SK and more than 40% of them defected because of economic reasons. They spent 30 years on average in NK. One year prior to defection, they had about 3.84 family members (including themselves) and their average montly household income in NK was 116,000 PKW (Korean People's Won—the official currency of North Korea). The subjective view about their economic class in NK is spread out from high to low, with a higher percentage of the low class. They are also asked about their belief about the proportion of neighbors who held private property (such as cash, foreign currencies, or assets) when they were in NK. About 30% held the private property according to this questionnaire. 43 % had a secondary job in NK and 17% were a communist party member. The second last column reports p-values for testing the null hypothesis that the means across three treatments are the same. None of the p-values are smaller than 0.1, suggesting that balance is also achieved in terms of the variables in Table 6.

4 Main Experimental Results

4.1 Raven Test Results

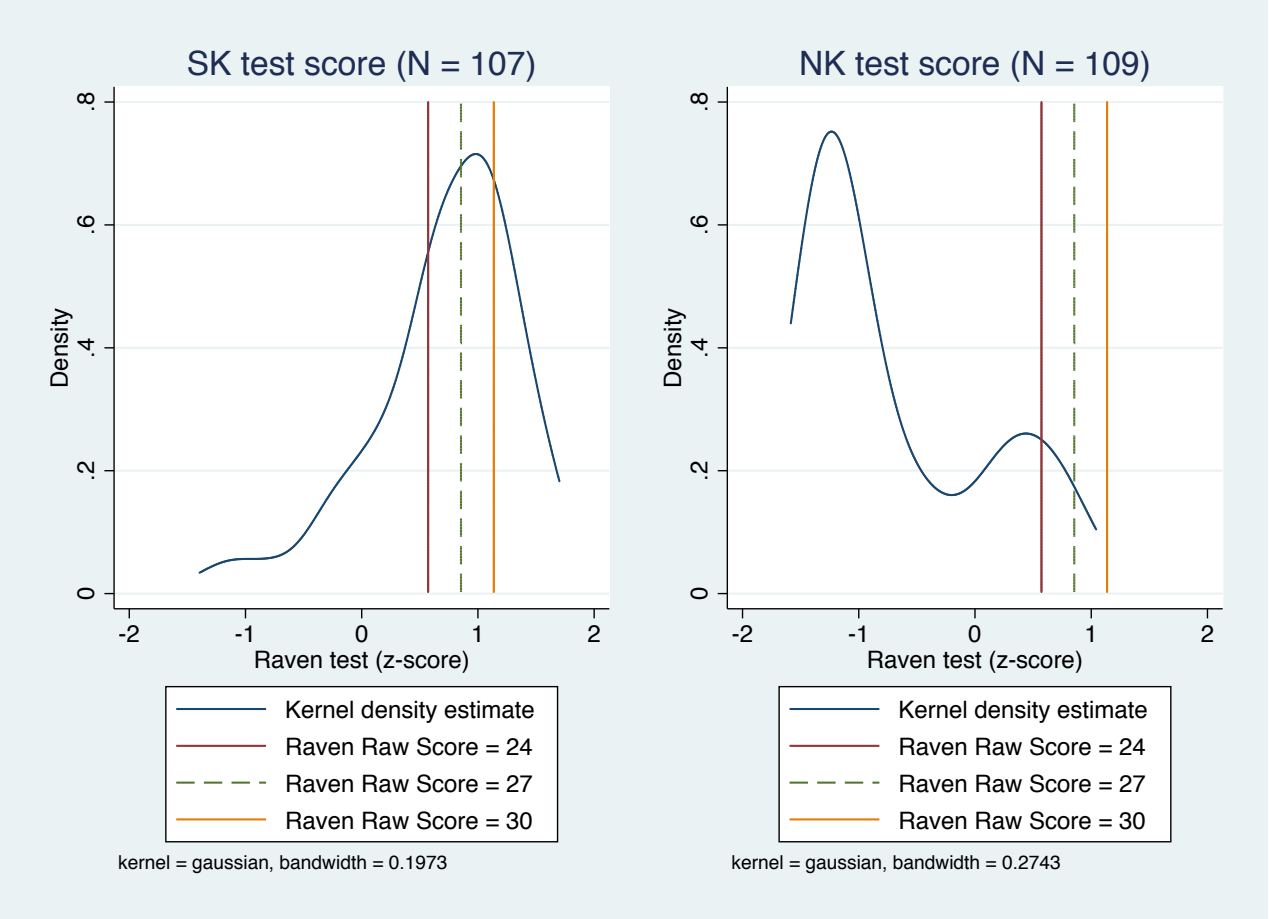
Subjects in the earned income and pooled income treatments took the Raven test and earned their income based on their performance on the test. Test results are presented in Table 7 and Figure 1. The results reveal that there exists an staggering gap between the NK and SK subjects in terms of cognitive ability. The average z-score of the SK subjects is 0.7, whereas the average score of the NK subjects is much lower—only -0.7. The highest z-score among the NK subjects is slightly above 1 (in terms of the raw score, this corresponds to 29 correct answers out of 40 questions).

The equality of the distributions between the SK and NK subjects is rejected at the 1% level (with the p-value of 0.000); however, the equality of the distributions between the

Table 7: Summary Statistics for Raven Test Z-Scores

	Mean	SD	Min	Max
SK	0.707	0.640	-1.405	1.701
NK	-0.694	0.779	-1.593	1.042
Total	-0.000	1.000	-1.593	1.701

Figure 1: Raven Test Results



Notes: The figures show kernel density estimates of Raven test z-scores for SK and NK, respectively. The total points of the raw score are 40. The subjects in the earned and pooled income treatments took the test. In the earned income treatment, the income is 30K if the number of correct answers is less than 24, 60K if it is 24-29, and 90K if it is 30 or more. In the pooled income treatment, the income is 15K if the number of correct answers is less than 27 and 45K if it is 27 or more. These threshold points are superimposed on the figures.

earned income and pooled income treatments is not rejected at any conventional level using the Kolmogorov-Smirnov test for both NK (with the p-value of 0.764) and SK (with the p-value of 0.124).

NK subjects' relatively very low performance on the Rave test resulted in skewed income distributions in both earned and pooled income treatments. All the NK subjects except three (94.7%) in the earned income treatment and also all the NK subjects except four (92.3%) in the pooled income treatment ended up with earning the lowest income. For SK subjects, the distribution is pretty well spread in both treatments. In the earned income treatment, 19 SK subjects (35.2%) earned 30K, 22 (40.7%) earned 60K and 13 (24.1%) earned 90K in the earned income treatment; in the pooled income treatment, 31 out of 53 (58.5%) subjects obtained scores of 27 or more, so that they belong to higher income categories. When the income is randomized in the unearned income treatment, the numbers of both SK and NK subjects across three income levels were more or less evenly distributed: (30K,60K,90K) = (17,21,16) for SK and (30K,60K,90K) = (17,19,16) for SK.

Even if the earned incomes are balanced, it would be difficult to interpret the differential impacts across different income levels as causal effects. This is because the subjects select into different income levels by their test scores. In other words, within the earned or pooled income treatment, the subjects are not ex ante identical across income levels since those who earn higher learnings might have higher cognitive abilities. However, this selection issue does not apply to the unearned income treatment since in that case, the different levels of incomes are assigned randomly. Therefore, in what follows, we focus on cases of three treatments (unearned, earned, and pooled) and five treatments: namely, unearned$\times$30K, unearned$\times$60K, unearned$\times$90K, earned, and pooled treatments.

4.2 Treatment Effects

For SK and NK separately, we estimate the treatment effects using the following simple regression:

$$Y_{ip} = \alpha_0 + \alpha_1 \text{Earned}_i + \alpha_2 \text{Pooled}_i + \rho \ln(p) + \varepsilon_{ip}, \tag{4.1}$$

or

$$\begin{aligned} Y_{ip} = {} & \beta_0 + \beta_1 (\text{Unearned}\times 30\text{K})_i + \beta_2 (\text{Unearned}\times 60\text{K})_i + \beta_3 \text{Earned}_i + \beta_4 \text{Pooled}_i \\ & + \rho \ln(p) + X_i \gamma + \varepsilon_{ip}, \end{aligned} \tag{4.2}$$

where the dependent variable, Y_{ip}, is the incidence of making a zero offer or the giving share of individual i when the relative price of giving is p, X_i consists of gender, age, and age squared, and ε_{ip} is the regression error term.

Note that the omitted reference group is Unearned_i in (4.1) and $(\text{Unearned}\times 90\text{K})_i$ in (4.2). Thus, the interpretation of α_1 is different from that of β_3. The former measures the effect of the earned income treatment relative to the aggregate unearned income treatment; whereas the latter represents the earned income effect with respect to the unearned income with the endowment of 90K. Two would be identical if there is no impact of the endowment level in the unearned income treatment; but otherwise they are different parameters of interest.

Each subject decides his or her giving share when $p = 1/3, 1/2, 1, 2$, or 3. Thus, there are five observations per individual subject in the unearned and earned income treatments and 10 observations per subject in the pooled income treatment since in this case, each subject was asked to make two decisions depending on the income of the anonymous partner for each price. To avoid giving more weights to the observations in the pooled income treatment, we run weighted regression with a one-half weight to each of the observations in the pooled income treatment. Finally, we cluster standard errors by individual subjects.

Table 8 presents estimation results when the dependent variable is one if a subject gives

Table 8: Regression analysis of making zero offers in the dictator game

Dependent variable = 1 if a subject gives nothing; 0 otherwise

	Native-Born South Koreans (SK)			North Korean Refugees (NK)		
Variables	(1)	(2)	(3)	(4)	(5)	(6)
Earned	0.1630***	0.1634**	0.1442*	-0.0262	0.0748*	0.0711
	(0.0534)	(0.0771)	(0.0772)	(0.0552)	(0.0444)	(0.0430)
Pooled	0.0333	0.0337	0.0180	-0.0904*	0.0106	0.0094
	(0.0421)	(0.0698)	(0.0714)	(0.0482)	(0.0354)	(0.0372)
log(Relative price)	0.0682***	0.0682***	0.0682***	0.0170**	0.0170**	0.0170**
	(0.0136)	(0.0137)	(0.0137)	(0.0082)	(0.0082)	(0.0082)
Unearned × 30K		0.0081	-0.0118		0.2213**	0.2073**
		(0.0732)	(0.0783)		(0.0994)	(0.1017)
Unearned × 60K		-0.0054	-0.0407		0.0783	0.0816
		(0.0668)	(0.0736)		(0.0709)	(0.0707)
Female			-0.0596			0.0313
			(0.0434)			(0.0424)
Age − 40			-0.0052**			0.0004
			(0.0020)			(0.0017)
$(\text{Age} - 40)^2/100$			-0.0089			0.0074
			(0.0135)			(0.0128)
Constant	0.0630**	0.0625	0.1394**	0.1385***	0.0375	0.0069
	(0.0246)	(0.0608)	(0.0637)	(0.0422)	(0.0265)	(0.0396)
Observations	1,070	1,070	1,070	1,065	1,065	1,065
R-squared	0.0723	0.0724	0.1178	0.0177	0.0467	0.0508

Notes: Robust standard errors, clustered by individual subject, are reported in parentheses. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. The omitted dummy variable is "Unearned" in columns (1) and (4), whereas it is "Unearned×90K" in columns (2)-(3) and (5)-(6).

nothing and zero otherwise. Columns (1)-(3) report results for the SK subjects, whereas columns (4)-(6) for the NK subjects. Specifically, columns (1) and (4) are the baseline specification in (4.1), columns (2) and (5) are the specification of five treatments in (4.2) without demographic controls, and columns (3) and (6) correspond to (4.2) with controlling for gender, age and age squared. The demographic variables are added such that the constant term can be interpreted as the estimated probability under the unearned×90K treatment for males with age 40, facing the unit price.

If we look at column (1), the SK subjects make zero offers significantly more by 16% percentage points on average in the earned income treatment than in the unearned treatment. The average difference between the unearned and pooled income treatments is statistically insignificant. In columns (2)-(3), there are no significant differences within the earned income treatments by endowment.

On the other hand, in columns (4)-(6), the NK subjects behave very differently. In column (4), the average difference between the earned and unearned income treatments is small and insignificant; however, the NK subjects make zero offers significantly less by 9% percentage points on average in the pooled income treatment than in the unearned income treatment. In columns (5)-(6), they tend to make zero offers significantly more by about 21-22% percentage points on average in the unearned×30K income treatment than in the unearned×90K income treatment. Compared the SK subjects, there is a significant and substantial difference between the unearned ×30K and unearned×90K treatments. Furthermore, the average difference between the unearned×90K and earned income treatments is about a one-half of the estimate for the SK subjects and it seems only marginally significant. Like SK subjects, the average difference between the unearned×90K and pooled income treatments is small and statistically insignificant. Hence, the significantly negative effect of the pooled income treatment relative to the unearned income treatment in column (4) is driven by the differential impacts of the unearned income by endowment.

We now comment on the effect of other variables. First, as expected from rational choice theory, both the SK and NK subjects behave in the more selfish way as the relative price of giving increases. However, the price gradient is much steeper for the SK subjects than the

NK subjects. Second, there is no significant gender effect in either of columns (3) and (6) in Table 8. Third, the SK subjects tend to behave in a less self-interested manner as they are older. However, we do not find any significant age effect for the NK subjects.

Table 9: Regression analysis of the fraction of money given in the dictator game

Dependent variable = the share of money given

	Native-Born South Koreans (SK)			North Korean Refugees (NK)		
Variables	(1)	(2)	(3)	(4)	(5)	(6)
Earned	-0.0129	-0.0113	0.0095	0.0516	0.0561	0.0603
	(0.0419)	(0.0508)	(0.0475)	(0.0444)	(0.0512)	(0.0543)
Pooled	0.0118	0.0134	0.0307	0.1542***	0.1588***	0.1664***
	(0.0316)	(0.0426)	(0.0394)	(0.0413)	(0.0486)	(0.0525)
log(Relative price)	-0.1180***	-0.1180***	-0.1180***	-0.1050***	-0.1050***	-0.1050***
	(0.0109)	(0.0109)	(0.0110)	(0.0094)	(0.0094)	(0.0094)
Unearned × 30K		0.0093	0.0348		0.0663	0.0832
		(0.0611)	(0.0664)		(0.0834)	(0.0867)
Unearned × 60K		-0.0035	0.0330		-0.0469	-0.0514
		(0.0439)	(0.0441)		(0.0569)	(0.0604)
Female			0.0285			-0.0955**
			(0.0324)			(0.0442)
Age − 40			0.0046***			-0.0010
			(0.0012)			(0.0015)
$(\text{Age} - 40)^2/100$			0.0104			0.0057
			(0.0106)			(0.0101)
Constant	0.3716***	0.3700***	0.3070***	0.3108***	0.3062***	0.3615***
	(0.0213)	(0.0357)	(0.0410)	(0.0313)	(0.0404)	(0.0593)
Observations	1,070	1,070	1,070	1,065	1,065	1,065
R-squared	0.1357	0.1358	0.1870	0.1505	0.1600	0.1881

Notes: Robust standard errors, clustered by individual subject, are reported in parentheses. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. The omitted dummy variable is "Unearned" in columns (1) and (4), whereas it is "Unearned×90K" in columns (2)-(3) and (5)-(6).

We now move to Table 9 in which we report estimation results when the dependent variable is the fraction of money given to other. In each column, the specification of the

right-hand side explanatory variables is exactly the same as that of Table 8. However, estimation results look different from the case when the dependent variable is the indicator whether the subject makes a zero offer. First of all, in columns (1)-(3), no treatment variable for the SK subjects is significant. In columns (4)-(6), we can see that the NK subjects tend to give more share on average (by more than 15 percentage points) in the pooled income treatment than in the unearned income or unearned×90K income treatment; there is little difference between columns (4) and (5) since there are no differential effects among different income levels within the unearned income treatment.

Regarding other variables, as in Table 8, both the SK and NK subjects give less share to others as the relative price of giving increases. It can be seen that the price gradient with respect to the share seems to be of the same magnitude between the SK and NK subjects, unlike Table 8. In addition, the SK subjects tend to give more share to others as they are older, and the NK females seem to give less share by 10 percentage points. The latter finding was in contrast with the finding of no significant gender effect in terms of making a zero offer in Table 9. Overall, the results in Tables 8 and 9 suggest that the SK and NK subjects have different preferences regarding extensive and intensive margins of giving.

5 Treatment Effect Heterogeneity

In this section, we examine treatment effect heterogeneity by running the baseline regression in (4.1) for various subsamples. We focus on the case that the dependent variable is the indicator whether the subject makes a zero offer. We present the estimation results for the share of money given in the appendix.

Table 10 presents the results for the subsamples of the SK subjects by gender, age, marital status, and household income. We can see that there are noticeable differences among different demographic groups within the SK subjects. The effect of the earned income treatment is much larger among males, the younger, the unmarried, and those with household income below the median. The effect of the pooled income is insignificant for any subsample.

Table 11 presents analogous results for the subsamples of the NK subjects. The effect

Table 10: Regression analysis of making zero offers: subsample analysis (SK)

Dependent variable = 1 if a subject gives nothing; 0 otherwise

Variables	(1) All	(2) Male	(3) Female	(4) Age < 44	(5) Age ≥ 44	(6) Not married	(7) Married	(8) H.I. < 500	(9) H.I. ≥ 500
Earned	0.163***	0.209***	0.115	0.270***	0.078	0.213*	0.152***	0.231***	0.106
	(0.053)	(0.078)	(0.072)	(0.086)	(0.056)	(0.116)	(0.055)	(0.079)	(0.074)
Pooled	0.033	0.024	0.040	0.023	0.051	-0.051	0.075	0.045	0.028
	(0.042)	(0.063)	(0.056)	(0.071)	(0.047)	(0.085)	(0.046)	(0.042)	(0.073)
log(Relative price)	0.068***	0.084***	0.053***	0.104***	0.035**	0.093***	0.057***	0.059***	0.077***
	(0.014)	(0.022)	(0.016)	(0.023)	(0.015)	(0.029)	(0.015)	(0.019)	(0.019)
Constant	0.063**	0.080**	0.048	0.090**	0.032	0.133**	0.028	0.023	0.100**
	(0.025)	(0.034)	(0.035)	(0.040)	(0.025)	(0.062)	(0.018)	(0.017)	(0.044)
Observations	1,070	530	540	510	560	335	735	520	550
R-squared	0.072	0.101	0.047	0.148	0.026	0.123	0.065	0.122	0.048

Notes: Robust standard errors, clustered by individual subject, are reported in parentheses. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. The omitted dummy variable is "Unearned".

Table 11: Regression analysis of making zero offers: subsample analysis (NK)

Dependent variable = 1 if a subject gives nothing; 0 otherwise

Variables	(1) All	(2) Male	(3) Female	(4) Age < 40	(5) Age ≥ 40	(6) Not married	(7) Married	(8) H.I. < 128	(9) H.I. ≥ 128
Earned	-0.026	-0.083	-0.001	-0.058	-0.001	-0.034	-0.012	0.013	-0.100
	(0.055)	(0.071)	(0.072)	(0.067)	(0.085)	(0.069)	(0.093)	(0.057)	(0.108)
Pooled	-0.090*	0.000	-0.125**	-0.047	-0.132**	-0.086	-0.096	-0.050	-0.168*
	(0.048)	(0.102)	(0.054)	(0.072)	(0.064)	(0.065)	(0.069)	(0.049)	(0.097)
log(Relative price)	0.017**	0.012	0.019*	0.026**	0.009	0.022*	0.009	0.031**	0.001
	(0.008)	(0.013)	(0.010)	(0.013)	(0.010)	(0.011)	(0.012)	(0.013)	(0.009)
Constant	0.138***	0.107	0.151***	0.120**	0.156**	0.145***	0.126*	0.091**	0.221**
	(0.042)	(0.069)	(0.052)	(0.057)	(0.062)	(0.055)	(0.066)	(0.040)	(0.090)
Observations	1,065	300	765	515	550	665	400	530	535
R-squared	0.018	0.024	0.038	0.014	0.037	0.016	0.023	0.017	0.040

Notes: Robust standard errors, clustered by individual subject, are reported in parentheses. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. The omitted dummy variable is "Unearned".

of the earned income is insignificant for any subsample by gender, age, marital status, and household income. The effect of the pooled income is larger for females and the older. This is in part due to the fact that females and the older behave in a more self-interested manner under the unearned income treatment (see estimates of the constant term).

Table 12 reports treatment effect heterogeneity in terms of the variables that are specific North Korean refugees. For the effect of the earned income treatment, only the subsample of those who arrived in South Korea before age 34 shows the significantly positive treatment effect. This is consistent with explanation that those who arrived in their life might have the notion of the property rights similar to native-born South Koreans. Those who had a second job experience in NK is much more likely to make a zero offer under the unearned income treatment and furthermore, they do not distinguish between the unearned and pooled income treatments. Since the second job experience in NK consists of engaging in some sort of market activities, this result is also consistent with the view that those who experienced a market economy might have the notion of the property rights similar to native-born South Koreans. The difference between subsamples by duration in SK or by communist party membership is less noticeable.

6 Concluding Remarks

We have found that when we exogenously varied the source of endowments in the dictator games, the NK subjects seemed to show different preferences regarding extensive and intensive margins of giving, compared to the SK subjects. Our experimental results corroborate the notion that institutions and cultures matter in shaping social norms about distributive fairness. However, using the experiment design in the paper, we cannot pin down the exact reasons behind the differences in the treatment effects. It is a topic for future research to uncover the causal chain behind the experimental evidence reported in this paper.

Table 12: Regression analysis of making zero offers: subsample analysis continued (NK)

Dependent variable = 1 if a subject gives nothing; 0 otherwise

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Years in SK		Age at arrival		Second job experience in NK		Communist party	
Variables	All	< 7	≥ 7	< 34	≥ 34	no	yes	non-member	member
Earned	-0.026	-0.099	0.049	-0.026	-0.026	0.032	-0.105	-0.034	0.019
	(0.055)	(0.079)	(0.075)	(0.071)	(0.085)	(0.068)	(0.090)	(0.064)	(0.037)
Pooled	-0.090*	-0.144**	-0.035	-0.033	-0.141**	-0.050	-0.145*	-0.098*	-0.025
	(0.048)	(0.069)	(0.064)	(0.074)	(0.066)	(0.058)	(0.081)	(0.057)	(0.024)
log(Relative price)	0.017**	0.014	0.020*	0.026**	0.009	0.005	0.034**	0.021**	-0.000
	(0.008)	(0.012)	(0.011)	(0.013)	(0.010)	(0.008)	(0.016)	(0.010)	(0.011)
Constant	0.138***	0.178***	0.096*	0.115**	0.162**	0.087*	0.209***	0.159***	0.025
	(0.042)	(0.065)	(0.051)	(0.055)	(0.064)	(0.047)	(0.074)	(0.049)	(0.024)
Observations	1,065	515	550	505	560	610	455	870	195
R-squared	0.018	0.042	0.017	0.007	0.041	0.016	0.040	0.018	0.017

Notes: Robust standard errors, clustered by individual subject, are reported in parentheses. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. The omitted dummy variable is "Unearned".

References

Acemoglu, D., and S. Johnson (2005): "Unbundling Institutions," *Journal of Political Economy*, 113(5), 949–995.

Acemoglu, D., and J. A. Robinson (2012): *Why Nations Fail*. Crown Business, New York.

Barro, R. J. (1996): "Determinants of Economic Growth: A Cross-Country Empirical Study," Working Paper 5698, National Bureau of Economic Research.

Bowles, S. (1998): "Endogenous Preferences: The Cultural Consequences of Markets and Other Economic Institutions," *Journal of Economic Literature*, 36(1), 75–111.

Bubb, R. (2013): "The Evolution of Property Rights: State Law or Informal Norms?," *Journal of Law & Economics*, 56(3), 555–594.

Callen, M., M. Isaqzadeh, J. D. Long, and C. Sprenger (2014): "Violence and Risk Preference: Experimental Evidence from Afghanistan," *American Economic Review*, 104(1), 123–48.

Cappelen, A. W., A. D. Hole, E. Ø. Sørensen, and B. Tungodden (2007): "The Pluralism of Fairness Ideals: An Experimental Approach," *American Economic Review*, 97(3), 818–827.

Cherry, T. L., P. Frykblom, and J. F. Shogren (2002): "Hardnose the Dictator," *American Economic Review*, 92(4), 1218–1221.

Di Tella, R., S. Galiani, and E. Schargrodsky (2007): "The Formation of Beliefs: Evidence from the Allocation of Land Titles to Squatters," *Quarterly Journal of Economics*, 122(1), 209–241.

Fershtman, C., U. Gneezy, and J. A. List (2012): "Equity Aversion: Social Norms and the Desire to Be Ahead," *American Economic Journal: Microeconomics*, 4(4), 131–44.

Fisman, R., P. Jakiela, S. Kariv, and D. Markovits (2015): "The distributional preferences of an elite," *Science*, 349(6254).

Jakiela, P. (2011): "Social Preferences and Fairness Norms as Informal Institutions: Experimental Evidence," *American Economic Review*, 101(3), 509–13.

——— (2015): "How fair shares compare: Experimental evidence from two cultures," *Journal of Economic Behavior & Organization*, 118, 40–54.

Jakiela, P., E. Miguel, and V. L. t. Velde (2015): "You've earned it: estimating the impact of human capital on social preferences," *Experimental Economics*, 18(3), 385–407.

Jakiela, P., and O. Ozier (2016): "Does Africa Need a Rotten Kin Theorem? Experimental Evidence from Village Economies," *Review of Economic Studies*, 83(1), 231–268.

Kim, B.-Y., S. Choi, J. Lee, S. Lee, and K. Choi (2017): "Do Institutions Affect Social Preferences? Evidence from Divided Korea," *Journal of Comparative Economics*, 45(4), 865–888.

List, J. A. (2007): "On the interpretation of giving in dictator games," *Journal of Political Economy*, 115(3), 482–493.

List, J. A., and T. L. Cherry (2008): "Examining the role of fairness in high stakes allocation decisions," *Journal of Economic Behavior & Organization*, 65(1), 1–8.

North, D. C., and R. P. Thomas (1970): "An Economic Theory of the Growth of the Western World," *The Economic History Review*, 23(1), 1–17.

Oxoby, R. J., and J. Spraggon (2008): "Mine and yours: Property rights in dictator games," *Journal of Economic Behavior & Organization*, 65(3-4), 703–713.

Shiue, C. H., and W. Keller (2007): "Markets in China and Europe on the Eve of the Industrial Revolution," *American Economic Review*, 97(4), 1189–1216.

Tabellini, G. (2008): "Presidential Address: Institutions and Culture," *Journal of the European Economic Association*, 6(2-3), 255–294.

A Appendix Tables

This appendix contains additional experimental results that are not included in the main text. In particular, we present the estimation results that are parallel to those in Section 5 when the dependent variable is the share of money given in the dictator games.

Table 13: Regression analysis of the fraction of money given: subsample analysis (SK)

Dependent variable = the share of money given

Variables	(1) All	(2) Male	(3) Female	(4) Age < 44	(5) Age ≥ 44	(6) Not married	(7) Married	(8) H.I. < 500	(9) H.I. ≥ 500
Earned	-0.013	-0.103*	0.073	-0.080	0.044	-0.233***	0.079*	-0.005	-0.016
	(0.042)	(0.056)	(0.060)	(0.062)	(0.053)	(0.065)	(0.047)	(0.064)	(0.055)
Pooled	0.012	-0.024	0.044	-0.044	0.058	-0.083	0.058	0.013	0.009
	(0.032)	(0.048)	(0.042)	(0.044)	(0.041)	(0.060)	(0.036)	(0.042)	(0.048)
log(Relative price)	-0.118***	-0.135***	-0.102***	-0.136***	-0.101***	-0.121***	-0.116***	-0.115***	-0.121***
	(0.011)	(0.017)	(0.014)	(0.017)	(0.014)	(0.020)	(0.013)	(0.017)	(0.014)
Constant	0.372***	0.401***	0.346***	0.371***	0.372***	0.434***	0.341***	0.382***	0.362***
	(0.021)	(0.035)	(0.025)	(0.035)	(0.022)	(0.048)	(0.019)	(0.033)	(0.028)
Observations	1,070	530	540	510	560	335	735	520	550
R-squared	0.136	0.197	0.117	0.184	0.117	0.270	0.149	0.136	0.135

Notes: Robust standard errors, clustered by individual subject, are reported in parentheses. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. The omitted dummy variable is "Unearned".

Table 14: Regression analysis of the fraction of money given: subsample analysis (NK)

Dependent variable = the share of money given

Variables	(1) All	(2) Male	(3) Female	(4) Age < 40	(5) Age ≥ 40	(6) Not married	(7) Married	(8) H.I. < 128	(9) H.I. ≥ 128
Earned	0.052	0.172*	0.000	0.150**	-0.033	0.070	0.021	0.055	0.066
	(0.044)	(0.092)	(0.047)	(0.062)	(0.062)	(0.058)	(0.068)	(0.059)	(0.071)
Pooled	0.154***	0.163*	0.152***	0.143***	0.167**	0.121**	0.208***	0.097*	0.221***
	(0.041)	(0.096)	(0.044)	(0.050)	(0.064)	(0.051)	(0.069)	(0.054)	(0.067)
log(Relative price)	-0.105***	-0.115***	-0.101***	-0.100***	-0.109***	-0.106***	-0.102***	-0.117***	-0.091***
	(0.009)	(0.015)	(0.012)	(0.014)	(0.013)	(0.012)	(0.015)	(0.013)	(0.013)
Constant	0.311***	0.329***	0.303***	0.286***	0.333***	0.316***	0.302***	0.336***	0.267***
	(0.031)	(0.073)	(0.033)	(0.036)	(0.050)	(0.039)	(0.054)	(0.036)	(0.057)
Observations	1,065	300	765	515	550	665	400	530	535
R-squared	0.151	0.169	0.175	0.165	0.190	0.129	0.216	0.142	0.188

Notes: Robust standard errors, clustered by individual subject, are reported in parentheses. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. The omitted dummy variable is "Unearned".

Table 15: Regression analysis of the fraction of money given: subsample analysis continued (NK)

Dependent variable = the share of money given

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Years in SK		Age at arrival		Second job experience in NK		Communist party	
Variables	All	< 7	≥ 7	< 34	≥ 34	no	yes	non-member	member
Earned	0.052	0.023	0.084	0.143**	-0.042	0.076	0.018	0.054	0.038
	(0.044)	(0.067)	(0.057)	(0.059)	(0.063)	(0.052)	(0.077)	(0.049)	(0.100)
Pooled	0.154***	0.130**	0.183***	0.164***	0.140**	0.211***	0.076	0.140***	0.187*
	(0.041)	(0.064)	(0.051)	(0.052)	(0.064)	(0.048)	(0.071)	(0.045)	(0.099)
log(Relative price)	-0.105***	-0.111***	-0.099***	-0.099***	-0.111***	-0.097***	-0.116***	-0.104***	-0.108***
	(0.009)	(0.014)	(0.012)	(0.014)	(0.013)	(0.013)	(0.013)	(0.011)	(0.019)
Constant	0.311***	0.346***	0.273***	0.282***	0.340***	0.287***	0.343***	0.300***	0.367***
	(0.031)	(0.050)	(0.035)	(0.035)	(0.052)	(0.033)	(0.058)	(0.034)	(0.084)
Observations	1,065	515	550	505	560	610	455	870	195
R-squared	0.151	0.136	0.178	0.163	0.184	0.200	0.118	0.138	0.218

Notes: Robust standard errors, clustered by individual subject, are reported in parentheses. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. The omitted dummy variable is "Unearned".