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Trust and Reciprocity among International Groups: Experimental Evidence from Austria and Japan

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Trust and reciprocity among international groups: Experimental evidence from Austria and Japan

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Abstract: This paper explores national identity in trust and reciprocity at the intra- and international levels by adopting a modified trust game played among groups from Austria and Japan, in which subjects play the roles of trustor and trustee consecutively without any information feedback. Intra- and international trust levels are identical across nationalities. Intranational reciprocity in Austria is greater than in Japan, but there is no significant difference in international reciprocity between the two countries. We also examine the relationship between trust and reciprocity and the relathionship between trust/reciprocity and expectations, demographic variables, the individualism index, and trust indices. International trust enhances international reciprocity in both countries, although this effect is weaker in Japan than in Austria. Expected returns enhance trust in both countries at the intra- and international levels. In Japan, expected transfers enhance international reciprocity less than they do intranational reciprocity. A larger number of females in the group reduce international trust. In Austria, this reduces international trust more than it does intranational trust.

Keywords: Trust, Reciprocity, Trust game, Group norm, International team experiment
JEL classification: C92, C71

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1 Introduction

With the rapid pace of globalization, national identity and cultural differences in trust and reciprocity are the key to economic exchange between different nations, cultures, or ethnicities. For instance, when a company begins to jointly develop new technologies at the international level with a foreign company, it faces much uncertainty and risk stemming from problems unique to each country, in terms of accounting systems, labor customs, patent laws, and so on. Even if the risks are minimized, there is a chance that the partner company will tear up the contract and steal newly developed technologies or free ride on the partner's developmental efforts—unless the trust and reciprocity levels between the two are sufficiently established.

To avoid such issues, the company builds a professional team in which several members orally discuss whether they trust the partner company and carefully decide whether to invest. The contract is not signed unless the team from the company, on the basis of its own discussions, expresses trust in the partner company's team.

As Arrow (1972) indicated, every commercial transaction has an element of trust. The fact that globalization is based on international economic exchange such as group interaction allows us to investigate international trust and reciprocity based on group decisions.

Our main purpose is to investigate national or cultural differences in trust and reciprocity at the intranational (when people interact with the same nationality) and international (when they interact with a different nationality) levels

We conduct modified trust games (Berg 1995) played between Austrian and Japanese groups, whose members interact freely in their decision-making processes, in what we refer to as an international experiment. To evaluate the results of this experiment vis-à-vis the situation within each country, we also carry out intranational experiments for the purpose of comparison. In this case, the same game is played internally in each country, among Austrian and Japanese groups.

Our main findings are as follows. Intra- and international trust levels are identical across nationalities. Intranational reciprocity in Austria is higher than in Japan, but there is no significant difference in regard to international reciprocity between the two countries. International trust enhances international reciprocity, but this effect is weaker in Japan than in Austria. In each country, at both intra- and international levels, expected returns enhance trust. In Japan, expected transfers enhance international reciprocity less than they do intranational reciprocity. A larger number of females in the group reduce international trust. In Austria, it reduces international trust more than intranational trust.

Camerer (2003) cites culture as having the most significant and robust effects in social preference experiments. Now culture is too important a force to be ignored in the context of the trust game. Buchan et al. (2002, 2006), Holm and Danielson (2005), and Ashraf et al. (2006) discover differences in trust and/or reciprocity among different countries. In these studies, counter partners belong to the same nationality.

However, our most interesting situation is one in which the counter partners belong to a different culture or nationality. In this situation, the seminal paper of Fershtman and Gneezy (2001) identify ethnic stereotypes as the cause of the

Ashkenazi and Eastern Jews' mistrust of Eastern Jews. Willinger et al. (2003) find that the amount that the Germans invest to the French is higher than the reverse case, whereas, the amount that the Germans return to the French is not different from what the French return to the Germans. Further, Bouckaert and Dhaene (2004) find that trust and reciprocity of both Turkish and Belgian small bussinessmen are independent of ethnic origin and the ethnic origin of the opposite party. In addition, Netzer and Sutter (2009) find that Austrians are more trusting of the Japanese and that the Japanese reciprocate less toward the Austrians than the other way around. In socio-psychology, on the other hand, Takahashi et al. (2008) employ a variation of the trust game and discover that the Japanese display less in-group favoritism with respect to both trust and trustworthiness than the Chinese and Taiwanese.

Our study differs from the ones mentioned above in the following ways. To begin with, we employ subjects in geographically distinct countries that have not experienced serious conflicts relating to their historical background, especially World War II (WWII). Apart from Netzer and Sutter (2009), a common feature of previous intercultural experiments is that the subjects lived in geographically proximate areas that had experienced potential conflicts in relation to their historical background. These negative relationships may induce the negative effects of trust and reciprocity more easily, or the collective guilt for WWII, as for the Japanese, which Takahashi et al. (2008) report.

We exclude such negative relations and keep enough geographical distinctions. We then re-consider the effect of cultural differences on trust and reciprocity when subjects interact with a different culture. That is, do subjects have in- or out-group favoritism when they are not affected by collective guilt for WWII or other serious negative relationships in their historical backgrounds? To investigate the answer to this question as a group behavior, we chose Japan and Austria to represent East Asia and Europe, respectively, as Netzer and Sutter (2009) did. Netzer and Sutter (2009) intermediate the interactions of subjects, who do not join the experiment at the same time, whereas our subjects directly interact in real time through the Internet, seated in a laboratory of their own country, as with Takahashi et al. (2008)[1].

Second, our study is, to the best of our knowledge, the first experiment employing a trust game played among international groups. Group norms on trust and reciprocity constitute a topic that is still open to discussion. Even if we exclusively consider domestic interactions, only two studies deal with group interactions in the trust game. The first is Cox (2002), who finds that trust levels do not differ between individuals and groups, whereas reciprocity among groups is less than that among individuals. Second, Kugler et al. (2007) find a contrary result: trust in groups is less than that in individuals, whereas there is no difference in reciprocity between groups and individuals. Our interest is to investigate cultural difference in group norms as regards trust and reciprocity at the international level.

On a comparison of our subject pools, one of the cultural differences relates to individualism versus collectivism. According to Hofsted (2009), Austria's individualism index is higher than Japan's[2]. With regard to trust, respondents of the

[1] Apart from the trust game context, Chuah et al. (2007, 2009) conduct ultimatum games played between Chinese living in Malaysia and the UK.

[2] Refer to http://www.geert-hofstede.com/hofstede_dimensions.php for further details.

World Value Survey were asked how much they trusted people in their own country, and a higher ratio of respondents in Austria than Japan chose the answer "completely trust[3]". Although some predictions of Fukuyama (1995) and Yamagishi et al. (1998) are related to our study, there exists no international comparison of group norms related to social preferences.

Third, we choose repeated games in which subjects play the role of trustor and trustee consecutively. Buchan et al. (2002) find that a high (low) level of trust induces a high (low) level of reciprocity in China (Japan). However, they hold that such relationships are still open for discussion and suggest, referring to Axelrod (1984), that repeated games are required to investigate robust relationships. We try to investigate such a relationship between the internalized trust and reciprocity as an explanation of inherent behavior when they interact with a different culture.

Repeated trust game experiments have been conducted by Anderhub et al. (2002), Enngle-Warnick and Slonim (2004), King-Casas et al. (2005), and Enngle-Warnick and Slonim (2006). King-Casas et al. (2005) find, in the f-MRI, that trustor gradually begins to anticipate returns and to have willingness to invest more before trustee sends back. To prevent such involuntary thought processes on the part of subjects, we choose repeated games in which the subjects play both roles consecutively without pre-announcement of this fact or information on the interacting group's behavior. This design is different from the one accomplished by Burks et al. (2003), who make all subjects play trustors first, and then trustees, and find that playing both roles reduces trust and reciprocity.

The remainder of the paper is organized as follows: Section 2 presents the experimental design and procedures. Section 3 analyzes the results and Section 4 provides detailed survey analysis. Finally, Section 5 contains the conclusion and discussion.

2 Experimental design and procedure

2.1 Design of our trust game

The subjects were allocated to separate rooms, designated as Rooms A and B. The subjects in the two rooms were randomly assigned to three-member teams who interact freely in making a decision[4]. To investigate the relationship between internalized trust and reciprocity, we make subjects play both roles sequentially in two separate parts. Our specific design is as follows.

The subjects were informed that the experiment included two independent parts and that the result of either part 1 or part 2 would be randomly determined as their final payments. Further, they were told that a detailed explanation of part 2 of the experiment would be provided after the completion of part 1[5].

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[3] The Austrian data are collected in 1990 and 1999, and the Japanese in 1981, 1990, 1995, and 2000. Refer to http://www.worldvaluessurvey.org/ for further details.

[4] We collectively refer to the three-member groups in each room as "team," namely, Team A (Room A) and Team B (Room B).

[5] We make this announcement to avoid deception, although it may cause the subjects to expect a repetition of the same game.

In part 1, the teams in Rooms A and B were anonymously matched in pairs. They were given 10 initial tokens as the experimental money. Team A and Team B play the roles of trustor and trustee, respectively. First, Team A inclusively determined how many tokens between 0 and 10 to send to Team B and retained the remaining tokens. The number of tokens that Team A sent to Team B was tripled. Then, Team B decided how many of the tokens it would send back to Team A. Denote the number of tokens sent by Team A as x and those sent back by Team B as y. Team B determined y between 0 and $10+3x$ inclusively[6]. The amount Team B sent back to Team A was not tripled. Since we obtain more elaborate information on the internalized reciprocity that the subjects potentially maintain before they interact with the others in the experiment, we used a strategy method (Selten 1967). While the trustors decided on a single transfer, x, the trustees had to indicate a return, y, for all possible transfers, x, from the trustors. Hence, the trustees decided on returns for 11 transfer possibilities.

We deliberately did not provide information on the interacting group's behavior in part 1 to the subjects to avoid the possibility that the results of part 1 would influence those of part 2. In part 2, they were informed that the same game was to be played again, but with their roles reversed. This time around, Team A would play the role of trustee, and Team B that of trustor. The members of both teams were the same as in part 1. The subjects were anonymously matched in pairs and, as before, given 10 initial tokens. Other rules were the same as in part 1.

The rules of part 2 of the experiment are not disclosed to the subjects at the beginning of the experiment, nor are the results of part 1 announced. If these parts were independent, the transfers and returns in each part would be zero in a subgame perfect Nash equilibrium. To simplify, on the basis of this theoretical prediction, we consider the relative transfer to its holdings, given by $x/10$, to reflect the trust involved in a decision made under a risk stemming from the social uncertainty of whether or not the counterpart would behave reciprocally. On the other hand, we consider the relative return to its holdings, $y/(10+3x)$, to reflect the reciprocity shown in the willingness to honor the trust received. According to Camerer's survey (2003), average transfers range from 40% to 60%, with returns averaging 110% of the transfers in many previous experimental studies.

Table 1 is around here

As summarized in Table 1, our design features two experiments comprising four treatments that differ with respect to which subjects belong to Teams A and B. The intranational experiment consists of treatments AA, where both Teams A and B are Austrian groups, and JJ, where both teams are Japanese groups. Further, the international experiment consists of treatments AJ and JA. In the former treatment, Team A comprises Austrians, and Team B Japanese, with the other way around in the latter treatment. A treatment consists of four sessions, each involving 24 or 30

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[6] In the original trust game (Berg 1995), the trustees are given \$10 as a show-up fee; they were told that they cannot use this money in the game. However, in order to avoid the possible effect of an imbalance in the endowments on a trustee's decision, we allow the trustees to use their endowments.

subjects. Further, each treatment involves the participation of 36 groups (18 from Team A and 18 from Team B), comprising 108 subjects in all.

2.2 Procedures

The experiment was programmed and conducted with the software z-Tree (Fischbacher, 2007). Each treatment consisted of the same number of subjects. The subjects were undergraduate and graduate students from Innsbruck University in Austria and Osaka University in Japan. They were invited through flyers posted around the campuses. None of the subjects participated in more than one session.

The intranational experiment proceeds as follows. All subjects initially arrived at a single location for registration before being assigned to their rooms; this was done to dispel any doubts about the existence of interacting groups in other rooms (Frohlich et al., 2001). The subjects were then assigned to Room A or B, and their group identification number was designated through a lottery. Upon arriving at each room, the subjects were seated at separate computer terminals with the other group members. No communication was permitted throughout the sessions, but group members could have verbal discussions when they had to make decisions.

The subjects were made to listen to prerecorded instructions, which they simultaneously read from the copies handed to each of them[7]. The instructions informed the subjects that the experiment included two independent parts and that the result of either part 1 or 2 would be randomly determined as their final payments. Further, they were told that a detailed explanation of part 2 of the experiment would follow, after part 1. Any remaining questions were privately answered.

At the beginning of part 1, each team received a decision sheet. Team A, the trustor, entered a single transfer of tokens, from 0 to 10 inclusive, on its record sheets and computers in 10 minutes. At the same time, Team B, the trustee, entered its returns for all possible transfers from Team A on its record sheets and computers. Accordingly, Team B decided on the returns for 11 transfer possibilities. They also indicate their expectations regarding the return or transfer made by their interacting group.

After the conclusion of part 1, the decision sheets were collected. The subjects did not receive information about their interacting group's behavior in part 1, and part 2 of the experiment was commenced. Again, the subjects were made to listen to prerecorded instructions while simultaneously following these from their own copies. They were told that the rules in part 2 of the experiment were the same as those in part 1, except that the roles of Teams A and B were reversed. This time, Team A played the role of trustee and indicated its returns for all possible transfers from Team B, which played the role of trustor. Team B decided on one single transfer of tokens, from 0 to 10 inclusive. Both teams also indicated its expectations regarding the return or transfer made by its interacting group.

After part 2 ended, each subject filled out a post-experimental survey. After the subjects answered all questions, we presented the results of parts 1 and 2. Either part was randomly determined for calculating their earnings.

In the international experiment, the subjects were informed that the Austrian and Japanese teams would be matched with each other. Further, we disclosed the

[7] Instructions and other materials distributed in the experiment are provided in the supplementary material.

university and experimenter names and the experimenters' e-mail addresses. In order to dispel doubts about the existence of interacting groups in the other country, we connected the two laboratories in the respective countries over the Internet in real time through a Skype call at the beginning of each treatment, and broadcasted a live stream of each room via a webcam.

To avoid any possible emotional effect from seeing the faces of the individuals they interacted with, we asked the subjects to hide their faces and played the live stream in the following manner. First, the live stream of the room in Austria was shown to the subjects in Japan, but the Japanese stream was not shown in Austria. The Austrian subjects were asked to keep their faces down. Using the Skype chat system, the Japanese experimenter asked the Austrian experimenter to tell the Austrian subjects to raise their hands during the broadcast. The Japanese subjects were shown the Skype chat window in addition to the live stream that was played on a big screen, and they observed that the Austrian subjects responded directly to the instructions of their experimenter but did not see the faces of their interacting subjects. As it was nighttime in Japan and daytime in Austria, the Austrian experimenter then moved the webcam toward the window to demonstrate that it was daytime in Austria. Then, the Skype video broadcasting from Austria ended, and the live stream from Japan was shown to the Austrian subjects according to the previously described procedure. Subsequently, the same procedures were followed for the intranational experiment.

All the treatments lasted roughly 1 hour. The subjects were paid in cash as per the value of the tokens held by their own group in a randomly determined part; the conversion rate was 1 token to 0.08 euro in Austria and 12 yen in Japan. Further, the show-up fees were 3.5 euro in Austria and 500 yen in Japan.

We controlled for country-specific variables that could influence our results and accounted for any potential methodological problems. Roth et al. (1991) mention three main problems accompanying multinational experiments: the experimenter effect, language effect, and currency effect. Our experiments were conducted by identically following a precisely predetermined written plan of procedures that met the requirements of each step of a session. In each country, the experimenters were local male Ph.D. students who were experienced in conducting experiments. In order to control for language effects, the instructions were originally written in English and translated into German by the second author and Japanese by the first author; they were then translated back into English by an another translator and checked for possible discrepancies. We avoided unwanted currency effects by choosing denominations that kept the purchasing power equal across countries. Since our subject samples consisted only of students, we relied on typical student expenditures to determine the payments.

3 Results

3.1 Overview of the results

Table 2 summarizes the means and standard errors of relative transfers and returns of the first- and second-order trustor/trustee, their pooled data and payments to subjects. Note that the relative returns in this table are actual transacted values against actual transfers. In the intranational experiment, the pooled data combine

parts 1 and 2 in each country. In the international experiment, on the other hand, pooled data constitute across treatments AJ and JA in each country. In both countries, the means of relative transfers and returns in the international experiment are higher than those in the intranational experiment. Average payments to the subjects were 16.19 euro in Austria and 18.11 euro (2,716 yen) in Japan for the intranational experiment, and 16.70 euro in Austria and 16.40 euro (2,460 yen) in Japan for the international experiment. The responses to the survey questions are analyzed in Section 4.

In this section, we statistically compare the relative transfers and returns from the viewpoint of trust and reciprocity. First, we compare the trust levels between the Austrian groups and Japanese groups in Section 3.2. Next, we compare their reciprocity in Section 3.3.

Table 2 is around here

3.2 Trust

Here, we compare the trust behavior between two countries. Figures 1 (a) and (b) present histograms of the pooled relative transfers across the first- and second-order trustor in each country in the intra- and international experiments, respectively.

Figure 1 is around here.

To begin with, we examine the order effect of the relative transfers. The average of relative transfers for the first trustor is higher than that for the second trustor in each country in both the experiments. In the intranational experiment, the Wilcoxon rank-sum test marginally rejects the null hypothesis of no difference in the distributions of relative transfers between the first- and second-order trustor in both Austria and Japan (two-tailed p-values are both 0.09). In the international experiment, the Wilcoxon rank-sum test does not reject the null hypothesis of no difference in the distributions of relative transfers between the first- and second-order trustor in Austria (two-tailed p-values = 0.24) but marginally rejects the hypothesis in Japan (two-tailed p-values = 0.07). However, these differences are not significant at less than the 5% level so that we pool the data across orders and increase the sample size.

Second, we focus on trust levels within each experiment to investigate the national differences between two countries at the intra- and international levels. In the intranational experiment, the means for Austria and Japan are 0.56 and 0.62, respectively. The Wilcoxon rank-sum test does not reject the null hypothesis of no difference in the distributions of relative transfers between two countries (two-tailed p-value = 0.36). In the international experiment, on the other hand, the means are 0.68 and 0.65 for Austria and Japan, respectively. The Wilcoxon rank-sum test does not reject the null hypothesis that the distribution of relative transfers for the Austrian groups is the same as that for the Japanese groups (two-tailed p-value = 0.95). Thus,

there is no significant difference in regard to both intra- and international trust levels between Austria and Japan.

Third, we compare intra- and international trust levels for each country in order to examine whether or not foreign interaction groups affect trust levels. The Wilcoxon rank-sum test does not reject the null hypothesis that the distribution of relative transfers among the Austrian groups in the intranational experiment is the same as that in the international experiment (two-tailed p-values = 0.29). Further, the Wilcoxon rank-sum test does not reject the null hypothesis that the distribution of pooled relative transfers among the Japanese groups in the intranational experiment is identical to that in the international experiment (two-tailed p-values = 0.90). Thus, there is no significant difference between intra- and international trust levels in both countries.

3.3 Reciprocity

First of all, we pool the relative returns across the first- and second-order trustee and show the tendency of the reciprocity level toward the interacting group's trust level. To this end, we use all the relative returns of trustees predetermined on 11 possibilities of relative transfers. Relative returns are censored variables from 0 to 1 inclusive; thus, we consider a Tobit regression of relative returns on 11 possibilities of relative transfers with subject group identification clustering for each part:

$$\text{Return}_{ij} = a + b \cdot \text{Transfer}_{ij} + \varepsilon_{ij},$$

$$\text{for } i = 1,\ldots,36;\ j=0,\ldots,1$$

For simplicity, in the following regression equations, we refer to relative returns and relative transfers as Return and Transfer, respectively. Figures 2 (a) and (b) show all the relative returns of trustees predetermined on 11 possibilities of relative transfers and the respective Tobit regression lines for each country in the intra- and international experiments, respectively.

Figure 2 is around here.

Table 3 summarizes the results of the above Tobit regressions. The coefficient on Transfer in each country is positive and significant at the 1% level in both experiments. At the 5% level, the intercept in each country is negative and significant in the intranational experiment, but this is not the case in the international experiment.

Table 3 is around here.

To compare the relative returns between the first- and second-order trustee, we show the regressions for the first- and second-order trustee separately. Table 4 summarizes the results of Tobit regressions of relative returns on 11 possible relative transfers in each order of playing trustee. The coefficient on Transfer in each country is positive

and significant at the 1% level in both experiments. Some intercepts are marginally significant but others are not. Combining with the above result of pooled data, both intra- and international reciprocative levels increase as the interacting groups' trust levels increase in both countries.

Table 4 is around here.

The coefficients on Transfer for the second-order trustee (who played trustor in part 1) are higher than those of the first-order trustee (who played trustor in part 2), apart from the Japanese groups in the international experiment. To examine the order effects, we consider the following Tobit dummy regressions in each experiment:

$$\text{Return}_{ij} = a + b\cdot\text{Transfer}_{ij} + c\cdot\text{2nd} + d\cdot\text{Transfer}_{ij}\cdot\text{2nd} + \varepsilon_{ij},$$

$$\text{for } i = 1, \ldots, 36; j = 0, \ldots, 10$$

where 2nd is an order dummy variable taking the value 1 for the second-order trustee and 0 for first-order trustee. The results are summarized in Table 5.

Table 5 is around here.

The coefficient on Transfer·2nd is significant only for the Japanese groups in the intranational experiment. The coefficients on 2nd are not significant in either country in both intra- and international experiments. Thus, the order difference of playing trustee does not affect intranational reciprocity in Austria, but Japanese playing trustee second show higher intranational reciprocity than those playing trustee first. However, the order difference of playing trustee does not affect international reciprocity in both countries.

Except for the intranational experiment in Japan, we can pool the data across the first- and second- order trustee. A comparison of the Tobit regression lines for the two countries in Figure 2 reveals that although the reciprocity levels of Austrian and Japanese groups are not very different in the intranational experiment, the Japanese groups display higher reciprocity than the Austrian groups in the international experiment. To examine the difference between the two countries, we consider the following regressions in each experiment:

$$\text{Return}_{ij} = a + b\cdot\text{Transfer}_{ij} + c\cdot\text{JPN} + d\cdot\text{Transfer}_{ij}\cdot\text{JPN} + \varepsilon_{ij},$$

$$\text{for } i = 1, \ldots, 36; j = 0, \ldots, 10$$

where JPN is a country dummy variable taking the value 1 for Japanese groups and 0 for Austrian groups. These results are summarized in Table 6. Notice that we provide both pooled and separate analyses on the intranational experiment in Japan to allow for comparison.

Table 6 is around here.

The coefficient on Transfer·JPN is not significant at less than 5% in the intranational experiment in any regression. On the other hand, it is significant at the 5% level in the international experiment. The coefficients on JPN are not significant in both the intra- and international experiments. Thus, there is no significant difference in intranational reciprocity between two countries. However, international reciprocity in Japan is higher than that in Austria.

Next, we compare the intra- and international reciprocity of each country to examine whether or not foreign interacting groups affect reciprocity. We consider the following regressions for each country:

$$\text{Return}_{ij} = a + b\cdot\text{Transfer}_{ij} + c\cdot\text{INTER} + d\cdot\text{Transfer}_{ij}\cdot\text{INTER} + \varepsilon_{ij},$$

$$\text{for } i = 1, \ldots, 36; j = 0, \ldots, 10$$

where INTER is an experimental dummy variable taking the value 1 for the international experiment and 0 for the intranational experiment. These results are summarized in Table 7.

Table 7 is around here.

The coefficient on Transfer·INTER is not significant for Austria. In Japan, the coefficient is positive and significant at the 1% level for the 2nd intra- vs. international experiment, and significant at the 10% level for the pooled intra- vs. international experiment. The latter significance is marginal, and we defer support for any difference in Japn between intra- and international reciprocity. Thus, there is no significant difference between Austrian intra- and international reciprocity. However, as regards Japanese, although there is no significant difference between intra- and international reciprocity, the international reciprocity of all Japanese is higher than the intranational reciprocity of the Japanese playing trustee second.

4 Survey analysis predicting trust and reciprocity

4.1 Group characteristics

Knack and Keefer (1997) and Zak and Knack (2001) find that high-trust societies exhibit high rates of investment and growth and, further, that trust declines as social distance increases. Even when behavior is the same across countries, though, Holm and Danielson (2005) argue that underlying preferences can differ, as suggested by a combined consideration of behavioral relationships and responses to survey questions.

The current study similarly employs both behavioral and self-report measures to explore cultural difference and national identity, and its results suggest an explanation for the similarities and differences in cross-cultural studies (for instance, Burks et al., 2003; Holm and Danielson, 2005; Buchan et al., 2008).

In this section, our goal is to investigate what factor enhances or reduces trust and reciprocity. To this end, we use Tobit regressions of relative transfers or returns on three kinds of variables, including responses to survey questions, in addition to the variables we employed in the previous sections.

The first type is a different behavior that subjects displayed in the other part of the experiment. That is, we employ their own return (transfer) for predicting their trust (reciprocity). We refer to the relative transfers they send while playing trustor as My transfer. We refer to the relative returns—not the actual returns to the counter partner—corresponding to their own transfers while playing trustor as My return. These variables help us examine whether trustors' inherent reciprocation level affects their trust behavior.

The second type consists of expectations. A number of studies have observed that high expectations of counter partner's reciprocity (trust) enhance trust (reciprocity), as also verified in the f-MRI by King-Casas et al. (2005). Since our subjects play both roles of trustor and trustee, we examine not only the relationship between trust and expected returns subjects hold when they play trustor but also the relationship between trust and expected transfers subjects hold when they play trustee. In other words, we also explore whether high expectations of trust from their counter partner enhances their own trust. The variables Expected transfer and Expected return are calculated as relative values to the interacting groups' holdings.

The third kind consists of group characteristics self-reported in the survey. In the survey, we collected basic demographic information: age, gender, parents' education, place where subjects grew up, and family income. We also asked subjects about experience of traveling in Austria and Europe for the Japanese or Japan and Asia for the Austrians, preference of team decisions in order to measure individualism, and many trust questions, including trust in others, in themselves, and in their own culture. Questions are partly taken from Yamagishi and Yamagishi (1994) and Holm and Danielson (2004). Detailed explanations for those values are summarized in the appendix.

To compare national identity in each experiment, we create cross-effect variables by multiplying a Japanese dummy variable by the significant different variables between two countries in both t-test and Wilcoxon rank-sum test for both intra- and international experiments. Table 8 summarizes means and results of statistical tests for variables created from the answers in each group. In this statistical test, there are significant difference in Age, Female, Living in a foreign country, Parents' education, Growing up in a foreign country, Leadership, Consensus, Trust in others, Trust in yourself, and Cultural trust. We, however, eliminate some variables that have no significant effect on either trust or reciprocity to focus on the more important variables and avoid multicollinearity due to including too many explained variables.

Four factors in Table 8 are interesting from the viewpoint of national identity and cultural difference. Expectations are the most interesting factors. Austrians' expected transfer and returns in the international experiment are higher than those in the intranational experiment[8]. That is, Austrian groups expected higher transfers and

[8] The Wilcoxon rank-sum tests do not reject the null hypothesis of no difference in the distributions of expected transfers between the first- and second-order trustor in Austria and Japan at both the intra- (two-tailed p-values are 0.70 and 0.07, respectively) and international (two-tailed p-values are 0.24

returns to Japanese groups than those to Austrian groups. Japanese groups, however, do not entertain such expectations for Austrian groups. Second, the Individualism score in the international experiment is significantly higher in Japan than in Austria in t-test, although this result is inconsistent with Hofsted's (2009) findings. However, the score does not significantly differ between the countries in the intranational experiment. Third, both indices of Trust in others and Trust in yourself in the intra- and international experiments are significantly higher in Austria than in Japan in both t-test and Wilcoxon rank-sum test. This is consistent with the result of the World Value Survey. Fourth, cultural trust is significantly higher in Japan than in Austria in both t-test and Wilcoxon rank-sum test.
In the following paragraphs, we first focus on the relationship between trust and the above variables and then explore the relation between reciprocity and the variables.

Table 8 is around here.

4.2 Trust and group characteristics

To begin with, we examine national identity in each experiment. Table 9 summarizes the results of Tobit regressions of relative transfers on three kinds of variables: My return variables, expectations, and demographic variables. A model is incrementally built from columns (1) to (7) with important demographic variables, the individualism index, and trust indices. Four results are important.

First, JPN is not significant in both experiments, except for columns (2) and (3) in the international experiment. Therefore, we support no significant difference between the two countries in both intra- and international trust levels, as with the results of non-parametric Wilcoxon rank-sum tests in the previous section. That is, our last results of non-cultural difference in intra- and international trust are robust.

Second, My return is significantly positive but My return·JPN is not significant in the international experiment. International reciprocity enhances international trust, and there is no significant difference between the two countries in this relationship. In the intranational experiment, although My return is not significant, My return·JPN is significantly negative in all regressions. Thus, the intranational reciprocity in Austria enhances their intranational trust more than that in Japan does.

Third, Expected return is significantly positive in both the intra- and international experiments. In both countries, higher expectations of reciprocity enhance both intra- and international trust. However, since Expected return·JPN is significantly positive only in the international experiment, Japanese expectations of international reciprocity enhance their international trust more than Austrian expectations do. Expected transfers, however, have no significant effect in both experiments. Trust behavior has a linkage with the expected return in the same part of the experiment but not with the expected transfer in the other part.

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and 0.45, respectively) levels. Also, the Wilcoxon rank-sum tests do not reject the null hypothesis of no difference in the distribution of expected returns between the first- and second-order trustee in Austria and Japan at both the intra- (two-tailed p-values are 0.57 and 0.12, respectively) and international (two-tailed p-values are 0.51 and 0.12, respectively) levels.

Fourth, Females is significantly negative in the international experiment. Increasing the number of females in the group reduces international trust. As Female·JPN suggests no significance, there is no significant difference in this effect between the two countries. Trust in yourself·JPN is significantly negative in the international experiment. In Japan, the scale of Trust in yourself has a negative effect on their international trust. Other demographic variables, the individual index, and trust indices do not have significant effects on their trust behavior.

Table 9 is around here.

Next, we examine whether foreign interacting groups affect trust behavior in each country. Table 10 summarizes the results of Tobit regressions of relative transfers on three kinds of variables: My return variable, expectations, and demographic variables. A model is incrementally built from columns (1) to (6) with important demographic variables, individualism index, and trust indices. Four results are important.

First, INTER is not significant in Japan and Austria, except for columns (2) and (3) in Austria. This result supports the view that intra- and international trust are identical across the two countries as suggested by non-parametric Wilcoxon rank-sum tests in the previous section. That is, no difference between intra- and international trust is robust.

Second, Expected transfer is significantly positive in Japan but is not significant in Austria. In Japan, expectations of transfer enhance trust. Additionally, Expected return exhibits significantly positive values in both countries. In both countries, expectations of return enhance their trust. Both expected variables, however, do not show significant differences between intra- and international experiments in each country.

Third, Female·INTER exhibits a significantly negative value in Austria but not in Japan. In Austria, a larger number of females reduces international trust levels more than the intranational. As suggested in Table 9, Female robustly reduces international trust.

Fourth, Leadership is significantly negative in all regressions in Japan. However, Leadership·INTER is not significant in Japan. Japanese reduce their trust if the leadership of group members increases. Additionally, since Family income has a significant negative value in Austria, Family income enhances Austrian trust. However, there is no significant difference between intra- and international experiments. Other demographic variables do not exhibit significant values, and some trust indices have a marginal effect.

Table10 is around here.

4.3 Reciprocity and group characteristics

To begin with, we examine cultural difference in each experiment. Table 11 summarizes the results of Tobit regressions of relative returns on possibilities of transfers and three kinds of variables: My transfer variables, expectations, and demographic variables. A model is incrementally built from columns (1) to (7) with important demographic variables, individualism index, and trust indices. Four results are important.

First, Transfer·JPN is significantly negative, most at the 10% level, in all regressions in the intranational experiment. This result is not consistent with Table 6. Table 6 does not include Transfer·2nd·JPN. Here, this variable, however, exhibits a significantly positive value at the 1% level in the intranational experiment. This result is the same as in Table 5. It is robustly shown that the Japanese playing trustee second display higher intranational reciprocity than other groups. Thus, Transfer·JPN in the intranational experiment in Table 6 may be a misspecification. We employ the result in this section and conclude that the Japanese display less intranational reciprocity than the Austrians do. On the other hand, the significance of Transfer·JPN in the international experiment is weaker than that in Table 6. However, the values are similar to those in Table 6. In the international experiment, other variables added weaken the effect of Transfer·JPN.

Second, in the international experiment, My transfer displays significantly positive values, and My transfer·JPN significantly negative values. In both Austria and Japan, international trust behavior enhances their own international reciprocity, but this effect is weaker in Japan than Austria.

Third, in the intranational experiment, Expected transfer displays significantly positive values, but there is no significant difference in this effect between the two countries. Expected return, however, does not display significant values in both experiments. Similar to trust behavior, reciprocity is dependent on the expected transfer in the same part of the experiment but is independent of the expected return in the other part. Since Expected return·JPN in the international experiment is marginally significant and positive, Japanese expectations of international reciprocity enhance their international trust slightly more than Austrian expectations do.

Fourth, Parents' education weakly increases reciprocity in the international experiment, but its effect is weaker in Japan than Austria. Additionally, Economics is significantly positive in the international experiment. Increasing the number of economics students in the group enhances reciprocity. In the intranational experiment, on the other hand, Family income, Individualism, and General fairness enhance reciprocity.

Table 11 is around here.

Next, we examine whether foreign interacting groups affect reciprocity behavior in each country. Table 12 summarizes the results of Tobit regressions of relative returns on possibilities of transfers and three kinds of variables: My transfer variables, expectations, and demographic variables. A model is incrementally built

from columns (1) to (6) with important demographic variables, the individualism index, and trust indices. Four results are important.

First, in Austria, 2nd·INTER displays significantly negative values. Austrians playing trustee second reduce international reciprocity more than the intranational type when their interacting group's transfer is zero.

Second, in Austria, My transfer does not display significant values, but My transfer·INTER shows significantly positive values. In Austrian, the international trust enhances their reciprocity more than the intranational trust does.

Third, Expected transfer displays significantly positive values in both countries but Expected return does not. Reciprocity is dependent on the expected transfer in the same part of the experiment but is independent of the expected return in the other part. Additionally, since Expected transfer·INTER in Japan exhibits negative values, Japanese expectation of transfers enhances international reciprocity less than it does the intranational type.

Fourth, Economics exhibits significantly positive values in both countries. Increasing the number of economics students in the group enhances reciprocity in both countries. Additionally, in Japan, Family income, Individualism, and the index of Trust in yourself enhance reciprocity.

Table 12 is around here.

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5 Conclusion and discussion

In this paper, we explores national identity in trust and reciprocity at the intra- and international levels by adopting a modified trust game played among groups from Austria and Japan, in which subjects play the roles of trustor and trustee consecutively without any information feedback. Our first primary results are as follows.

Trust: There is no significant difference in both intra- and international trust levels between two countries. Further, there is no difference between intra- and international trust levels in each country.

Reciprocity: The intranational reciprocity in Austria is higher than in Japan, but there is no significant difference in international reciprocity between the two countries. The Japanese playing trustee second display higher intranational reciprocity than other groups. Austrians playing trustee second show less international reciprocity than intranational type if their transfer receipts are zero.

The results of Cox (2002) and that of Kugler et al. (2007) suggest that individual norms are not always consistent with the group norm. Our results are inconsistent with the original study of Netzer and Sutter (2009), who find that the Austrians exhibit greater trust toward the Japanese and the Japanese reciprocate less toward the Austrians. While Netzer and Sutter find that the Japanese display less in-group favoritism in trust, Takahashi et al. (2008) observe that the Japanese also display less in-group favoritism in both trust and reciprocity. Our findings are different from these studies, and show that the Japanese groups display less in-group favoritism only in the intranational reciprocity.

Apart from the trust game, non-cultural differences in trust behavior of our subjects support some previous studies comparing Western and Japanese norms. Brandts et al. (2004) find no significant differences in public good contributions among the US, Japan, the Netherlands, and Spain. Further, Okada and Riedl (1999) find no significant differences in terms of offers, by employing a variation of the ultimatum game between Austrians and Japanese. Konow et al. (2009) find no difference in the preference of allocation in the dictator game in US and Japan. Our results are, however, different from Roth et al. (1991), who find that offers in the ultimatum game are higher in the US and Slovenia than in Japan and Israel.

Second, while Buchan et al. (2002) find that a low level of trust induces a low level of reciprocity in Japan, we also find that international trust behavior enhances international reciprocity and this effect is weaker in Japan than Austria. Additionally, the intranational reciprocity in Austria enhances their intranational trust more than that in Japan does theirs. Further, in Austria, the international trust enhances the reciprocity more than the intranational trust does.

Third, in each country, at both intra- and international levels, expected returns enhance trust. In Japan, expected transfers enhance trust. At the international level, the expected returns in Japan enhance their trust more than those in Austria do. However, in Japan, the expected transfer enhances international reciprocity less than it does intranational reciprocity. The last result appears to be related to the fact that the Japanese display less in-group favoritism in intranational reciprocity. In these results, the bottom line seems to be that trust and reciprocity are dependent on the expected return and transfer, respectively, in the same part of the experiment but are independent of the expected transfer and return, respectively, in the other part of the experiment.

Fourth, regarding demographic characteristics, increasing the number of females in the group reduces international trust. In Austria, this reduces international trust more than it does intranational trust. These results are contrary to those of Croson and Buchan (1999) and Buchan et al. (2008), who find that females increase reciprocity in the individual trust game. In the group norm, the gender effect is not negligible.

Additionally, the scale of trust in yourself reduces international trust in Japan. Increasing members' leadership reduces Japanese trust. Family income enhances Austrian trust. Increasing the number of economics students in the group enhances reciprocity. Family income, Individualism, and General fairness enhance intranational reciprocity. Family income, Individualism, and the index of Trust in yourself enhance Japanese reciprocity.

When one group trusts an interacting group, they face uncertainty of how much their interacting groups send back. On the other hand, when they reciprocate their interacting group's investment, they do not face uncertainty because they can make their decisions for all possible transfers from the interacting group, at least, in the laboratory. Therefore, reciprocity displayed by the strategy method in the laboratory can be regarded as the behavior undertaken in a no-risk environment. Additionally, intranational reciprocity is expressed as a less risky behavior than the international type because subjects know their counter partner's culture or national identity. In this sense, our findings that trust and international reciprocity are identical but intranational reciprocity differs across nationalities imply that less risky

environments well expresses the national identity of group norms. That is, intranational reciprocity in Japan is lower than in Austria.

This is the first step to international comparison of trust and reciprocity under group decisions. Our findings shed new light on economic theory from the viewpoint of international trade, joint venture, M&A, technical support for foreign customers, etc. Our study has an important implication in terms of its contribution toward comparative analyses of group norms not only between the EU and Japan but, in a larger sense, between individualism and collectivism as well.

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Appendix: Definitions of variables

Table A1 summarizes the definitions of variables created from responses to survey questions. Age, Leadership, and Cultural trust are average values of answers by three subjects in each group. Trust in others and Trust in yourself are index variables created from questions 15–24 and 16–30, respectively, in the following manner. First, we summarize the answers of each subject to questions 15–24 for Trust in others and questions 16–30 for Trust in yourself and normalize the respective summations to the average of all subjects. Then, we calculate the averages of the normalized summations in each group for each variable. The total number of answers in each group is taken as 1.

Table A1. Definitions of variables

Variable	Question/Description	Answer
Age	Age	
Female	Gender	1: female; 0: male
Economics	Major	1: economics; 0: others
Friends	1. About how many other participants in this room do you know?	
Travel to Europe/Asia	2. Have you ever been to Europe/Asia?	1: yes; 0: no
Travel to Austria/Japan	3. Have you ever been to Austria/Japan?	1: yes; 0: no
Living in a foreign country	4. Have you ever lived in a foreign country (at least 6 months)?	1: yes; 0: no
Parents' education	5. Did your parents graduate from University?	1: yes in both father and mother; 0: others
Growing up in a foreign country	6. Where did you grow up? (If necessary, please check more than one answer with a cross.)	1: foreign country; 0: others
Family income	7. Compared to other Japanese families in general, would you say your family income at the age of 16 was roughly	1: below average; 0: others
Individualism	8. Generally, do you prefer to make decisions by yourself or as a team?	1: myself; 0: team
Leadership	9. How large was your role in making the team decisions?	1: very small; 2: small; 3: normal; 4: big; 5: very big
Voting	10. Were your team decisions made by vote?	1: yes; 0: no
Consensus	12. Did all members of your team have an equal say in the final decision?	1: yes; 0: no
General fairness	13. Do you think most people would try to	0: take advantage of you if they got a chance; 1: be fair
General trust	14. Do you think most people can be trusted?	0: generally no; 1: generally yes

Trust in others	Normalized summation of questions 15–24	1: strongly disagree to 5: strongly agree Questions 22 and 23 5: strongly disagree to 1: strongly agree Others 1: strongly disagree to 5: strongly agree
Trust in yourself	Normalized summation of questions 25–30	
Cultural trust	31. Which culture do you trust more?	1: nearest to your own country to 5: farthest from your country

Note: Travel to Europe (Asia), Travel to Austria (Japan) and Cultural trust are asked only in the international experiment. Travel to Europe (Asia) is the question for Japanese (Austrians). Travel to Austria (Japan) is the question for the Japanese (Austrians).

Table 1. Experimental design

Experiment	Treatment	Number of sessions	Team A 1st: trustor 2nd: trustee	Team B 1st: trustee 2nd: trustor	Number of teams in each role
Intranational	AA	4	Austrian groups	Austrian groups	18
	JJ	4	Japanese groups	Japanese groups	18
International	AJ	4	Austrian groups	Japanese groups	18
	JA	4	Japanese groups	Austrian groups	18

Table 2. Statistical results of relative transfers, returns, and payments

	The intranational experiment		The international experiment	
	Austria	Japan	Austria	Japan
Relative transfers				
1st trustor	0.67 (0.09)	0.73 (0.08)	0.77 (0.06)	0.76 (0.07)
2nd trustor	0.44 (0.10)	0.51 (0.10)	0.58 (0.10)	0.54 (0.09)
Pooled data	0.56 (0.07)	0.62 (0.07)	0.68 (0.06)	0.65 (0.06)
Relative returns				
1st trustee	0.18 (0.05)	0.10 (0.04)	0.25 (0.05)	0.29 (0.04)
2nd trustee	0.14 (0.05)	0.16 (0.05)	0.17 (0.05)	0.20 (0.05)
Pooled data	0.16 (0.03)	0.13 (0.03)	0.21 (0.03)	0.24 (0.03)
Payments	16.19 (0.71)	18.11 (0.94)	16.70 (0.56)	16.40 (0.60)
Total number of teams	36	36	36	36

Note: Standard errors are in parentheses. Expected transfers and expected returns are calculated as relative values to the interacting group's holdings.

Table 3. Results of Tobit regressions for pooled data

	The intranational experiment		The international experiment	
	Austria	Japan	Austria	Japan
Intercept	−0.11**	−0.12**	−0.09*	−0.02
	(0.05)	(0.05)	(0.05)	(0.03)
Transfer	0.34***	0.34***	0.35***	0.39***
	(0.03)	(0.04)	(0.02)	(0.03)
R^2	0.17	0.14	0.16	0.32
No. of obs.	396	396	396	396
# Left-censored	179	188	172	117
# Right-censored	0	0	0	0

Note: Standard errors in parentheses are adjusted for 36 clusters for a total of 396 subjects. R^2 indicates the results of OLS regression. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Table 4. Results of Tobit regressions for each order

Experiment	The intranational experiment				The international experiment			
Country	Austria		Japan		Austria		Japan	
Order of playing trustee	1	2	1	2	1	2	1	2
Intercept	−0.04	−0.18*	−0.11	−0.13*	−0.02	−0.17*	−0.06	0.02
	−0.05	−0.08	−0.08	−0.06	−0.06	−0.08	−0.05	−0.04
Transfer	0.32***	0.37***	0.22**	0.43***	0.30***	0.41***	0.40***	0.39***
	−0.04	−0.03	−0.07	−0.04	−0.03	−0.03	−0.04	−0.03
Adjusted R^2	0.21	0.15	0.07	0.23	0.15	0.18	0.34	0.33
No. of obs.	198	198	198	198	198	198	198	198
# Left-censored	73	106	105	83	72	96	68	49
# Right-censored	0	0	0	0	0	0	0	0

Note: Standard errors in parentheses are adjusted for 18 clusters for a total of 198 subjects. Adjusted R^2 indicates the results of OLS regression. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 5. Results of dummy test for order effects

	The intranational experiment		The international experiment	
	Austria	Japan	Austria	Japan
Intercept	−0.06	−0.09	−0.03	−0.06
	(0.05)	(0.06)	(0.06)	(0.05)
Transfer	0.34***	0.21**	0.30***	0.40***
	(0.05)	(0.07)	(0.03)	(0.04)
2nd	−0.09	−0.07	−0.13	0.08
	(0.06)	(0.07)	(0.07)	(0.05)
Transfer·2nd	0.01	0.25**	0.10	−0.01
	(0.07)	(0.08)	(0.06)	(0.06)
Adjusted R^2	0.19	0.16	0.17	0.35
No. of obs.	396	396	396	396
# Left-censored	179	188	172	117
# Right-censored	0	0	0	0

Note: Standard errors in parentheses are adjusted for 36 clusters for a total of 396 subjects. Adjusted R^2 indicates the results of OLS regression. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 6. Results of dummy test for Austria vs. Japan in each experiment

	The intranational experiment			The international experiment
	Austria vs. 1st Japan	Austria vs. 2nd Japan	Austria vs. Pooled Japan	Austria vs. Japan
Intercept	−0.10**	−0.12***	−0.11***	−0.07*
	(0.04)	(0.04)	(0.04)	(0.04)
Transfer	0.34***	0.35***	0.35***	0.33***
	(0.03)	(0.03)	(0.03)	(0.02)
JPN	−0.04	0.03	0.00	0.03
	(0.05)	(0.06)	(0.05)	(0.04)
Transfer·JPN	0.10*	−0.14*	−0.02	0.08**
	(0.06)	(0.07)	(0.06)	(0.04)
R^2	0.20	0.14	0.16	0.25
No. of obs.	594	594	792	792
# Left-censored	262	284	367	289
# Right-censored	0	0	0	0

Note: 1st (2nd) Japan is the Japanese groups playing trustee first (second) Standard errors in parentheses are adjusted for 72 clusters for a total of 792 subjects. R^2 indicates the results of OLS regression. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 7. Result of dummy test for the intra- vs. international experiments in each country

	Austria		Japan	
	Intra- vs. International	1st intra- vs. International	2nd intra- vs. International	Pooled intra- vs. International
Intercept	−0.11***	−0.11**	−0.06	−0.09**
	(0.04)	(0.05)	(0.05)	(0.04)
Transfer	0.35***	0.41***	0.20***	0.31***
	(0.03)	(0.04)	(0.06)	(0.04)
INTER	0.03	0.08*	0.03	0.06
	(0.05)	(0.05)	(0.05)	(0.04)
Transfer·INTER	0.00	−0.01	0.21***	0.10*
	(0.04)	(0.05)	(0.07)	(0.05)
R^2	0.17	0.31	0.29	0.26
No. of obs.	792	594	594	792
# Left-censored	351	200	222	305
# Right-censored	0	0	0	0

Note: 1st (2nd) intra- is the Japanese groups playing trustee first (second) in the intranational experiment. The standard errors in parentheses are adjusted for 72 clusters for a total of 792 subjects. R^2 indicates the results of OLS regression. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 8. Summary statistics of survey results for each group

	Statistical summary				Compared test							
	The intranational experiment		The international experiment		The intranational experiment		The international experiment		Japan		Austria	
					Austria vs. Japan		Austria vs. Japan		Intra- vs. International		Intra- vs. International	
Variable	Austria	Japan	Austria	Japan	W. rank-sum test	t-test	W. rank-sum test	t-test	W. rank-sum test	t-test	W. rank-sum test	t-test
My transfer	0.56	0.62	0.68	0.65								
	(0.07)	(0.07)	(0.06)	(0.06)								
My return	0.20	0.22	0.24	0.30						*		
	(0.03)	(0.03)	(0.03)	(0.03)								
Expected transfer	0.41	0.48	0.65	0.55							***	***
	(0.06)	(0.06)	(0.05)	(0.05)								
Expected return	0.25	0.29	0.35	0.33							*	**
	(0.03)	(0.03)	(0.03)	(0.03)								
Age	22.74	21.40	22.65	21.24	***	***	***	***				
	(0.25)	(0.18)	(0.26)	(0.25)								
Female	1.53	0.94	1.64	0.50	**	***	***	***	**	***		
	(0.17)	(0.13)	(0.14)	(0.09)								
Economics	0.22	0.28	0.08	0.25			*	*				
	(0.07)	(0.09)	(0.05)	(0.07)								
Friend	0.85	0.57	0.47	0.54	*		**				***	**
	(0.12)	(0.12)	(0.13)	(0.07)								
Travel to Europe (Asia)	0.00	0.00	0.75	0.50					***	***	***	***
	0.00	0.00	(0.13)	(0.11)								
Travel to Austria (Japan)	0.00	0.00	0.06	0.17					**	**		
	0.00	0.00	(0.04)	(0.06)								
Living in a foreign country	1.39	0.11	1.06	0.06	***	***	***	***				
	(0.16)	(0.05)	(0.13)	(0.04)								
Parents' education	0.50	1.14	0.28	1.28	***	***	***	***				*
	(0.10)	(0.16)	(0.08)	(0.15)								
Growing up in a foreign country	0.75	0.00	0.53	0.00	***	***	***	***				
	(0.12)	0.00	(0.13)	0.00								
Family income	1.17	0.81	0.81	1.11	**	**					**	**
	(0.12)	(0.11)	(0.12)	(0.17)								
Individualism	0.97	1.03	0.82	1.17			**	**				
	(0.10)	(0.11)	(0.11)	(0.10)								
Leadership	3.79	3.05	3.64	3.05	***	***	***	***			*	
	(0.06)	(0.08)	(0.07)	(0.06)								
Vote	2.03	1.75	2.08	1.69			*	*				
	(0.16)	(0.17)	(0.15)	(0.15)								
Consensus	2.97	2.47	2.89	2.53	***	***	***	***				
	(0.03)	(0.12)	(0.07)	(0.12)								
General fairness	1.61	1.86	1.50	1.42					**	**		
	(0.17)	(0.16)	(0.17)	(0.14)								
General trust	1.36	1.39	1.11	1.31								
	(0.16)	(0.13)	(0.15)	(0.15)								
Trust in others	1.02	0.97	1.05	0.96	**	**	***	***				
	(0.02)	(0.01)	(0.01)	(0.01)								
Trust in yourself	1.05	0.95	1.04	0.96	***	***	***	***				
	(0.01)	(0.01)	(0.01)	(0.02)								
Cultural trust	NA	NA	0.81	1.19			***	***				
			(0.03)	(0.03)								

Note: W. rank-sum test is short for Wilcoxon rank-sum test. The standard errors are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 9. Survey analysis on trust for Austria vs. Japan in each experiment

	The intranational experiment						The international experiment						
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intercept	0.56***	−0.34**	−0.45*	−0.20	−0.11	−1.62	0.76***	0.14	0.46***	0.18	0.12	−1.36	−1.08
	(0.16)	(0.17)	(0.26)	(1.06)	(1.02)	(1.69)	(0.11)	(0.14)	(0.16)	(0.43)	(0.42)	(0.95)	(0.98)
JPN	0.25	−0.14	−0.01	1.31	0.82	2.21	0.02	−0.61***	−0.93***	−0.30	−0.39	1.93	2.06
	(0.23)	(0.25)	(0.31)	(1.21)	(1.20)	(2.36)	(0.15)	(0.22)	(0.25)	(0.63)	(0.62)	(1.32)	(1.36)
My return		0.89	0.76	0.89	0.84	0.78		1.66***	1.65***	1.64***	1.63***	1.54***	1.52***
		(0.59)	(0.61)	(0.61)	(0.59)	(0.57)		(0.32)	(0.32)	(0.31)	(0.31)	(0.29)	(0.30)
My return·JPN		−1.88**	−1.70*	−1.67*	−1.47*	−1.91**		−0.94	−0.62	−0.75	−0.53	0.05	0.36
		(0.91)	(0.92)	(0.88)	(0.86)	(0.93)		(0.57)	(0.54)	(0.56)	(0.57)	(0.65)	(0.68)
Expected transfer		0.52	0.46	0.33	0.33	0.30		−0.11	−0.13	−0.15	−0.18	−0.19	−0.07
		(0.34)	(0.35)	(0.34)	(0.32)	(0.32)		(0.24)	(0.23)	(0.23)	(0.23)	(0.21)	(0.22)
Expected transfer·JPN		0.42	0.42	0.62	0.60	0.74		0.19	0.22	0.24	0.24	0.29	0.04
		(0.54)	(0.55)	(0.55)	(0.53)	(0.59)		(0.36)	(0.33)	(0.33)	(0.32)	(0.30)	(0.32)
Expected return		2.03***	2.10***	2.11***	2.05***	2.19***		0.75**	0.82***	0.79***	0.79***	0.92***	0.92***
		(0.57)	(0.64)	(0.61)	(0.59)	(0.62)		(0.28)	(0.27)	(0.27)	(0.27)	(0.26)	(0.26)
Expected return·JPN		1.56	1.71	1.87*	1.96*	2.10*		2.09***	1.72**	1.91***	1.84**	1.34*	1.37**
		(0.98)	(1.03)	(1.03)	(1.02)	(1.14)		(0.69)	(0.67)	(0.71)	(0.70)	(0.68)	(0.68)
Female			0.05	0.07	0.10	0.09			−0.19***	−0.18***	−0.18***	−0.19***	−0.23***
			(0.09)	(0.09)	(0.10)	(0.10)			(0.06)	(0.06)	(0.06)	(0.07)	(0.07)
Female·JPN			−0.16	−0.20	−0.18	−0.22			0.11	0.15	0.11	0.09	0.10
			(0.17)	(0.16)	(0.16)	(0.19)			(0.11)	(0.12)	(0.13)	(0.12)	(0.13)
Economics			0.11	0.18	0.17	0.15			−0.14	−0.11	−0.15	−0.19*	−0.22**
			(0.15)	(0.15)	(0.15)	(0.16)			(0.11)	(0.11)	(0.12)	(0.11)	(0.11)
Parents' education			−0.08	−0.07	−0.14	−0.16			0.04	0.03	0.02	0.01	−0.03
			(0.15)	(0.15)	(0.15)	(0.15)			(0.12)	(0.12)	(0.12)	(0.11)	(0.11)
Parents' education·JPN			0.05	0.06	0.12	0.20			0.02	0.02	0.03	0.09	0.15
			(0.17)	(0.18)	(0.18)	(0.19)			(0.13)	(0.13)	(0.13)	(0.12)	(0.12)
Family income			0.07	0.13	0.14	0.16			0.00	0.01	0.02	0.00	0.02
			(0.09)	(0.10)	(0.10)	(0.10)			(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Individualism				−0.10	−0.08	−0.07				0.00	0.00	0.00	−0.04
				(0.10)	(0.10)	(0.10)				(0.06)	(0.06)	(0.06)	(0.06)
Leadership				−0.06	−0.13	−0.12				0.08	0.08	0.07	0.02
				(0.27)	(0.26)	(0.27)				(0.11)	(0.11)	(0.10)	(0.10)
Leadership·JPN				−0.47	−0.36	−0.37				−0.20	−0.18	−0.20	−0.16
				(0.33)	(0.33)	(0.34)				(0.19)	(0.19)	(0.18)	(0.18)
General fairness					−0.02	0.02					0.06	0.08*	0.10**
					(0.07)	(0.08)					(0.04)	(0.04)	(0.05)
General trust					0.12	0.16					−0.03	−0.03	−0.05
					(0.09)	(0.10)					(0.05)	(0.05)	(0.05)
Trust in others						0.37						0.43	0.52
						(0.88)						(0.69)	(0.70)
Trust in others·JPN						−2.10						−0.18	0.01
						(1.43)						(1.11)	(1.13)
Trust in yourself						0.92						1.03*	0.79
						(1.05)						(0.57)	(0.57)
Trust in yourself·JPN						0.80						−2.14**	−2.50**
						(1.72)						(0.99)	(1.01)
Cultural trust													0.17
													(0.31)
Cultural trust·JPN													−0.19
													(0.48)
Travel to Europe (Asia)													−0.11*
													(0.06)
R^2	0.01	0.72	0.72	0.74	0.75	0.76	0.00	0.72	0.76	0.77	0.78	0.80	0.81
No. of obs.	72	72	72	72	72	72	72	72	72	72	72	72	72
# Left-censored	17	17	17	17	17	17	9	9	9	9	9	9	9
# Right-censored	26	26	26	26	26	26	25	25	25	25	25	25	25

Note: The standard errors are in parentheses. R^2 indicates the results of OLS regression. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 10. Survey analysis of trust behavior for intra- vs. international experiments in each country

	Japan						Austria					
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.79***	−0.37**	−0.23	0.95**	0.66	0.75	0.56***	−0.28*	−0.43*	0.03	0.06	−1.37
	(0.15)	(0.17)	(0.18)	(0.42)	(0.48)	(1.11)	(0.12)	(0.14)	(0.22)	(0.91)	(0.89)	(1.40)
INTER	0.04	−0.15	−0.25	−0.92	−0.63	−0.09	0.21	0.38*	0.85***	0.18	0.07	−0.81
	(0.20)	(0.25)	(0.27)	(0.68)	(0.72)	(1.61)	(0.17)	(0.22)	(0.30)	(1.04)	(1.03)	(1.75)
My return		−0.85	−0.64	−0.50	−0.47	−0.88		0.82	0.61	0.58	0.52	0.48
		(0.54)	(0.54)	(0.52)	(0.53)	(0.57)		(0.51)	(0.48)	(0.52)	(0.51)	(0.48)
My return·INTER		1.61**	1.49*	1.03	0.99	1.92**		0.99	1.01	1.05	1.13*	1.07*
		(0.77)	(0.78)	(0.75)	(0.79)	(0.93)		(0.64)	(0.61)	(0.64)	(0.64)	(0.60)
Expected transfer		0.83**	0.76**	0.78**	0.79**	0.87**		0.48	0.48*	0.48	0.48*	0.43
		(0.34)	(0.35)	(0.34)	(0.35)	(0.39)		(0.29)	(0.28)	(0.29)	(0.28)	(0.27)
Expected transfer·INTER		−0.73	−0.60	−0.74	−0.71	−0.74		−0.59	−0.69*	−0.68	−0.66	−0.60
		(0.45)	(0.46)	(0.45)	(0.46)	(0.48)		(0.42)	(0.40)	(0.41)	(0.40)	(0.38)
Expected return		3.18***	3.15***	3.20***	3.26***	3.31***		1.91***	1.79***	1.72***	1.76***	1.93***
		(0.66)	(0.63)	(0.64)	(0.66)	(0.72)		(0.49)	(0.50)	(0.51)	(0.51)	(0.51)
Expected return·INTER		−0.22	−0.44	−0.04	−0.13	−0.63		−1.09*	−0.85	−0.79	−0.91	−0.93
		(0.95)	(0.93)	(0.91)	(0.90)	(0.92)		(0.59)	(0.59)	(0.61)	(0.61)	(0.60)
Female			−0.11	−0.11	−0.08	−0.14			0.07	0.08	0.07	0.07
			(0.10)	(0.10)	(0.10)	(0.11)			(0.08)	(0.08)	(0.08)	(0.08)
Female·INTER			0.03	0.10	0.06	0.07			−0.29**	−0.29**	−0.29**	−0.33**
			(0.15)	(0.16)	(0.17)	(0.17)			(0.11)	(0.12)	(0.12)	(0.13)
Economics			0.02	0.08	0.11	0.05			−0.06	−0.06	−0.06	−0.10
			(0.11)	(0.11)	(0.11)	(0.11)			(0.14)	(0.14)	(0.14)	(0.14)
Parents' education			0.00	0.01	0.01	0.08			−0.13	−0.15	−0.18	−0.22*
			(0.07)	(0.08)	(0.08)	(0.08)			(0.12)	(0.13)	(0.13)	(0.13)
Parents' education·INTER			0.06	0.02	0.03	0.02			0.10	0.13	0.15	0.13
			(0.10)	(0.10)	(0.10)	(0.11)			(0.18)	(0.19)	(0.19)	(0.17)
Family income			−0.05	−0.01	−0.02	−0.05			0.14*	0.15*	0.16**	0.19**
			(0.06)	(0.06)	(0.06)	(0.06)			(0.08)	(0.08)	(0.08)	(0.08)
Individualism				−0.08	−0.08	−0.09				0.03	0.03	0.04
				(0.08)	(0.08)	(0.08)				(0.08)	(0.08)	(0.07)
Leadership				−0.40***	−0.37**	−0.35**				−0.12	−0.16	−0.15
				(0.15)	(0.15)	(0.15)				(0.23)	(0.23)	(0.22)
Leadership·JPN				0.25	0.17	0.15				0.17	0.20	0.15
				(0.23)	(0.24)	(0.24)				(0.26)	(0.26)	(0.25)
General fairness					0.03	0.06					0.05	0.08
					(0.05)	(0.05)					(0.06)	(0.06)
General trust					0.07	0.05					0.02	0.07
					(0.06)	(0.06)					(0.06)	(0.07)
Trust in others						−1.45*						0.05
						(0.78)						(0.73)
Trust in others·INTER						1.94						0.89
						(1.38)						(0.98)
Trust in yourself						1.38						1.17
						(0.95)						(0.89)
Trust in yourself·INTER						−2.55*						0.20
						(1.38)						(1.15)
R^2	0.00	0.76	0.77	0.79	0.80	0.81	0.03	0.68	0.72	0.73	0.73	0.75
No. of obs.	72	72	72	72	72	72	72	72	72	72	72	72
# Left-censored	11	11	11	11	11	11	15	15	15	15	15	15
# Right-censored	30	30	30	30	30	30	21	21	21	21	21	21

Note: The standard errors are in parentheses. R^2 indicates the results of OLS regression. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 11. Survey analysis on reciprocity for Austria vs. Japan in each experiment

	The intranational experiment						The international experiment						
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intercept	−0.11***	−0.28***	−0.35***	−0.39	−0.36	−0.57	−0.06*	−0.44***	−0.53***	−0.54*	−0.53*	−0.24	−0.10
	(0.04)	(0.07)	(0.09)	(0.36)	(0.36)	(0.51)	(0.04)	(0.10)	(0.13)	(0.31)	(0.31)	(0.51)	(0.53)
Transfer	0.35***	0.34***	0.34***	0.34***	0.34***	0.34***	0.33***	0.34***	0.34***	0.34***	0.34***	0.33***	0.33***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
JPN	0.03	0.09	0.07	−0.11	−0.31	−0.66	−0.01	0.26**	0.38***	0.55	0.59	−0.63	−0.41
	(0.06)	(0.10)	(0.13)	(0.40)	(0.42)	(0.66)	(0.05)	(0.12)	(0.15)	(0.39)	(0.39)	(0.57)	(0.67)
Transfer·JPN	−0.14*	−0.15**	−0.14*	−0.14**	−0.15**	−0.14*	0.09*	0.06	0.06	0.06	0.06	0.07	0.07
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
2nd·JPN	−0.07	−0.13*	−0.10	−0.16**	−0.15**	−0.14**	0.09*	0.05	0.04	0.04	0.03	0.01	0.01
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)
Transfer·2nd·JPN	0.24***	0.22***	0.22***	0.24***	0.24***	0.24***	−0.02	−0.01	−0.01	−0.01	−0.01	−0.01	−0.01
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.06)	(0.06)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
My transfer		0.03	−0.05	−0.05	−0.09	−0.08		0.50***	0.45***	0.45***	0.46***	0.50***	0.46***
		(0.16)	(0.15)	(0.13)	(0.12)	(0.12)		(0.13)	(0.12)	(0.12)	(0.12)	(0.14)	(0.15)
My transfer·JPN		−0.13	0.01	−0.01	0.04	−0.01		−0.65***	−0.54**	−0.56***	−0.56***	−0.59***	−0.53***
		(0.22)	(0.20)	(0.19)	(0.20)	(0.20)		(0.25)	(0.21)	(0.20)	(0.18)	(0.19)	(0.20)
Expected transfer		0.41***	0.35***	0.36***	0.36***	0.33**		0.17	0.20	0.20	0.22	0.22	0.22
		(0.12)	(0.13)	(0.11)	(0.11)	(0.13)		(0.15)	(0.14)	(0.14)	(0.14)	(0.14)	(0.15)
Expected transfer·JPN		−0.04	0.03	0.14	0.14	0.16		−0.11	−0.24	−0.22	−0.22	−0.24	−0.25
		(0.18)	(0.18)	(0.17)	(0.17)	(0.18)		(0.22)	(0.20)	(0.20)	(0.20)	(0.17)	(0.18)
Expected return		−0.06	0.10	0.02	0.15	0.24		−0.27	−0.19	−0.19	−0.20	−0.31*	−0.29
		(0.32)	(0.29)	(0.31)	(0.29)	(0.31)		(0.18)	(0.14)	(0.15)	(0.14)	(0.17)	(0.19)
Expected return·JPN		0.23	−0.04	−0.02	−0.13	−0.33		0.87*	0.74*	0.76**	0.67*	0.66*	0.59*
		(0.47)	(0.43)	(0.45)	(0.45)	(0.47)		(0.46)	(0.40)	(0.39)	(0.38)	(0.34)	(0.35)
Female			0.02	0.02	0.00	−0.01			0.02	0.02	0.03	0.03	0.03
			(0.03)	(0.03)	(0.03)	(0.04)			(0.03)	(0.03)	(0.03)	(0.04)	(0.05)
Female·JPN			0.04	0.03	0.07	0.06			0.04	0.06	0.07	0.07	0.10
			(0.05)	(0.04)	(0.05)	(0.05)			(0.05)	(0.06)	(0.06)	(0.06)	(0.06)
Economics			0.06*	0.06	0.08**	0.05			0.13***	0.15***	0.16***	0.14***	0.14***
			(0.04)	(0.04)	(0.04)	(0.04)			(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Parents' education			−0.05	−0.07	−0.09	−0.10**			0.10*	0.11*	0.10*	0.10*	0.10*
			(0.05)	(0.05)	(0.05)	(0.05)			(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Parents' education·JPN			−0.01	0.02	0.03	0.08			−0.16**	−0.17**	−0.16**	−0.18***	−0.17***
			(0.06)	(0.06)	(0.06)	(0.06)			(0.06)	(0.07)	(0.07)	(0.07)	(0.06)
Family income			0.07**	0.08***	0.07***	0.08***			0.02	0.02	0.01	0.01	0.01
			(0.03)	(0.03)	(0.03)	(0.03)			(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Individualism				0.11***	0.11***	0.12***				0.02	0.03	0.03	0.02
				(0.03)	(0.03)	(0.03)				(0.03)	(0.03)	(0.03)	(0.03)
Leadership				−0.01	−0.04	−0.03				−0.01	0.00	0.00	−0.03
				(0.09)	(0.09)	(0.08)				(0.08)	(0.08)	(0.08)	(0.09)
Leadership·JPN				0.05	0.08	0.05				−0.06	−0.07	−0.02	−0.03
				(0.11)	(0.11)	(0.10)				(0.11)	(0.11)	(0.11)	(0.12)
General fairness					0.05**	0.04*					−0.03	−0.03	−0.03
					(0.02)	(0.02)					(0.02)	(0.02)	(0.02)
General trust					0.00	0.00					0.02	0.03	0.02
					(0.03)	(0.03)					(0.02)	(0.02)	(0.02)
Trust in others						−0.35						−0.10	0.02
						(0.32)						(0.38)	(0.40)
Trust in others·JPN						0.18						0.23	0.23
						(0.43)						(0.54)	(0.56)
Trust in yourself						0.53						−0.18	−0.19
						(0.55)						(0.33)	(0.32)
Trust in yourself·JPN						0.39						0.92*	0.75
						(0.65)						(0.47)	(0.46)
Cultural trust													−0.14
													(0.21)
Cultural trust·JPN													−0.02
													(0.26)
Travel to Europe (Asia)													−0.04
													(0.03)
R^2	0.17	0.42	0.48	0.52	0.54	0.56	0.27	0.44	0.51	0.52	0.54	0.58	0.59
No. of obs.	792	792	792	792	792	792	792	792	792	792	792	792	792
# Left-censored	367	367	367	367	367	367	289	289	289	289	289	289	289
# Right-censored	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: The standard errors in parentheses are adjusted for 72 clusters for a total of 792 subjects. R^2 indicates the results of OLS regression. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 12. Survey analysis of reciprocity behavior in intra- vs. international experiments in each country

	Japan						Austria					
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	−0.09**	−0.25***	−0.30***	−0.50***	−0.46***	−0.94**	−0.11***	−0.26***	−0.30***	−0.53	−0.51	−0.53
	(0.04)	(0.08)	(0.09)	(0.16)	(0.18)	(0.41)	(0.04)	(0.06)	(0.09)	(0.34)	(0.34)	(0.52)
Transfer	0.31***	0.31***	0.31***	0.31***	0.31***	0.31***	0.35***	0.33***	0.33***	0.33***	0.33***	0.34***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
INTER	0.01	0.06	0.13	0.45	0.41	−0.19	0.09	−0.09	−0.11	0.21	0.17	0.32
	(0.05)	(0.11)	(0.11)	(0.28)	(0.30)	(0.53)	(0.05)	(0.12)	(0.17)	(0.47)	(0.48)	(0.69)
Transfer·INTER	0.11*	0.10*	0.09*	0.09	0.09	0.08	−0.05	−0.02	−0.02	−0.02	−0.02	−0.02
	(0.06)	(0.06)	(0.05)	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
2nd·INTER	0.09*	0.06	0.07	0.07	0.07	0.05	−0.13*	−0.15**	−0.14**	−0.15**	−0.16**	−0.16**
	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)	(0.05)	(0.07)	(0.06)	(0.06)	(0.06)	(0.07)	(0.06)
Transfer·2nd·INTER	−0.02	−0.01	−0.01	−0.01	−0.01	−0.01	0.10*	0.06	0.06	0.06	0.05	0.05
	(0.06)	(0.06)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)
My transfer		−0.10	−0.05	−0.04	−0.03	−0.09		0.03	−0.02	−0.01	−0.05	−0.05
		(0.14)	(0.12)	(0.13)	(0.14)	(0.13)		(0.15)	(0.15)	(0.14)	(0.13)	(0.13)
My transfer·INTER		−0.05	−0.03	−0.04	−0.05	0.03		0.54***	0.52***	0.54***	0.66***	0.61***
		(0.26)	(0.22)	(0.21)	(0.21)	(0.19)		(0.20)	(0.19)	(0.19)	(0.20)	(0.21)
Expected transfer		0.36***	0.36***	0.41***	0.41***	0.40***		0.40***	0.34***	0.34***	0.34***	0.32**
		(0.13)	(0.12)	(0.11)	(0.11)	(0.11)		(0.12)	(0.13)	(0.11)	(0.11)	(0.13)
Expected transfer·INTER		−0.29	−0.39**	−0.39**	−0.40**	−0.41***		−0.30*	−0.21	−0.22	−0.24	−0.21
		(0.22)	(0.19)	(0.19)	(0.19)	(0.15)		(0.18)	(0.20)	(0.19)	(0.18)	(0.19)
Expected return		0.18	0.07	−0.01	−0.03	0.00		−0.05	0.11	0.09	0.20	0.27
		(0.34)	(0.30)	(0.31)	(0.31)	(0.33)		(0.31)	(0.30)	(0.30)	(0.29)	(0.31)
Expected return·INTER		0.42	0.45	0.52	0.54	0.35		−0.22	−0.31	−0.29	−0.54	−0.55
		(0.55)	(0.48)	(0.49)	(0.47)	(0.42)		(0.36)	(0.33)	(0.34)	(0.36)	(0.39)
Female			0.06*	0.06*	0.06*	0.04			0.01	0.01	0.00	−0.01
			(0.03)	(0.03)	(0.03)	(0.03)			(0.03)	(0.03)	(0.03)	(0.04)
Female·INTER			0.00	0.02	0.02	0.05			−0.01	−0.01	−0.01	0.01
			(0.05)	(0.06)	(0.06)	(0.06)			(0.05)	(0.04)	(0.04)	(0.05)
Economics			0.09***	0.10***	0.10***	0.07**			0.09*	0.10*	0.11**	0.10*
			(0.03)	(0.03)	(0.03)	(0.03)			(0.05)	(0.06)	(0.05)	(0.06)
Parents' education			−0.05**	−0.05*	−0.05*	−0.03			−0.02	−0.03	−0.04	−0.05
			(0.02)	(0.03)	(0.03)	(0.03)			(0.06)	(0.06)	(0.05)	(0.06)
Parents' education·INTER			−0.01	−0.02	−0.02	−0.07			0.10	0.13	0.15*	0.16*
			(0.04)	(0.04)	(0.04)	(0.04)			(0.07)	(0.08)	(0.08)	(0.08)
Family income			0.04*	0.04**	0.05**	0.05**			0.02	0.02	0.02	0.02
			(0.02)	(0.02)	(0.02)	(0.02)			(0.03)	(0.03)	(0.03)	(0.03)
Individualism				0.07**	0.07**	0.07**				0.05	0.06	0.06
				(0.03)	(0.03)	(0.03)				(0.04)	(0.04)	(0.04)
Leadership				0.04	0.03	0.03				0.05	0.03	0.04
				(0.06)	(0.06)	(0.05)				(0.09)	(0.08)	(0.08)
Leadership·JPN				−0.11	−0.10	−0.04				−0.09	−0.07	−0.08
				(0.09)	(0.10)	(0.10)				(0.11)	(0.11)	(0.11)
General fairness					0.00	0.01					0.02	0.01
					(0.02)	(0.02)					(0.02)	(0.03)
General trust					−0.01	0.02					0.03	0.01
					(0.02)	(0.02)					(0.03)	(0.03)
Trust in others						−0.30						−0.33
						(0.28)						(0.32)
Trust in others·INTER						0.37						0.19
						(0.54)						(0.45)
Trust in yourself						0.79**						0.32
						(0.39)						(0.60)
Trust in yourself·INTER						0.12						−0.32
						(0.55)						(0.67)
R^2	0.28	0.40	0.49	0.52	0.52	0.57	0.18	0.46	0.53	0.54	0.54	0.54
No. of obs.	792	792	792	792	792	792	792	792	792	792	792	792
# Left-censored	305	305	305	305	305	351	351	351	351	351	351	351
# Right-censored	0	0	0	0	0	0	0	0	0	0	0	0

Note: The standard errors in parentheses are adjusted for 72 clusters for a total of 792 subjects. R^2 indicates the results of OLS regression. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Fig. 1 Relative transfers across countries

(a) The intranational experiment **(b) The international experiment**

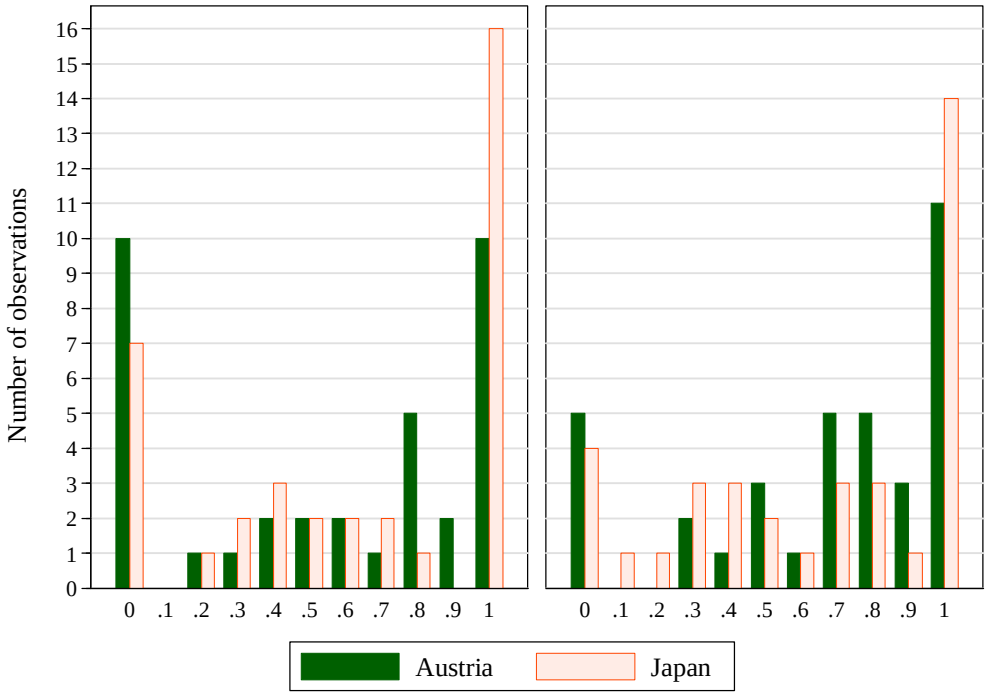
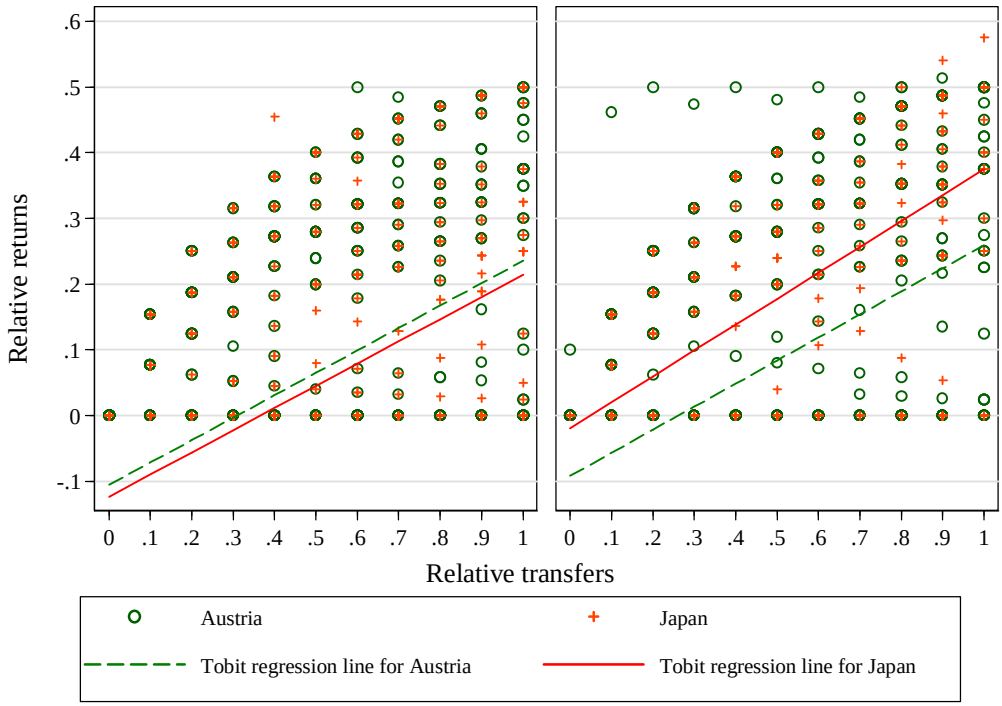


Fig. 2 Relative returns across countries

(a) The intranational experiment **(b) The international experiment**



Supplementary Material for "Trust and reciprocity among international groups: Experimental evidence from Austria and Japan"

This supplementary material has three sections. Section 1 provides instructions in the international experiment. Section 2 contains decision sheets in Teams A and B, and Section 3 provides post-experimental survey in the international experiment.

1. Instructions in the international experiment

Experimental instructions

You are about to participate in an experiment on decision-making. During this experiment we ask you and the other participants to make decisions and to fill out a questionnaire.

Please do not talk to anyone except of your team members during the experiment. Communication between teams will lead to your exclusion from the experiment and the forfeit of all monetary earnings.

For identification purposes your team has received an ID card with a number on it. The ID card is your identity during the course of this experiment. Your decisions in the experiment and the data from the questionnaire will be used for scientific purposes only.

Participants in this experiment are from 2 universities in different countries: Students of the University of Osaka in Japan and the University of Innsbruck in Austria (Europe) will play the experiment simultaneously over the internet.
No participants at any university will see any decisions by the other participants before they make their own decisions.

The experiment consists of two parts that are independent from each other.
You will receive the earnings from either part one or part two of the experiment. Which part is going to be taken for the calculation of your earnings, will be determined after the second part of the experiment by a random mechanism programmed at the computer.
Your earnings in this experiment will be in "tokens". After the experiment tokens will be converted into Yen (Euro) at an exchange rate of 1 token = 120 yen (80 euro cent).

Additionally to the earnings of the experiment you will be paid a showup fee of 500 yen (3,5 euro). At the end of the experiment you will be paid in cash.

If you have any questions, please raise your hand after we have finished reading the instructions. A staff member will then come to you and answer your questions privately (this means in a low voice).

Part One:

In this game, there are two roles: **A** and **B**.
You find yourself in a team with 2 other people. For the rest of the experiment the 3 of you will make your decisions in this team**.** Teams in this and the other room are either in the role of A or B.
Please note that each team of this university will be paired with a team from the University of Innsbruck. More precisely, each team A in this room will be *anonymously* matched with a team B of the University of Innsbruck and each team B in this room will be anonymously paired with a team A of the University of Innsbruck.

During and after the game you will not be told with which team you have been paired and the other team will not be told that they have been matched with you.

At the beginning of the experiment, both teams A and B receive an initial endowment of 10 tokens. According to the exchange rate, the initial endowment of 10 tokens is worth 1200 yen (8 euro).

Team A has to decide how many tokens of their initial endowment to transfer to team B.
Any *integer* number of tokens between and including 0 and 10 tokens is feasible.
Team A keeps the number of tokens that team A does not send to team B.

The amount of tokens that team A sends to team B will be tripled. That means that team B receives, additionally to its initial endowment of 10 tokens, three times the amount of tokens team A has sent.

The members of team B have to decide how much of this amount they would like to send back to team A. Any *integer* number of tokens between and including 0 and the amount team B owns at that time is feasible.
Please note: The amount team B sends back to team A will not be tripled. That is to say, team A will receive exactly the amount that team B returns to team A (in addition to what team A has kept from his/her initial endowment).

Procedure:

Each team is given 10 minutes for its decision. We ask you to put your decisions into the computer but also to fill in your decisions on the decision sheet. The latter is used as a backup in case the computer system crashes down.

Team A will have to write down/ fill in how much they want to send to team B.

Team B has to indicate how many tokens they want to send back to team A for each possible transfer from team A. In the end, only the decision that corresponds to the actual amount that Team A sends will be taken for the calculation of the profits.

This will become clear to you when you check the following table:

A's initial endowment	A sends to B	A's current profit	B receives in addition to his/her endowment	B's current account	**B sends back the following amount**
10	0	10	0	10	
10	1	9	3	13	
10	2	8	6	16	
10	3	7	9	19	
10	4	6	12	22	
10	5	5	15	25	
10	6	4	18	28	
10	7	3	21	31	
10	8	2	24	34	
10	9	1	27	37	
10	10	0	30	40	

Team B has to decide how many tokens it would like to send back for each possible transfer from Team A. The amount that is taken for the calculation of the profits will be the one decision of team B that corresponds to the actual amount that team A sends.

Profits:

Team A:

Team A will receive the amount kept for themselves out of their initial endowment, plus the amount that has been sent back by team B. The amount of tokens that your team earns will not be divided by three. Each member of the team receives the full amount of tokens that it has earned with its decisions in the team!

Team B:

Members of Team B will receive their initial endowment plus the tripled amount that team A has sent minus the amount which team B sends back to team A. The amount of tokens that your team earns will not be divided by three. Each member of the team receives the full amount of tokens that it has earned with its decisions in the team!

Part 2

Part 2, the same game will be played again but the teams will change their roles.
Those teams who have been in the role of A in part 1 will be in the role of B in part 2 and teams B of part 1 will be A now.
Again, your team will be anonymously paired with a team (A,B) from the University of Innsbruck, Austria.

As a reminder:

Each team's initial endowment is 10 tokens á 120 yen (80 euro cent).
Team A decides how many tokens they want to send to team B. Team B receives additionally to their initial endowment of 10 tokens the tripled amount team A sends. Team B has to decide how many tokens it would like to send back for each possible transfer from Team A. The amount that is taken for the calculation of the profits will be the one decision of team B that corresponds to the actual amount that team A sends.
The amount Team B returns to Team A will not be tripled.

Each team is given 10 minutes for its decision. We ask you to put your decisions into the computer but also to fill in your decisions on the decision sheet. The latter is used as a backup in case the computer system crashes down.

Profits:

Team A will receive the amount kept for themselves out of their initial endowment, plus the amount that has been sent back by team B. The amount of tokens your team earns will not be divided by three. Each member of the team receives the full amount of tokens that your team earns!

Members of team B will receive their initial endowment plus the tripled amount that team A has sent minus the amount which they send back to A. The amount of tokens your team earns will not be divided by three. Each member of the team receives the full amount of tokens that your team earns!

After all participants have made their decisions a random mechanism programmed at the computer will determine whether part 1 or part 2 will be paid out to you after the experiment.

2. decision sheets in Teams A and B

Team ID number _____

Decision Sheet team A

This form serves as a security copy for your decisions made at the computer

Your team is in the role of A and will be paired with a team B from the University of Innsbruck in Austria.
Please decide how many tokens out of your initial endowment your team would like to send to team B. You will automatically keep the rest for yourself.

As a reminder:

Your team's initial endowment is 10 tokens.
Team B receives additionally to its initial endowment of 10 tokens the tripled amount of what your team sends. Team B decides how many tokens they want to send back to your team. The amount that B sends back to you is not tripled.
Your team has 10 minutes to decide.

How many tokens would your team like to send to team B?

Only integer numbers are feasible {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10}!

We would like to send _____tokens to team B in Innsbruck.

How many tokens do you think will team B send back to you?

Please note: Team B will not be informed about your expectation and your expectation does not influence the calculation of your earnings.

We think that team B will return _____ tokens.

Team ID number_____

Decision sheet team B

This form serves as a security copy for your decisions made at the computer

Your team is in the role of B and will be paired with a team A from the University of Innsbruck in Austria. You have 10 minutes to decide.
Please indicate how many tokens out of your current account you want to send back to team A. Please fill in a number for each possible transfer from team A. In the end, only the decision that corresponds to the actual amount that Team A sends will be taken for the calculation of the profits.
Please note that the amount your team sends back is not tripled and that this amount will be deducted from your current account and determine your earnings from this part of the experiment.
Please fill in only integer numbers{0, 1, 2, 3, … 38, 39, 40}.

Initial endowment A	Team A sends you(x)	Current account team A	You receive (3x)	Your team's current account (including your initial endowment)	We would like to send back the following amount of tokens to team A in Innsbruck
10	0	10	0	10	
10	1	9	3	13	
10	2	8	6	16	
10	3	7	9	19	
10	4	6	12	22	
10	5	5	15	25	
10	6	4	18	28	
10	7	3	21	31	
10	8	2	24	34	
10	9	1	27	37	
10	10	0	30	40	

How many tokens do you think will team **A** send to your team?
Please note: Team **A** will not be informed about your expectation and your expectation does not influence the calculation of your earnings.

We think that team A will send _____ tokens.

3. Post-experimental survey in the international experiment

About Yourself:

Age: _____ Gender: ☐ m ☐ f

Major: _____

1.) About how many other participants in this room do you know? _____

2.) Have you ever been to Europe? ☐ yes ☐ no

3.) Have you ever been to Austria? ☐ yes ☐ no

4.) Have you ever lived in a foreign country (at least 6 months)? ☐ yes ☐ no

The following questions concern your family:

5.) Did your parents graduate from University?
Father: ☐ yes ☐ no; Mother: ☐ yes ☐ no

6) Where did you grow up? (If necessary, please check more than one answer with a cross.)
☐ Tokyo ☐ cities designated by government ordinance ☐ cities ☐ district areas
☐ foreign country

7) Thinking about your family income, compared with other Japanese families in general, would you say your family income at the age of 16 was roughly
☐ Below average ☐ average ☐above average

About teams:

8.) Generally, do you prefer to make decisions by yourself or as a team?
☐ myself ☐ team

9.) How large was your role in making the team decisions?
☐ very small ☐ small ☐ normal ☐ big ☐ very big

10.) Were your team decisions done by vote? ☐ yes ☐ no

11.) If not, how did your team agree on its decisions?_____
_____

12.) Did all members of your team have an equal say in the final decision?
☐ yes ☐ no

About other people:

Circle only one response for each of the following questions.

13.) Do you think most people would try to
☐ Take advantage of you if they got a chance? ☐ Be fair?

14.) Do you think most people can be trusted?
☐ Generally no ☐ generally yes

Please indicate your level of agreement on the following statements

15.) Human nature is fundamentally cooperative.
Strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ strongly agree

16.) Most people are basically good& kind
Strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ strongly agree

17.) Most people are trustful of others
Strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ strongly agree

18.) Most people will respond in kind when they are trusted by others
Strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ strongly agree

19.) People are always interested only in their own welfare
Strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ strongly agree

20.) In this society one does not need to be constantly afraid of being cheated
Strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ strongly agree

21.) To make money, there are no right and wrong ways any more, only easy and hard ways.
Strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ strongly agree

22.) These days you can't count on strangers.
Strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ strongly agree

23.) These days, a person doesn't really know who he can count on.
Strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ strongly agree

24.) Most people are basically honest.
Strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ strongly agree

About yourself:

Please indicate your level of agreement on the following statements

25.) I am always trustworthy
Completely wrong ☐ ☐ ☐ ☐ ☐ ☐ Completely correct

26.) In general, I treat other people the same way that they treat me.
Strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ strongly agree

27.) The people I trust are only those with whom I have had long lasting relationships.
Strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ strongly agree

28.) How much do you tend to trust people, when you have a lot at stake?
not at all ☐ ☐ ☐ ☐ ☐ ☐ totally

29.) On a scale from 1 (always careful) to 6 (always trusting), how would you rate your willingness to trust others?
always careful ☐ ☐ ☐ ☐ ☐ ☐ always trusting

30.) Regardless of whether I know my counterpart, I think that I should honor being trusted accordingly, even if it means to make sacrifices, like in this experiment.
Strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ strongly agree

31.) Which culture do you trust more?
Austria ☐ ☐ ☐ ☐ ☐ Japan

32.) Please write down, if you have other thoughts or comments about the experiment, on your strategy, on your reasons for your decisions or on other matters: