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 Gift-exchange in Society and the Social Integration of Refugees:
Evidence from a Field, a Laboratory, and a Survey Experiment

Sabrina Jeworrek, Bernd Josef Leisen, Vanessa Mertins

Authors

Sabrina Jeworrek

Corresponding author

Halle Institute for Economic Research (IWH) –
Member of the Leibniz Association,
Department of Structural Change and
Productivity, and
Otto von Guericke University Magdeburg
E-mail: sabrina.jeworrek@iwh-halle.de
Tel +49 345 7753 730

Bernd Josef Leisen

University of Vechta
E-mail: bernd.josef.leisen@uni-vechta.de

Vanessa Mertins

University of Vechta
E-mail: vanessa.mertins@uni-vechta.de

Editor

Halle Institute for Economic Research (IWH) –
Member of the Leibniz Association

Address: Kleine Maerkerstrasse 8
D-06108 Halle (Saale), Germany
Postal Address: P.O. Box 11 03 61
D-06017 Halle (Saale), Germany

Tel +49 345 7753 60
Fax +49 345 7753 820

www.iwh-halle.de

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Gift-exchange in Society and the Social Integration of Refugees: Evidence from a Field, a Laboratory, and a Survey Experiment

Abstract

Refugee integration requires broad support from the host society, but only a minority of the host population is actively engaged. Given that most individuals reciprocate kind behaviour, we examine the idea that the proportion of supporters will increase as a reciprocal response to refugees' contributions to society through volunteering. Our nationwide survey experiment shows that citizens' intentions to contribute time and money rise significantly when they learn about refugees' pro-social activities. Importantly, this result holds for individuals who have not been in contact with refugees. We complement this investigation with experiments in the lab and the field that confirm our findings for actual behaviour.

Keywords: gift-exchange, reciprocity, refugees, integration, field experiment, laboratory experiment

JEL classification: C91, C93, D63, D64, D91, J15

* Parts of this work was done while Sabrina Jeworrek was affiliated with the Institute for Labour Law and Industrial Relations in the European Union (IAAEU), Trier, Germany.

1. Introduction

Massive inflows of migrants challenge many societies, especially when the migrants cannot return to their countries of origin due to climatic or human threats.¹ The integration of such refugees is critical both for the sake of the refugees themselves and for their host countries, in order to prevent increasing conflict and division within society. While the governments can support refugees' integration through the provision of public services such as educational counseling and language courses (see e.g. Bleakley and Chin 2010), the local population as well as the refugees have to contribute to the success of the process. Meanwhile, many locals have negative attitudes towards migrants, hindering the process.² Discrimination has been found to be the single most significant barrier to integration throughout the 27 European Union countries (Constant, Kahanec, and Zimmermann 2009). Empirical evidence for Germany on the European migrant crisis beginning in 2015³ supports this suggestion: only a small share of locals is willing to engage actively (Eisnecker and Schupp 2016). Helping refugees at a personal cost to oneself is especially rare for individuals with a low degree of prosocial orientation (Böhm et al. 2018). Research suggests that giving the host countries' citizens information about refugees, such as their level of education, can improve attitudes toward them (Grigorieff et al. forthcoming, Lergetporer et al. 2017). However, the positive effects of such

¹ Mahajan and Yang (2020) find that a one-standard-deviation rise in hurricane affectedness (measured as the number of hurricanes affecting a country, the share of the population affected, and the intensity of the hurricanes) increases migration to the United States by 0.021 percent, which amounts to almost 12 percent of their sample mean annual migration rate.

² Economic factors such as increasing public expenditures, falling wages, or the possibility that jobs may be taken away influence the local population's attitudes toward immigration (Haaland and Roth 2017, Ortega and Polavieja 2012, Facchini and Mayda 2009, Malchow-Møller et al. 2008, O'Rourke and Sinnott 2006, Scheve and Slaughter 2001), even though Foged and Peri (2015) find positive effects on native unskilled wages, employment, and occupational mobility for Denmark. Battisti et al. (2018) show that immigration has increased native welfare in almost all of 20 OECD countries. Noneconomic factors, however, such as security concerns – which might not be legitimate as well (see Bianchi et al. 2012) and depend on immigrants' legal status (Mastrobuoni and Pinotti, 2015) – and differences in cultural values seem to be similarly important (Bansak et al. 2016, Dustmann and Preston 2007, Hainmueller and Hiscox 2007, Mayda 2006).

³ In the European Union, roughly 2.6 million asylum applications were counted at the end of 2016, of which 1.2 million had been received by Germany (c.f. <http://ec.europa.eu/eurostat/web/products-datasets/-/tps00189>). Most of the applicants are also likely to stay.

information policies are limited since the acceptance and integration of lower-skilled individuals is similarly important, but their educational level can hardly be influenced in the short run.

The present paper is based on recognizing the widespread nature of reciprocal inclinations (see Dohmen et al. 2008 for Germany), and the power of those inclinations to motivate behavior (Fehr and Gächter 1998). We examine the idea that a population's willingness to support refugees increases as a reciprocal response after being informed about refugees' contributions to society in the form of volunteering activities. We can expect many benefits from refugee volunteering, both for the individuals or communities who are served and for the volunteers. Volunteering helps refugees to interact with locals and to acquire valuable contacts, skills, and experience. Thus, it promotes both economic and social values. Besides these direct effects, refugee volunteering may trigger positive spill-over effects, if the assumption holds that locals feel that volunteering is a gift to society worth reciprocating. Since cooperative behavior is often conditional on others' perceived cooperativeness,⁴ locals' willingness to help refugees is likely to be dependent on the behavior of refugees toward the local population. Importantly, a policy that encourages migrants to volunteer is not an intervention imposed from the top; it is, rather, a response to the refugees' desire to make themselves useful in their new host society (Worbs and Bund 2016).

We draw on data obtained from three different experiments in order to test the proposed mechanism. First, we implemented a randomized treatment intervention within a Germany-wide phone survey ($N=1637$) in 2016 by providing three different informational texts. The first text referred only to locals supporting refugees by volunteering (serving as the control group),

⁴ See, among others, Kocher et al. (2008), Frey and Meier (2004), or Fischbacher et al. (2001). Indirect reciprocity constitutes a similarly strong motivator for prosocial behavior (Khadjavi 2017, Mujic and Leibbrandt 2018, Van Apeldoorn and Schram 2016, Seinen and Schram 2006). Theoretical models underscore the explanatory power of reciprocity for human behavior (Falk and Fischbacher 2006, Dufwenberg and Kirchsteiger 2004). Many studies show that gift-exchange is an important driver of behavior in labor market settings (see a recent survey by Cooper and Kagel, 2015) and in the provision of public goods (survey by Chaudhuri, 2011).

while the second and third additionally described refugees' volunteer activities, based on accounts from the media and from official volunteering possibilities such as a special program for refugees who are likely to stay⁵. We implemented two informational texts on refugee volunteering in order to explore the possibility that individuals' responses might be driven by either direct reciprocity (as a response to the idea of directly receiving help with everyday tasks) or indirect reciprocity (as a response to the idea that refugees help elderly people in nursing homes, even though there would be no personal benefit to the respondent). Then we asked survey participants (a) whether they would be willing to provide financial support for the integration of refugees and (b) whether they could imagine getting to know and supporting a refugee family within their community.

Afterward, we exploited the opportunity to partner with an organization that hosts a digital neighborhood platform to conduct both an incentivized laboratory experiment and a natural field experiment. These two experiments allow us to check the robustness of the results obtained from the survey experiment, especially concerning the question of whether our treatment interventions affect not only stated preferences but also individuals' actual behavior. In a first step, we sent out a university-wide call-for-participation in a paid offline survey without revealing the topic. Participants learned at the beginning of the survey about a local project that works to integrate refugees into local neighborhoods by connecting them via a digital platform. Given that the platform had only a few users in this area at that time, it was necessary to print and distribute flyers within the city to foster the platform's activities. We implemented the same treatment variations as in the survey experiment, and then we asked participants to donate money to help print the flyers. This procedure made it possible to measure charitable giving towards refugees depending on our treatment interventions. Finally, we used the actual

⁵ See the press release from the Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (BMFSFJ, in German only): <https://www.bmfsfj.de/bmfsfj/aktuelles/presse/pressemitteilungen/bundesfreiwilligendienst-fuer-fluechtlinge/102904?view=DEFAULT>.

distribution of the flyers to conduct a natural field experiment. We created three different flyer versions based on the three treatment texts used before. Given that each flyer contained a registration code that allowed us to match each new registration to one of the versions of the flyer, we can analyze the impact of the different pieces of information on locals' willingness to join the neighborhood platform, with respondents behaving naturally due to the unobvious experimental conduct (Harrison and List 2004).

Whether refugee volunteering increases locals' willingness to support the social integration of refugees has not been looked at yet. So far, there is only evidence that following the norm of reciprocity increases immigrants' propensity to volunteer (Manatschal 2015) and that volunteering facilitates immigrants' labor market integration (Baert and Vujic 2016). Hence, refugees do volunteer not only because they want to repay their host society, some of them also hope that volunteering can serve as a stepping-stone to integration (Khvorostianov and Remennick 2017, Handy and Greenspan 2009). Croson (2007) emphasizes the predominance of reciprocity over theories of commitment or altruism. Even though the so-called in-group-out-group bias suggests that individuals' social preferences towards others are significantly affected by their group membership (see, e.g., Ben-Ner et al. 2009, Ruffle and Sosis 2006), Charness et al. (2007) and Bouckaert and Dhaene (2004) find that people show regard for others despite social distance or different ethnic origins. The latter results speak in favor of a positive effect of refugee volunteering on locals' willingness to support their new fellow citizens. However, in times of massive inflows of migrants such as in case of the European migrant crisis, prejudices and fears could dominate individuals' reciprocal inclination so that effectiveness of the proposed kind of gift-exchange is an open empirical question.

We find that our treatment interventions have positive impacts in all three experiments. Whereas in the field experiment we can only compare the overall success rate of each version of the flyer on the number of registrations, both the survey and the laboratory experiment deliver

additional insights. First, using the survey experiment data, we find that the treatments have positive effects even for people who have not recently been in contact with immigrants. According to Allport's intergroup contact theory (1954), these individuals are likely to have the most prejudices, so it might be rather difficult to convince them to change their attitudes. Second, the treatment effects differ according to individuals' inclinations to engage in reciprocal behavior, in other words, their *reciprocal inclination*, which can be higher or lower. Respondents with high reciprocal inclination respond positively to our treatment interventions when asked about their willingness to get to know and support a local refugee family; however, there is no effect as regards their willingness to provide financial help. In respondents with lower reciprocal inclination, this pattern is reversed: members of this group prefer to support refugees' integration financially. Even though these two groups differ in how they would like to help, the good news is that all of them respond positively to the idea of a gift-exchange between locals and refugees.

In our laboratory experiment, we also distinguish between direct and indirect reciprocal inclination. We observe that the idea of having a direct peer-to-peer relationship to a refugee is especially attractive to people with low indirect reciprocal inclination. Altogether, the results show that the locals' willingness to support refugees strongly increases as a reciprocal response after they are informed about refugees' contributions to society in the form of volunteer activities.

2. The Survey Experiment

2.1. Study Design

In cooperation with a publicly-funded German nonprofit organization that operates an online portal as and intermediary between aid agencies and citizens who wish to support refugees by volunteering or giving money, we ran a phone survey of 1637 randomly-selected German residents within eight weeks in spring 2016. To obtain a representative sample of all German households, it was necessary to include phone numbers that were not officially listed in publicly-available sources like phone books. To achieve this, we used extensive lists of telephone numbers provided by the GESIS Leibniz Institute for the Social Sciences, generated according to the widespread and generally recognized Gabler-Häder method (see Häder and Gabler 2009).⁶ Using these pseudo-randomly generated numbers also secures respondents' anonymity, thus reducing biases due to social desirability.

The survey was intended to popularize the online portal as well as to measure locals' worries about the flow of refugees and their own future prospects. While answers to these questions were of interest to the portal operators, we sought to measure, in particular, people's overall willingness to support the integration of refugees, as well as the determinants of their level of willingness to support it. To this end, we implemented an experimental treatment variation by providing three different sets of information on refugees' previous volunteering activities. To ascertain the respondents' willingness to support refugees, we subsequently asked them to react to the following two statements on a scale from 0 (disagree completely) to 7 (agree completely):

⁶ A large proportion of the numbers that were generated do not exist. Many calls went unanswered and some people who were reached also declined to be interviewed, so almost 30,000 calls were needed to obtain the target number of about 1600 interviews. We ran this survey as part of a randomized field experiment on employer behavior on interviewees' productivity (see Heinz et al. forthcoming for a detailed description of the interview situation). The assignment of treatments was independent across the two experiments. The lists included landline numbers only, which is acceptable since 91.0 percent of all German households still have a landline, according to the Federal Statistical Office. For the data, see:

https://www-genesis.destatis.de/genesis/online/logon?language=de&sequenz=tabellen&selectionname=63111*.

“I could imagine getting to know and supporting a refugee family within my region, ” and “I would be willing to provide financial support for the integration of refugees, like a solidarity tax⁷.” The setting makes it possible to identify a potential causal effect of reported volunteer work by refugees on individuals’ self-reported willingness to contribute to their integration through donating time and/or money. The treatment texts mentioned above consisted of one, two, or all three of the following paragraphs:

[1] Currently, there is a lot of talk about how voluntary work by the local population can support refugees’ integration into society.

[2] Less often, however, is it mentioned that refugees can support the local population, too. Several recently-launched projects are getting refugees involved as volunteers. In some places, refugees already do volunteer work for society, for example as caregivers for elderly people in nursing homes.

[3] In practice, refugees’ volunteering activities can also constitute a direct exchange relationship comparable to neighborhood assistance: A native supports a refugee with visits to the authorities. In turn, the refugee thanks her helper by undertaking small everyday tasks such as housework or childcare.

The *control* group, which we used to capture general sentiment about supporting refugees, heard the first paragraph only. The *third-party support* treatment group received Paragraphs 1 and 2 in order to test to what extent locals honor refugees’ contributions to the general society. The *mutual support* treatment group received all three paragraphs, the last one describing ongoing, direct peer-to-peer gift-exchange relationships between natives and refugees. A more positive response from the *third-party support* treatment group than from the *control* group would be due to indirect positive reciprocity. An even more positive response from the *mutual support* treatment would imply that the prospect of benefitting personally from a direct peer-to-peer relationship would induce greater willingness to help based on direct positive reciprocity.

⁷ The solidarity tax [Solidaritätssteuer] was introduced in Germany after reunification, first to cover the costs of reunification and then to support the infrastructure in the former East Germany. Even though it was originally thought to be a temporary measure (i.e. only one year), it was made permanent in 1995.

If it exists at all, though, we expect the effect of direct positive reciprocity to differ for the two items of interest, financial support and personal support. As for the first item, we asked respondents about their willingness to support the integration of refugees financially on a regular base (such as the solidarity tax). It is conceivable that direct peer-to-peer relationships between locals and refugees lead to lower levels of willingness to provide regular financial support than we would find from the *third-party support* treatment group. There are two reasons for this. First, if locals are willing to spend their money to support refugees, they might prefer to spend it on the refugees with whom they are in a cooperative, peer-to-peer relationship. Second, the more such relationships exist, the lower the demand should be for professional individuals and programs that facilitate integration, so less money would be needed from the population. As regards personal support, the recipients of the paragraph about direct peer-to-peer relationships should be more willing to provide it than the recipients of only the first two paragraphs – i.e. the *third-party support* treatment. Engagement should seem less costly, the time they spend supporting the refugees will be, at least to a certain extent, paid back.

To test whether the strength of the reciprocal response is correlated with respondents' levels of reciprocal inclination, we measure those levels using the average of three items developed by Perugini et al. (2003) on an extended 8-point Likert scale to prevent the tendency to the middle category:⁸ Even though respondents were randomly allocated to the different information sets, some individual characteristics that are likely to influence the willingness to support refugee integration might not be distributed perfectly across the three groups. Thus, we use additional data collected during the survey to control for these differences using regression analysis. Besides respondents' gender, age, and their current labor market status, we control for whether

⁸ The question reads: "To what extent do the following statements apply to you personally? Please answer on a scale from 0 to 7. If the statement does not apply to you at all, please state 0. If the statement applies to you perfectly, please state 7. If you agree partially, please state a value in between." The three items are: "If someone does me a favor, I am prepared to return it", "I go out of my way to help somebody who has been kind to me before", and "I am ready to undergo personal costs to help somebody who helped me before".

both parents were born in Germany. All these factors have been shown to determine individuals' attitudes towards immigration (d'Hombres and Nunziata 2016, Markaki and Longhi 2013, Mayda 2006, Hainmueller and Hiscox 2007, O'Rourke and Sinnott 2006). We additionally include dummies for recent personal experience with refugees, both being in contact with refugees and doing volunteering work in refugee aid.⁹ Finally, we control for potential worries about the latest flow of refugees.¹⁰

2.2. Results

In total, our data set consists of 1637 completed interviews. Even though the interviews were conducted primarily during normal working hours, we have a sizeable share of 41.9 percent employed individuals within our sample.¹¹ Both parents of 79 percent of the interviewees were born in Germany. This is comparable to the data from the German Microcensus,¹² which found that 77.46 percent of the German population had no immigration background in the year 2016 (Destatis 2017), so a strong selection bias due to the survey's topic is rather unlikely. Moreover, roughly 40 percent of the interviewees had contact with refugees in the previous six months and 13 percent had been engaged in volunteer work in refugee aid. This last number is very similar to one reported in a large public opinion survey on refugees in Germany, about one-tenth, as of February 2016; see Eisnecker and Schupp (2016).

When looking at the distribution of responses to the outcomes of interest, as shown in Figure 1, we observe a strong division. We find that, overall, about 50% of the respondents take one

⁹ "With how many refugees or refugee families have you been in contact on a private level in the recent six months? [number]" and "Have you worked as a voluntary helper to refugees in the last six months? [yes/no]"

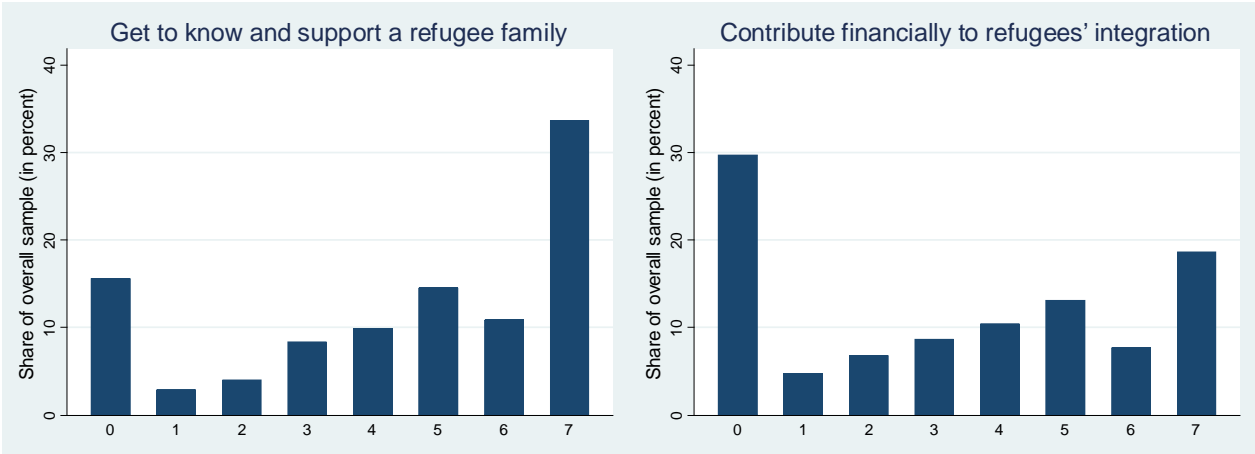
¹⁰ To capture a range of possible concerns, we asked whether respondents worry about "their own economic situation," "the development of crime," "the cohesion of society," and "immigration in general" on a scale from 0 (= not concerned at all) to 2 (= very concerned). We built an index over the four items (called "worries about immigration") by averaging all answers. A value of up to 0.5 is categorized as *no or only minor worries about immigration* and values bigger than 0.5 and less than 1.5 are categorized as *somewhat worried about immigration*. A value of at least 1.5 means that respondents are *highly worried about immigration*.

¹¹ Further descriptive statistics on our sample composition can be found in Appendix Table 1.

¹² The Microcensus is a yearly survey of German households to generate official statistics on the characteristics of the whole German population.

of the two extreme positions on an eight-point scale: they either strongly agree or disagree that they would be willing to support refugees privately or financially. The remaining 50% are distributed in between.

Figure 1: Distribution of Interviewees’ Willingness to Support Integration



Note: 0 means “strongly disagree” and 7 “strongly agree.”

Whereas the *control* group has an average value of 4.29 when asked about their willingness to support a refugee family, this value rises to 4.56 in the *third-party support* treatment group ($p = 0.078$, two-sided Wilcoxon rank-sum test), and rises even further to 4.68 in the *mutual support* treatment group ($p = 0.003$). Figure 1 shows that, in general, fewer people are willing to support refugees financially than are willing to support them privately. This results in sizably smaller average values of 3.20 within the *control* group, 3.40 in the *third-party support* treatment group, and 3.29 in the *mutual support* treatment group (the differences are statistically insignificant).

Specification (1) in Table 1 supports the contention that refugees’ volunteering activities can have a positive effect on locals’ willingness to support refugees privately. Controlling for individuals’ observable characteristics, we find a highly statistically significant difference between both treatment groups (with $p = 0.006$ and $p = 0.017$, respectively) and the *control* group. Given that the point estimates are nearly identical ($p = 0.739$), the information on the

possibility of benefitting personally from refugees' good deeds in a peer-to-peer gift-exchange relationship, which was given in the *mutual support* treatment, has no additional value.

To check whether there is heterogeneity in the observed treatment effects concerning individuals' reciprocal inclinations, we apply a median split and re-estimate Specification (1) for the two subgroups separately; see Specifications (2) and (4). For the less reciprocally-inclined individuals, the estimated coefficients of both treatments remain positive in sign, but turn out to be insignificant. In contrast, the point estimates for the highly reciprocal individuals stay highly significant and increase sizably.

Based on Allport's (1954) intergroup contact theory, individuals who have been in contact with refugees are likely to have fewer prejudices against them (see Pettigrew and Tropp's 2006 meta-analysis based on 515 studies, or Binder et al. 2009). Conducting a small-scale laboratory experiment in Germany, Kotzur et al. (2018) show that outgroup contact with a Syrian asylum seeker creates (marginally significant) increases in solidarity-based collective action intentions.¹³ Hence, the impact of our treatment interventions seems to be especially interesting for individuals who have not been in contact with refugees, since it might be more difficult to convince them to get to know and support a refugee family privately.

¹³ These intentions were measured using the following items: "I would participate in a rally against discrimination of asylum seekers'," "I would donate money to an organization supporting refugee rights," and "Join a rally opposing discrimination of refugees."

Table 1: Individuals' Willingness to Support Refugees Privately

	(1)	(2)	(3)	(4)	(5)
	All	Low reciprocal inclination		High reciprocal inclination	
<i>Third-party support treatment</i>	0.336*** (0.122)	0.234 (0.208)	0.293 (0.266)	0.461*** (0.158)	0.403* (0.240)
<i>Third-party support treatment X previous contact with refugees</i>	--	--	-0.176 (0.313)	--	0.152 (0.320)
<i>Mutual support treatment</i>	0.297** (0.121)	0.104 (0.208)	-0.098 (0.331)	0.477** (0.191)	0.614** (0.275)
<i>Mutual support treatment X previous contact with refugees</i>	--	--	0.475 (0.399)	--	-0.315 (0.311)
Previous contact with refugees	0.696*** (0.094)	0.779*** (0.170)	0.686*** (0.231)	0.633*** (0.104)	0.690*** (0.183)
Positive reciprocal inclination	0.468*** (0.049)	--	--	--	--
Constant	2.018*** (0.516)	4.113*** (0.593)	4.135*** (0.594)	5.576*** (0.549)	5.521*** (0.582)
<i>N</i>	1637	765	765	872	872
Adjusted <i>R</i> ²	0.319	0.267	0.268	0.293	0.293

Note: *Claimed willingness to get to know and to support a refugee family within the region* as dependent variable. OLS estimates. Robust standard errors clustered on the day of the interview in parentheses. Control variables: age, gender, both parents born in Germany, labor market status (job-seeking, student, employed with and without possessing an academic degree), volunteering work in refugee aid, worries about immigration. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

As a consequence, we included interaction terms between our treatment interventions and previous contact into the regression analyses: see Specifications (3) and (5) in Table 1. Even though the significance level goes down, the point estimates for our treatment interventions barely change when we look at the more reciprocally-inclined individuals in Specification (5). Here, the *mutual support* treatment seems to have a slightly bigger impact than the *third-party support* treatment. This difference is, however, statistically insignificant ($p = 0.371$). For the less reciprocally-inclined respondents in Specification (3), we still do not find that the treatment interventions have a statistically significant impact, but we observe a rather large point estimate for individuals with previous contact with refugees in the *mutual support* treatment. If anything,

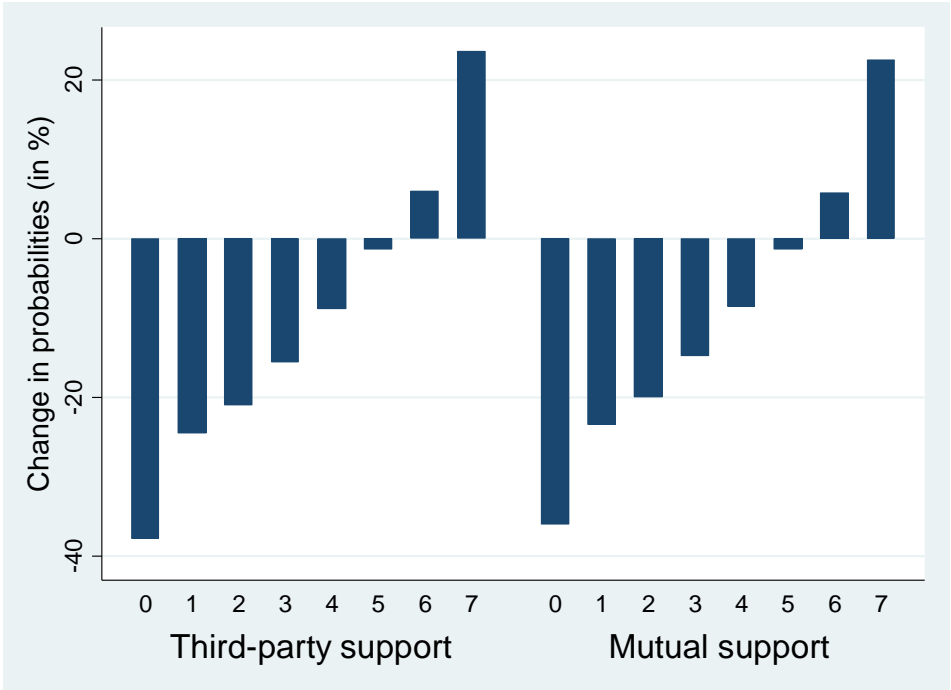
the less reciprocally-inclined individuals seem to value the idea of a directly reciprocal relationship.

Result 1: Information on refugees' volunteering activities increases locals' willingness to support refugees privately. The prospect of a mutually beneficial relationship has no additional impact. The results are driven by highly reciprocal individuals. Importantly, the effects hold when looking at those individuals who have not been in contact with refugees.

Using the OLS estimates, we were able to show the overall positive effect of the treatment interventions. Nevertheless, the question arises which part of the distribution of outcomes was affected, since it might matter whether individuals with pre-existing positive attitudes toward immigration become even more positive or whether it's possible to make the most critical individuals at least a little less critical. Hence, we estimated an ordered probit model to predict the changes in probabilities for all categories as a response to the treatment interventions. The results are illustrated in Figure 2.

Even though we observe a highly statistically and economically significant impact of an increase of more than 20 percent in the number of individuals who strongly agree that they would be willing to get to know and support a refugee family privately, the more notable change can be observed at the lower part of the distribution: compared to the *control* group, the share of individuals who stated that they would be not at all willing to do so decreases by almost 40 percent. Again, we do not observe any difference between the *third-party support* and the *mutual support* treatment: both treatments seem to cause an overall positive shift in respondents' attitudes toward private support.

Figure 2: Treatment Effects on the Distribution of Outcomes (Private Support)



Note: Average marginal effects, expressed as semi-elasticities, obtained from ordered probit regressions based on specification (1) from Table 1. Except for Category 5, all estimates are statistically significant with at least $p < 0.05$.

Result 2: Refugees’ volunteering activities have an especially large impact on both ends of the distribution of interviewees’ willingness to support a refugee family privately. In comparison to the control group, the likelihood of stating “not at all willing to do so” shrinks by almost 40 percent.

As shown at the beginning of the results section, people are less willing to spend money to support the integration process than they are to support refugees privately. Hence, the question arises of whether the treatment interventions also increased individuals’ willingness to provide financial support. Table 2 presents the corresponding regression results.

Looking at the *third-party support* treatment, we find that the point estimate for the willingness to support refugees financially is almost identical to the previous results for the willingness to support them privately. As expected, and as discussed in Chapter 2.1, when we additionally informed the interviewees about possible peer-to-peer gift-exchange relationships, their

willingness to support refugees financially fell back to the initial level of the *control* group. Splitting the sample once again according to individuals' reciprocal inclinations, we observe a pattern that is the reverse of the one before: the positive treatment effect seems to be driven by individuals with lower reciprocal inclination.

Table 2: Individuals' Willingness to Support Refugees Financially

	(1)	(2)	(3)	(4)	(5)
	All	Low reciprocal inclination		High reciprocal inclination	
<i>Third-party support treatment</i>	0.290*** (0.099)	0.436*** (0.143)	0.472** (0.225)	0.192 (0.204)	0.078 (0.275)
<i>Third-party support treatment X previous contact with refugees</i>	--	--	-0.104 (0.413)	--	0.266 (0.345)
<i>Mutual support treatment</i>	-0.004 (0.125)	0.075 (0.171)	0.012 (0.277)	-0.014 (0.213)	-0.185 (0.290)
<i>Mutual support treatment X previous contact with refugees</i>	--	--	0.147 (0.449)	--	0.397 (0.393)
Previous contact with refugees	0.485*** (0.106)	0.573*** (0.205)	0.559 (0.349)	0.453*** (0.143)	0.240 (0.257)
Positive reciprocal inclination	0.449*** (0.056)	--	--	--	--
Constant	1.093*** (0.532)	3.484*** (0.784)	3.483*** (0.785)	3.969*** (0.498)	4.088*** (0.509)
<i>N</i>	1627	763	763	864	864
Adjusted <i>R</i> ²	0.302	0.246	0.245	0.288	0.287

Note: Claimed willingness to financially support the integration of refugees as dependent variable. OLS estimates. Standard errors clustered on the day of the interview in parentheses. Control variables: age, gender, both parents born in Germany, labor market status (job-seeking, student, employed with and without possessing an academic degree), volunteering work in refugee aid, worries about immigration. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

One possible explanation might be found in the relationship between reciprocity and other personality traits. Previous literature has found a positive correlation between reciprocal inclination and the traits of *openness to experience*, *extraversion*, and *agreeableness* (Dohmen et al. 2008). Hence, the more reciprocally inclined individuals are, the more they tend to be

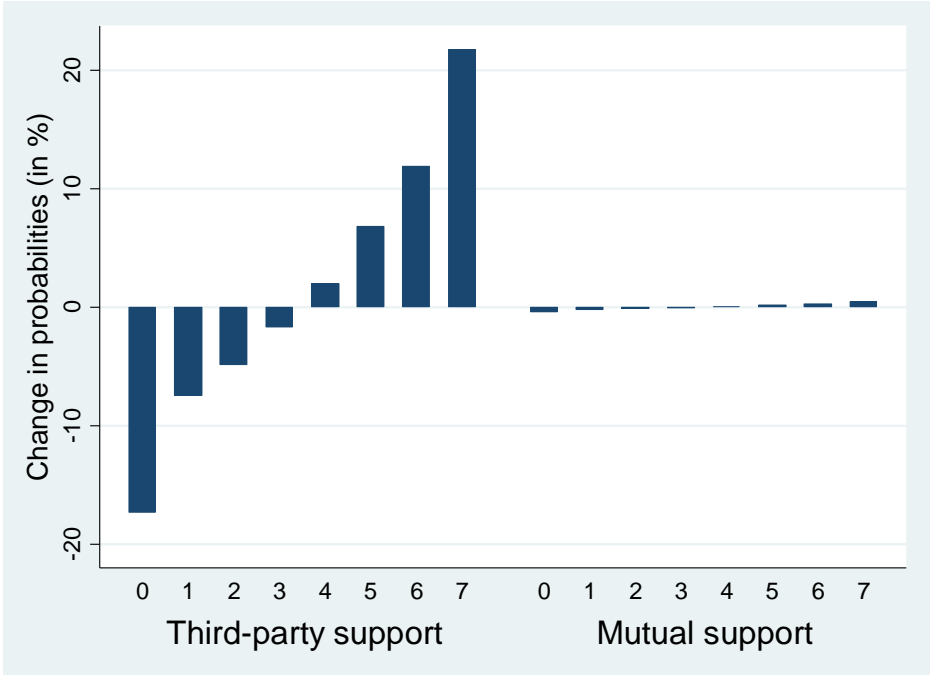
compassionate and cooperative toward others, curious about unknown cultures, and prone to seek the company of other people. As a result, respondents with high reciprocal inclination could be moved by the treatment intervention that refers to meeting and supporting refugees personally, whereas less reciprocal ones say they would prefer to help financially. This interpretation would also be in line with the suggestion that donations of time and money can substitute for each other (Feldman 2010). Given this fact, one might ask whether the pattern observed is driven by income instead of reciprocal inclinations. Unfortunately, we do not have any income data for such an analysis, but Barr and Serneels (2009), combining experimental data with survey data, suggest that there is a strong positive correlation between reciprocal tendencies and earnings. Hence, we would expect exactly the reversed subsample pattern for private and financial support if these results were driven by income instead of reciprocal inclinations. Again, the treatment effect holds for both groups of individuals, those with and those without recent contact with refugees.

Result 3: Refugees' volunteering activities also increase interviewees' claimed willingness to contribute financially, but only in case of the *third-party support* treatment. In contrast to claimed willingness to support refugees privately, the positive effect here is driven by individuals with a low reciprocal inclination.

Once more, we look at results obtained from the ordered probit model, shown in Figure 3. In line with the OLS results, there is no statistically significant difference between the control and the *mutual support* treatment group. Even though we observe, again, highly significant estimates for the *third-party support* treatment group, the effect sizes are somewhat lower than before. Whereas the share of individuals not at all willing to support refugees' integration decreased by almost 40 percent when asked about private support, the decrease is only about half as big when they are asked about financial support. This, however, is in accordance with the more general finding that individuals are somewhat more reluctant to support the integration

of refugees by providing money. Still, a reduction of almost one-fifth in individuals who are not at all willing to contribute to refugees' integration process can be an important first step.

Figure 3: Treatment Effects on the Distribution of Outcomes (Financial Support)



Note: Average marginal effects, expressed as semi-elasticities, obtained from ordered probit regressions based on specification (1) from Table 2. For the *third-party support* treatment, all estimates are significantly different from zero with at least $p < 0.05$.

Result 4: Again, we find the largest impact of the treatment intervention on both ends of the distribution. Compared to the willingness to contribute by getting to know and supporting a refugee family privately, the impact on the willingness to contribute financially is a little less pronounced, especially at the lower end of the distribution.

To avoid the possibility that interviewees' responses were driven by a social desirability bias, respondents were asked, directly after the treatment intervention, how important the integration of refugees was to them personally. A social desirability bias would have an influence these responses, too. However, the average values are 5.66 (control group), 5.66 (*third-party support* treatment), and 5.70 (*mutual support* treatment). The point estimates for the treatment groups are 0.065 for the *third-party support treatment* ($p=0.524$) and -0.024 for the *mutual support*

treatment ($p=0.826$) when re-estimating the baseline Specification (1) as in the Tables 1 and 2. Given these results, a social desirability bias seems to be rather unlikely. To address these concerns in more detail, in the next sections, we present results from both an incentivized laboratory experiment and a field experiment. Moreover, we gathered additional data in the lab experiment to discuss some possible reasons why the *mutual support* treatment did not have an additional positive impact above that of the *third-party support* treatment on individuals' willingness to get to know and support refugees.

3. The Laboratory Experiment

3.1. Study Design

The study was conducted in the context of a project which aimed at integrating refugees into the local neighborhoods by connecting them to locals through a digital neighborhood platform. More generally, this platform is intended to network neighborhoods and to promote the exchange of informal everyday help. To do so properly, the people who operate the platform constantly try to gain new users. At the start of the local refugee project, few people were registered in the city in which the experiment was conducted. Hence, the plan was to print and distribute about 10,000 flyers to attract the locals' attention to this platform. Given that this project required money for printing and people who were willing to distribute the flyers, we exploited this opportunity to conduct an additional laboratory experiment to observe individuals' actual behavior (as opposed to the stated preferences and intentions in our survey experiment) by inviting students to answer a survey for which they received a participation fee of 5 euros. We recruited participants through a university-wide call-for-participation without revealing the topic of the survey to prevent any pre-experimental selection effects. Even though we would have liked to exclude people who were already somehow involved in the local refugee

integration project, asking about the project at the time of registration would have pointed potential participants to the refugee topic, which might have resulted in some self-selection bias. To ensure anonymity, we also did not ask about their involvement in the project in the post-experimental questionnaire; in combination with their age, it might have been possible to identify individuals. We only asked whether they were, or had previously been, engaged in refugee aid. The ones who said yes will be discussed separately in the results section, while our main focus will be on individuals without previous engagement in refugee aid. In total, 171 students participated in our study. One individual refused to answer the question about involvement in refugee aid, and 14 individuals – unequally distributed across treatments – claimed to be involved. Hence, our main sample consists of 156 observations.

To prevent any possible experimenter demand effects, the participants were not aware of the experimental procedure, nor was the study conducted in an experimental laboratory. Instead, the study was carried out in a lecture hall. In the beginning, we informed the students about the flyer project. Afterward, they received the same treatment texts as in the survey experiment described above. Hence, we have again a *control* group and two treatment groups named *third-party support* and *mutual support*. Then, participants were asked whether they would be willing to distribute some flyers – and if so, how many – and whether they would be willing to donate money for printing the flyers. In connection with the latter question, they each received 10 euros – on top of the 5 they received for taking part in the survey – that they either could keep for themselves or, partly or fully, donate to the project. We gave each participant an envelope containing various coins totaling 10 euros so that they could donate any possible amount. The donations were made immediately by putting the money back in the envelope and sealing it. Subjects put this small envelope together with all other material of the study in a larger envelope, which was then collected at the end of the experiment. This procedure prevented the

experimental assistants from observing or identifying by touch how much money was donated, to minimize experimenter demand effects and other social desirability biases.

Given the anonymity of the survey, we do not know to what extent the subjects' stated number of flyers they were willing to distribute corresponded with their actual behavior. Hence, the variable of primary interest is the amount donated. However, we used the question on the willingness to distribute flyers together with a local refugee to investigate to what extent individuals were interested in a peer-to-peer gift-exchange relationship with the refugee they help to distribute flyers. Participants in the *mutual support* treatment could either state that they would like to have some help in return, that they would not need any help from the refugee, or that they wanted to help without receiving anything in return.

3.2 Results

Almost 94 percent of all participants who were not engaged in refugee aid donated a certain share of the 10 euros they received.¹⁴ This percentage does not differ significantly across the three treatment groups. The average amount donated was 4.05 euros, with a minimum of 0 and a maximum of 10 euros in all treatments.

As regards the average donation, however, we observe (marginally) significant differences across the treatments. In the control group, the average amount donated (3.07 euros, $N = 53$) is significantly lower than in both of the treatment groups, *third-party support* (4.30 euros, $N = 49$, $p = 0.079$)¹⁵ and *mutual support* (4.80 euros, $N = 54$, $p = 0.017$). Hence, the information about refugee volunteering increases the average donations by at least 30 percent. There is no statistically significant difference between the latter two treatment groups ($p = 0.501$). Even though stated preferences on an 8-point Likert scale from the hypothetical survey experiment

¹⁴ Among the participants who stated they were engaged in refugee aid, all donated a certain share of the received money. Appendix Table 2 provides the main experimental results including those individuals.

¹⁵ If not reported otherwise, the p-value results from two-sided Wilcoxon rank-sum tests.

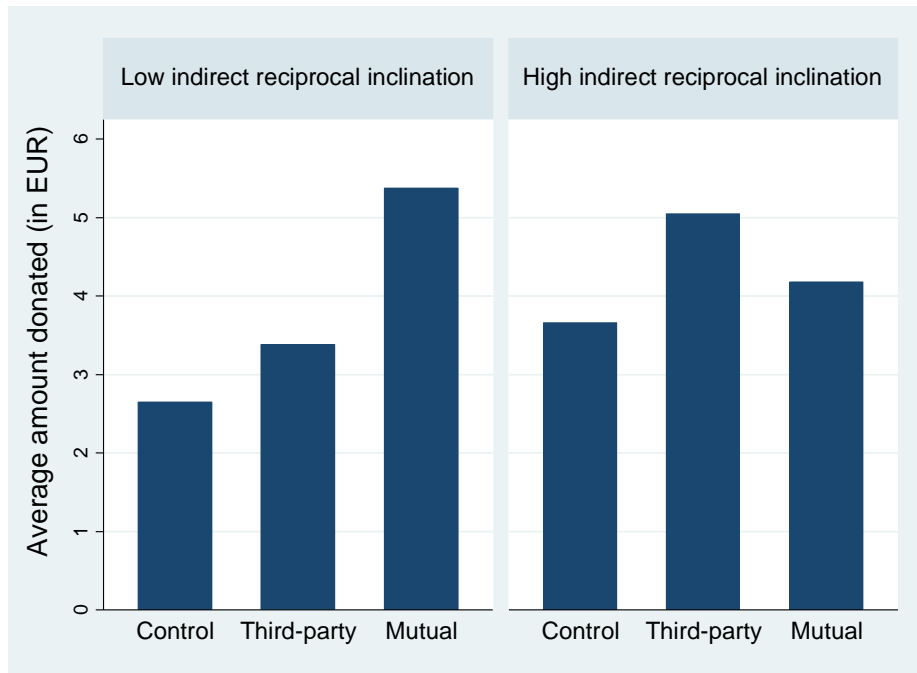
can hardly be compared to an average donation, the average treatment effects seem to be larger in the incentivized laboratory experiment. One possible explanation might be that the size of the treatment effect is negatively correlated with the amount which is at stake.¹⁶ Cherry and Shogren (2008), however, found that in the dictator game, dictators were more generous when the money came from earnings rather than from windfall endowments. Hence, in our case, the observed effect might be an overestimation of the true effect. Still, an effect even half or one-third of this size would be worth achieving.

Due to the heterogeneous response of participants in the survey experiment, we again measured participants' levels of reciprocal inclination. Looking at the subsamples of individuals with above and below median values, the observed pattern is identical to the overall sample. Given the greater leeway of our laboratory study, however, we refined the questionnaire in that we have added several items to measure *indirect* reciprocal inclination, since the *third-party support* treatment draws on the idea that participants *indirectly* reciprocate the refugees' good deeds.¹⁷ Hence, if there is any subgroup heterogeneity, we would expect that individuals with low indirect reciprocal inclination are sensitive to the *mutual-support* treatment only, whereas highly indirect reciprocal individuals are more sensitive to the *third-party support* treatment. Figure 4 illustrates the average donation per treatment group, splitting the sample according to individuals' indirect reciprocal inclinations.

¹⁶ Additional survey questions answered after the main experiment show that individuals differentiate between donating small amounts of money for a specific project and regularly paying a tax, but the difference is not very large. When respondents were asked to respond to the statement "If such a direct exchange relationship between a refugee and myself already existed, I would tend to be less willing to donate a small amount of money to meaningful projects," the average response was 3.03 on a 8-point Likert scale with 0 (does not apply at all) to 7 (fully applies). When "donate a small amount of money" is replaced with "regularly pay duties," the average response rises to 3.26. This difference gets slightly bigger if the personal exchange relationship is replaced by "a high number of existing direct exchange relationships" (2.87 vs. 3.56). The questions can be found in the [Online Appendix A.2](#).

¹⁷ We created three items to measure individuals' indirect reciprocal inclination closely following the direct reciprocity items on a 8-point Likert scale. The items are "If a person A does a favor for another person B, I am prepared to help person A", "I go out of my way to help somebody who helped another person before," and "I am ready to undergo personal costs to help somebody who helped another person before." Cronbach's alpha is 0.88.

Figure 4: Indirect Reciprocity and the Mutual Support Treatment



Even though the results should be taken with care due to the small sample size of the subgroup analysis, the observed pattern is in line with our previous suggestions. Individuals with low indirect reciprocal inclination do not respond to the *third-party support* treatment intervention ($p = 0.387$). However, we see a statistically significant ($p = 0.003$ compared to the control group, and $p = 0.036$ compared to treatment *third-party support*) and economically sizeable impact of the *mutual support* treatment, since the average donation roughly doubles. Among individuals with high indirect reciprocal inclination, the differences are less pronounced, probably because the average donation in this subgroup is already higher in the control group.¹⁸ Nevertheless, the pattern seems to be the opposite of that of the low indirect reciprocal inclination subgroup. Whereas there is no difference between the *control* group and *mutual support* treatment group ($p = 0.917$), individuals with high indirect reciprocal inclination seem to be at least somewhat

¹⁸ This is also true when splitting according to individuals' direct reciprocal inclination (2.66 vs. 3.79 for low vs. highly reciprocal individuals in the control group, with $p = 0.092$). Hence, the overall pattern is comparable to the results obtained from the survey experiment.

sensitive to the *third-party support* treatment intervention ($p = 0.147$, with $N_{control} = 22$ and $N_{mutual} = 27$).

Result 5: The treatment interventions affect not only stated preferences but also observed (and costly) behavior in terms of donations for a local refugee integration project. We do not observe any heterogeneity between high and low levels of direct reciprocal inclinations, but we find that the possibility of mutual support is especially important for individuals with a low *indirect* reciprocal inclination.

As regards respondents' stated willingness to distribute flyers, we observe a pattern similar to that of respondents' stated willingness to support refugees privately within the survey experiment. The average number is 120.75 in the *control* group, and it goes up to 142.67 in the *third-party support* treatment and to 139.81 in the *mutual support* treatment. This increase seems to be driven along the extensive margin, i.e. the share of individuals who want to contribute to the project in general. In the *control* group, we find that 49.06 percent of all participants would be willing to help. In the *third-party support* treatment, this is true for 56.25 percent, and in the *mutual support* treatment, for 58.49 percent, but none of these differences are statistically significant. More importantly, while 31 out of 53 subjects in the *mutual support* treatment group were willing to distribute flyers together with a local refugee, not even one asked for help in exchange. Roughly one-third stated that they currently do not need any help. This indicates that people might not be deterred by the idea of a peer-to-peer gift-exchange relationship – which could have been one reason for the non-difference between the *third-party support* and the *mutual support* treatments in the survey experiment, since Andreoni et al. (2017) show that even without any refugee context, verbally asking for donations dramatically increases avoidance behavior – but that they simply do not see how they could benefit. Later

on, we also asked all participants whether they could imagine being part of such an exchange relationship, and only 7.14 percent did not seem to be interested at all.¹⁹

After the main experiment, we distributed a comprehension check which was answered by all participants, independent of the treatment group they had been placed in. The aim of this comprehension check was to study a second possible reason for why the *mutual support* treatment did not have any additional impact on individuals' willingness to support the refugees privately: the treatment text might not have been clear enough. Hence, participants were shown both the whole *third-party support* as well as the whole *mutual support* treatment texts, and asked to state how much they agreed with three different items twice, once for each text. The items and average responses are shown in Table 3. While there is no difference in the response to the item whether the texts report about volunteer work of refugees for German society, participants clearly understood that the *mutual support* treatment text, unlike the *third-party support* treatment text, points to receiving a return service from a refugee. When we asked them whether they felt that they could personally benefit from refugees' volunteer work, we observe a clear difference between the *third-party support* and *mutual support* treatment texts ($p = 0.000$, Wilcoxon matched-pairs signed-rank test). Nevertheless, the participants' average response is already quite high in the *third-party support* treatment (i.e. 4.26). Hence, if they already feel that they (or their direct environment) could benefit from refugees' volunteer work after being treated with the *third-party support* treatment text, the room for an even more positive response to the *mutual support* treatment is limited. Taken together, the data suggests that a lack of understanding is not a likely candidate to explain why we do not observe a difference between the two treatments.

¹⁹ The statement reads, "Personally, I cannot really imagine being part of such an exchange relationship." Respondents were asked to react on a 8-point Likert scale from 0 (does not apply at all) to 7 (fully applies).

Table 3: Comprehension Check Results

<i>Please state how much you agree with the following statements on a 1 to 7 Likert scale. (with 1 as “totally disagree” and 7 as “totally agree”)</i>	Third-party support	Mutual support
The text reports about volunteer work of refugees for German society.	5.14	5.17
Locals receive a return service from the refugee they have helped before.	2.58	6.35
I feel that I personally or my direct environment can benefit from refugees’ volunteer work.	4.26	5.39

Finally, we look at the behavior of participants who said they were actively engaged in refugee aid. As could be expected because of their obvious interest in supporting refugees, both the average amount donated (5.86 euros vs. 4.05 euros) and the number of flyers they said they would be willing to distribute (257.14 vs. 134.24 flyers) is considerably higher than in our main sample. Divided by treatment groups, we also observe a pattern different from that of the main sample. The average amount donated and the average stated number of flyers is higher in the *third-party support* treatment than in the control group (7.33 euros vs. 5.00 euros and 316.67 vs. 275.00 flyers, respectively), too, but both numbers shrink below the control group level in the *mutual support* treatment group (4.53 euros and 150 flyers). One might argue that individuals who are already engaged in refugee aid can be characterized as highly pro-social who like to help unconditionally, but less friendly to the idea of helping when their help is conditional on receiving a service in return. These results, however, have to be taken with great care due to the very low sample size, but more importantly, due to our lack of knowledge as regards participants’ engagement in this specific project – which might greatly bias these numbers if they are not equally distributed across treatments.

4. The Natural Field Experiment: Study Design and Results

Given that the neighborhood platform was constantly updating its flyers and testing their success, it was easy to place some new flyer versions related to the present experiment, so we could exploit this opportunity to test our treatments in a natural field experimental setting, too. Each flyer included a registration code which allowed the assignment of a new registration to one of the three versions of the flyer. We were able to run this additional investigation only because we personally knew some refugees who just arrived in the city and were willing to join our project by allowing us to print their first names on the flyers, helping in the distribution of flyers, and actively promoting the usefulness of the platform. Besides conforming to the basic rules of experimental economics (i.e. no deception), the platform required at least one interested party living in the neighborhood for which a new digital neighborhood should be set up. This person must be willing to engage in activities such as language tandems or gardening groups, following their principle “from neighbors for neighbors.”

Similar to the previous two experiments, we have three different flyer versions. Given the natural field setting, we needed to adjust the treatment texts, but the general idea of the *third-party support* and *mutual support* treatments remained the same. The advantage of this setting is that people were unaware of the experiment or, more generally, a research project, so that individuals’ behavior should be influenced by nothing else than our treatments. The random allocation of the three versions resulted in 1935 flyers for the control group, 2005 flyers for *third-party support* treatment group, and 2140 flyers for *mutual support* treatment group, so that 6080 households received a flyer in their mailbox on behalf of a Syrian refugee. In total, about 9,000 flyers were distributed. The remaining flyers were distributed by and on behalf of other locals who wanted to actively promote the use of the neighborhood platform.

The treatment texts on the flyers which were on behalf of the Syrian refugee read as follows:²⁰

[1] Hello, dear neighbors from [part of town], my name is [typical Syrian first name]. I came to [name of the town] from Syria as a refugee and moved to your neighborhood. Through friends, I learned about [name of the platform]. This is a complimentary internet platform with which neighbors can get to know and support each other in everyday life.

[2] I'm currently volunteering to co-found our digital neighborhood and helping to distribute these flyers to every home in [several parts of town] – that's over 9,000 households ;-). This is my first contribution to a lively neighborhood.

[3] In the next step, I would also like to be available for a direct, mutual exchange of everyday help. If a neighbor could help me to understand a difficult letter, for example, I could help him in return with doing small household or garden tasks.

The control group saw only Paragraph 1, the *third-party support* treatment group additionally received Paragraph 2, and the *mutual support* treatment group received all three paragraphs.

Based on the platform operator's long-term experience in evaluating the success rate of flyers through systematic testing, a very low success rate was to be expected for several reasons. First, while there is an increased need for digital neighborhood networks due to the greater anonymity and special social structure of inhabitants in large cities, people in smaller cities, such as the one in which we conducted the experiment, are much more difficult to reach since there are already good networks among neighbors even without the use of apps. Second, digitization has made less progress in more rural areas due to the higher average age of the inhabitants. Third, the company has little knowledge of how neighborhood co-founders who are refugees can inspire people to participate. Finally, to make matters worse, two competitors, one national and one regional, had already distributed flyers to every household only a few weeks before our campaign. At the same time, the number of flyers to distribute was limited. We could not expand

²⁰ The flyers also contained the following information placed after the treatment texts: "The website helps to get to know one's neighbors in the first place, and then to get in touch with them quickly and easily, for example for recommendations on good doctors, in the search for helpers to move heavy furniture, or for assistance with handicraft working, used clothing exchanges, or planning joint neighborly activities. I would be very happy if you support me on the neighborhood platform and maybe we will get to know each other soon. To join, just register at [link of website]. To guarantee that only residents are present, please enter the following access code when registering: [code] I look forward to meeting you! Your neighbor [name] from [street]."

out project to other cities since, as described above, actual residents have to be part of the project. Therefore, we expected to have a relatively small number of new registrations so that we could not predict in advance whether the effect sizes would be sufficient to detect statistically significant differences.

Keeping these limitations in mind, we observe a success rate of 0.47 percent (9 registrations) in the control group. The success rate of the *third-party support* treatment is slightly higher at 0.70 percent (14 registrations), but this difference is not significant. In the *mutual support* treatment, the success rate goes up to 0.93 percent (20 registrations), which is a marginally significant difference compared to the control group ($p = 0.054$, one-sided Fisher's exact test). Although all results are to be interpreted with some caution due to the small number of cases, the data supports the findings obtained from the previous experiments, showing that people's willingness to get in touch with a refugee increases if they see the potential for a mutual exchange of gifts. Another version of the flyer was based on our *third-party support* flyer but with a typical German name since he also had just moved to the city from another German region. This flyer resulted in a 1.01 percent success rate ($N = 1088$). Given that this number is only marginally higher than the one obtained from the Syrian's flyer version, people do not seem to discriminate between different cultural backgrounds when deciding to participate in the digital neighborhood if the newcomers are willing to actively engage, too. In contrast to the survey experiment, but similar to the lab experiment, here, the *mutual support* treatment seems to work somewhat better than the *third-party support* treatment. One simple explanation might be that relying on reciprocal behavior and building up direct peer-to-peer relationships is exactly the idea and major goal of such platforms. Hence, the concrete circumstances seem to matter for answering the question of whether individuals' responses to refugees' good deeds might be driven by direct or indirect reciprocity.

Result 6: Locals who receive a flyer from a refugee that points to the possibility of a direct peer-to-peer relationship are roughly twice as likely to register on the digital neighborhood platform as locals who received a control group flyer.

5. Conclusion

While volunteerism is good for society *per se*, we analyzed potential positive spillover effects resulting from the idea that many refugees want to give something back to their new host society. Using three different versions of a questionnaire in a nationwide phone survey, we tested whether the local population's willingness to support refugees' integration financially and privately increases as a reciprocal response to the notion of refugee volunteering. We used the same treatment interventions in a laboratory experiment to test whether the observed effects on the stated preferences carry over to individuals' actual behavior, measured in terms of donations for a local refugee integration project. These donations supported the printing of flyers which were intended to promote a digital neighborhood platform through which the refugees could connect with the local population. Finally, we used the flyers themselves to conduct a natural field experiment by providing three different flyer versions that replicate the treatment interventions used before.

Whereas the survey experiment provides us with a large and more representative sample than a classical laboratory experiment, the latter allows us to observe whether subjects are indeed willing to forego money to support refugees. Given that we asked for both the willingness to provide financial support as well as the willingness to get to know and support a refugee family privately, the field experiment is a perfect extension in that each new registration at the neighborhood platform – after receiving the flyer from a refugee – signals the new user's willingness to get in touch with refugees. Each experiment has its limitations but all of them support the hypothesis that refugee volunteering can foster locals' willingness to support

refugees' social integration with time and money. As suggested by Maniadis et al. (2014) in a theoretical framework, repeated examinations of the same research objective sizeably reduce the likelihood of false positives, so our claim can be seen as substantial, taking all the evidence together.

Of course, it is hardly possible to compare a donation of up to 10 euros from a lab experiment with the stated willingness to provide financial support for the integration of refugees, such as in the form of a solidarity tax, which we asked about in the survey experiment. Nevertheless, even a small increase can be very helpful if you can convince many people to participate. Additionally, the lab experiment gave us some important insights into the question of why the *mutual support* treatment did not have an additional positive impact above that of the *third-party support* treatment on individuals' willingness to get to know and support refugees: Combined with the observation that individuals with a lower indirect reciprocal inclination are sensitive to the *mutual support* treatment only, the data suggests that people are not deterred by the idea of a direct gift-exchange relationship with a refugee, but some individuals might simply not see how they could benefit from such a relationship. Moreover, we find that the *mutual support* treatment worked somewhat better than the *third-party support* treatment in the field experiment.

We observe some heterogeneity as regards which type of individual seems to prefer what kind of support: Highly reciprocal individuals respond positively to our treatment intervention when asked about private support, while less reciprocal ones when asked about financial support. Further, the proposed intervention seems to reach the broader population – even those who have not been in contact with refugees recently, and, hence, are likely to have the most prejudices. Similarly important are the insights obtained from analyzing the treatment effects on the distribution of outcomes within the survey experiment. Presenting the idea that refugees are active as volunteers increases the willingness to help of those interviewees who are already

more positive about supporting them. But more importantly, it sizably reduces the percentage of participants who state “not at all” to the question of whether they are willing to help privately or financially (almost 40 and 20 percent, respectively). The positive effects on the upper part of the distribution (i.e. the individuals who state they strongly agree that they would be willing to help) seem to be similarly important, since the likely decline of prejudices when personal contact is made (c.f. Allport’s intergroup contact theory) might also rub off on third-parties such as family and. As proposed by Finseraas and Kotsadam (2017), getting in touch with ethnic minorities could reduce not only prejudice but overall anti-immigrant sentiments, too. Even though we cannot provide any evidence on the long-term reciprocal behavior of the native population, the reduction of prejudices and anti-immigrant sentiments by getting in touch with each other is an important objective for the long-term process of integrating the refugees into society.

One might argue that all three experiments do not capture gift-exchange but a response to signaling. Whereas initial attitudes towards refugees are driven by various concerns and prejudices, the engagement in volunteer work can be interpreted as refugees’ willingness to mingle with the local population and that they share similar values. As a consequence, locals update their beliefs about the refugees and are more willing to help their new neighbors. We agree that we cannot rule out that people have such thoughts in mind after being confronted with our treatment interventions. However, by splitting the sample according to their reciprocal inclination, we observe a pattern that speaks in favor for gift-exchange as the underlying mechanism. If signaling was the major mechanism, why should, for example, individuals with lower reciprocal inclination perceive this signal different from individuals with higher reciprocal inclination?

In a nutshell, the idea of gift-exchange between refugees and the local population seems to work for a variety of individuals, and, hence, our results underline the importance of gift-exchange,

here in the context of social integration. Given that societies are always composed of different groups, our findings are good news not only for the integration of refugees but for the society as a whole, since gift-exchange can foster cooperation even between in- and outgroup members. Although positive reciprocity is a widespread behavioral motive, and previous research has indicated that individuals show regard for others despite social distance or different ethnic origins, these results were not necessarily to be expected. Especially in times of crises, prejudices and fears could have dominated individuals' reciprocal inclination. Hence, our paper contributes to the existing literature not only because we propose concrete means to foster the integration of immigrants, but also because we provide evidence for the persistence of other-regarding preferences under harsh conditions that have not been investigated yet.

From a political perspective, our results imply that it might pay off – on top of direct positive effects – to support and foster volunteer work by refugees, for example by removing legal barriers or offering incentives. Even though institutionalized possibilities to volunteer got some attention in Germany when the Federal Volunteers Service (*Bundesfreiwilligendienst*) opened for refugees with good prospects of being allowed to remain forecasts, in some areas it is still the case that individuals without German citizenship are not allowed to become involved (Vogel et al. 2017). Furthermore, eligible refugees might not be aware of how exactly to get involved, so it might be worth approaching them directly and informing them about the voluntary sector. This could be done not only by interested individuals and supportive organizations but also by special placement agencies that match organizations looking for volunteers with those individuals interested in volunteering. Given that especially refugees might not have a paid job yet – which means, on the other hand, that they would have enough time for volunteering activities – budget constraints could be another barrier to engagement. This barrier could be lowered by granting small expense allowances or by issuing free tickets for public transport. According to our empirical findings, lowering the barriers has to be followed by raising the

local population's awareness of immigrants' volunteer work, since indirect reciprocity, one of our proposed channels to influence attitudes toward immigration, can only operate if the good deeds to be reciprocated are observable (Yoeli et al. 2013). Taking into account recent empirical evidence from Sweden showing that locals tend to avoid reading newspaper articles that may trigger feelings of compassion towards refugees (Freddi forthcoming), raising the awareness seems to require a strategy as elaborate as does fostering volunteer work itself. Finally, given that some individuals – the ones with low indirect reciprocal inclination – seem to be more open to the idea of having a direct peer-to-peer relationship, it seems to be similarly worthwhile to think about different ways besides digital neighborhood platforms to facilitate getting people in touch with each other.

Recapitulating our findings, the question arises under which conditions gift-exchange relationships between refugees and natives work out. One might, for example, critically examine whether natives honor refugees' volunteering activities similarly if they engage only for strategic reasons, as proposed by Khvorostianov and Remennick (2017), since Engelmann and Fischbacher (2009), among others, have shown that strategic reputation building weakens the reciprocal relation. Investigating this question remains a project for future research.

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Appendix

Table 1: Sample Composition Survey Experiment

	All	Control Group	Third-party support	Mutual Support
Previous contact to refugees (<i>yes</i>)	0.409	0.414	0.380	0.432
Volunteering work in refugee aid (<i>yes</i>)	0.130	0.128	0.118	0.143
Worries about immigration:				
No or only minor worries (<i>yes</i>)	0.397	0.388	0.410	0.394
Somewhat worried (<i>yes</i>)	0.380	0.388	0.334*	0.418
Highly worried (<i>yes</i>)	0.223	0.224	0.256	0.187
Positive reciprocal inclination (0-7)	5.974	5.957	5.982	5.987
Both parents born in Germany (<i>yes</i>)	0.790	0.787	0.794	0.791
Female (<i>yes</i>)	0.599	0.601	0.603	0.594
Student (<i>yes</i>)	0.128	0.119	0.122	0.143
Job-seeking (<i>yes</i>)	0.040	0.033	0.038	0.050
Employed – without academic degree (<i>yes</i>)	0.302	0.301	0.344	0.261
Employed – with academic degree (<i>yes</i>)	0.117	0.137	0.107	0.104*
Age	51.812	52.319	50.983	52.062
<i>N</i>	1637	611	524	502

Note: Two-sided Wilcoxon rank-sum tests and Chi-squared tests, respectively, were used to test for differences between the control group and the particular treatment group. Significance levels are denoted as follows: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 2: Overview Main Results Laboratory Experiment

	Control Group	Third-party support	Mutual Support
Main sample only:			
Average donation	3.067	4.299*	4.780**
Average number of flyers	120.755	142.674	139.815
<i>N</i>	53	49	54
Inclusion of participants engaged in refugee aid:			
Average donation	3.203	4.566**	4.781**
Average number of flyers	131.579	158.768	140.517
<i>N</i>	57	56	58

Note: Two-sided Wilcoxon rank-sum tests were used to test for differences between the control group and the particular treatment group. Significance levels are denoted as follows: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Halle Institute for Economic Research –
Member of the Leibniz Association

Kleine Maerkerstrasse 8
D-06108 Halle (Saale), Germany

Postal Adress: P.O. Box 11 03 61
D-06017 Halle (Saale), Germany

Tel +49 345 7753 60
Fax +49 345 7753 820

www.iwh-halle.de

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