

Neighborhood Level Immigrant Share, Economic Differences and Charitable Giving

Zbignev Gricevic^{1,2}

¹Berlin Graduate School for Social Science, Humboldt University Berlin

²Socio-Economic Panel, DIW Berlin

July 12, 2018

Abstract

The following paper explores if being different from ones neighbors ethnically and economically affects charitable giving to refugees. This question is addressed by combining individual level data from Socio-Economic Panel with neighborhood level indicators of immigrant share and economic well-being. Evidence that charitable giving among natives decreases in increasing immigrant share is reported. Importantly, this negative association is driven by respondents who are economically well-off, but reside in economically deprived residential settings.

1 Introduction

This paper investigates if being ethnically and economically different from one's neighbors influences charitable giving - one of the many instances of pro-social behavior.¹ Ability to act pro-socially with strangers is often considered to be one of the main conditions enabling complex societies (Elster, 1989; Bowles & Gintis, 2011). In addition, many of key policy challenges, such as providing help and support for vulnerable societal groups or funding education requires pro-social behavior. Somewhat unsurprisingly, enormous literature spanning numerous scientific fields explored possible causes as well as consequences of pro-social behavior (Rand & Nowak, 2013). As cooperation and conflict often happens between social groups, immediate question arises if probability to overcome collective action problems is lower in ethnically and/or economically heterogeneous societies. Somewhat unsurprisingly, many empirical studies in sociology, economics and political science explored how ethnic and economic cleavages affect pro-social attitudes and behaviors. This study exploits zip code and street level indicators to investigate how exposure to ethnic and economic out-group affects charitable giving to refugees among affluent Germans.

1.1 Theoretical Considerations

Negative association between ethnic and economic diversity and prosocial attitudes/behaviors is usually expected. It is well established that individuals are more likely to act pro-socially towards their group members than towards the out-group members (see (Hewstone, Rubin, & Willis, 2002) for a review and (Balliet, Wu, & De Dreu, 2014) for a meta-analysis). One of the dominant explanations for this phenomena is provided by social-identity framework according to which people define themselves not only on the basis of their unique characteristics, but also by identifying with social groups based on some common traits (Tajfel, 2010; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Intensive research in social psychology and social neuroscience documents this ability and investigates underlying neural mechanisms (Cikara & Van Bavel, 2014). In natural settings

¹We define pro-social behavior as "a behaviour which provides a benefit to another individual" (West, Griffin, & Gardner, 2007).

group boundaries might be drawn along ethnic or economic lines.² Being prosocial with in-group members and harming or avoiding to help out-group members helps to sustain positive social identity. Long tradition in sociological theory conjectures that presence of out-group members will make one's social identity more salient (Blalock, 1967; Quillian, 1995). Consequently chance to observe in-group love/out-group hate will increase in increasing share of out-group members in one's residential environment.³

Social identity driven out-group bias might be a function of socio-economic position when status differences are stable (Scheepers, Spears, Doosje, & Manstead, 2006). Under these circumstances higher status individuals would be most certain about their distinctiveness from the out-group. In addition, those who hold higher position in social hierarchy are driven to defend their standing. The fact that out-group bias is stronger among higher status individuals is well-documented empirically (Bettencourt, Charlton, Dorr, & Hume, 2001).

Several alternative, but related explanations suggesting negative association between out-group exposure and charitable giving towards that out-group circulate in the literature. Mechanism of out-group threat is often invoked (e.g. (Blumer, 1958)). Perceived out-group threat increases in objective out-group size (e.g. (Schlueter & Scheepers, 2010)). It's also common to argue that threat perceived by people might depend on their socio-economic position. People of lower socio-economic status might feel threat coming from the the increased competition in the labor market (Samson, 2016). Meanwhile, more affluent individuals might be afraid that immigrant arrival will drive down cost of their

²Social Identity framework is usually invoked when people investigate relationship between ethnic groups. In contrast it's relatively uncommon to invoke this concrete mechanism in the studying effect of inequality. We, however, follow Jetten in thinking that people draw group boundaries based on their socio-economic position (Jetten et al., 2017). People might categorize others into social classes based on their appearance and recent research even suggests that social class can be guessed from neutral facial expressions alone (Bjornsdottir & Rule, 2017).

³Relatedly, models of parochial altruism suggest that inter-group competition strengthens in-group love. This implies that charitable giving benefiting in-group might actually increase when inter-group competition increases.

property (Nowak & Sayago-Gomez, 2017).

Based on the following considerations, we formulate several conjectures on the association between immigrant share and charitable giving to refugees among native Germans.⁴ First of all, we expect negative association between exposure to immigrants in residential setting and charitable giving to refugees among natives. This inquiry assumes that natives will perceive refugees as belonging to the same or similar out-group: immigrants.

Hypothesis a: Charitable giving to refugees among natives will decrease in increasing immigrant share in their neighborhood.

Secondly, we assume that refugees might be perceived as economically deprived. Consequently, we expect that exposure to economically deprived immigrants will strengthen negative association between immigrant share and charitable giving to refugees. As such exposure is more likely in economically deprived residential settings, we conjecture that:

Hypothesis b: Negative association between immigrant share and charitable giving to refugees will increase in decreasing neighborhood economic well-being.

Finally we expect that besides exposure to ethnic out-group, economic differences also drive down prosocial behavior. Thus we conjecture that negative effect will be stronger for those who are economically distant from their neighbors. In other words, this negative association will be stronger among economically well-off Germans.

Hypothesis c: Decreasing neighborhood economic well-being will strengthen negative effect of immigrant share among natives, but this moderation will be stronger among affluent natives.

⁴At this point, we do not formulate hypotheses about this association among immigrants. Intuitively, immigrants could perceive refugees as in-group. However, refugees might be also perceived as out-group not only by native Germans, but also by local immigrants. For instance, they might be perceived as providing competition on the labor market, or threatening reputation in the eyes of the local Germans.

1.2 Review of Empirical Literature

There is enormous amount of empirical research investigating effect of ethnic diversity on prosocial attitudes (e.g. trust, preferences for redistribution) and behaviors (e.g. social participation, volunteering). In general, reviews document that empirical evidence is inconclusive (see (Schaeffer, 2013), Tolsma (Meer & Tolsma, 2014), and Dinesen (Dinesen & Sønderskov, 2017) for reviews of studies exploring effect of ethnic/racial heterogeneity, and Jordahl for studies reviewing effect of income inequality (Jordahl, 2007)). In addition, several studies suggest that concurrence of ethnic and economic cleavages has detrimental effect on prosocial attitudes (e.g. (Tesei, 2015; Houle, 2017)).

Unfortunately, it's beyond the scope of this paper to discuss all this literature in more detail and we limit our review to studies exploring effect on charitable giving only. Several papers report negative statistical association between various ethnic/racial diversity indices (HHI, Ethnic/Racial Group Proportion) and individual donation likelihood (Okten & Osili, 2004b, 2004a; Amankwaa & Devlin, 2017). Other researchers used aggregate rates of charitable giving as their outcome variable. Results of these studies are mixed: some researchers find negative association (Dimitrova-Grajzl, Grajzl, Guse, & Smith, 2016), while others do not report statistically significant association (VanderHoff, 2012; Andreoni, Payne, Smith, & Karp, 2016). Similarly, results are not unified in case of studies exploring impact of economic inequality. While some papers report negative association between economic disparity indices and individual giving to charity (Okten & Osili, 2004a), others report null results (Okten & Osili, 2004b). Studies analyzing association between economic inequality and aggregate donation rates, however, report positive association (VanderHoff, 2012; Payne & Smith, 2015; Sokolowski, 2013). In addition, some descriptive studies document that rising income inequality coincided with decreasing donation probability among low-income earners, but increasing likelihood among high income earners in US (Andreoni & Payne, 2013; Collins, Flannery, & Hoxie, 2016), Canada (Payne, 2012) and U.K. (Cowley, McKenzie, Pharoah, & Smith, 2011).

However, Duquette's recent analysis of U.S. data found that individuals belonging to top income deciles donate less when top-driven income inequality increases (Duquette, 2017).

However, most of the studies investigating so called contextual effects share one shortcoming, which is also common in the broader field investigating social diversity-prosociality nexus. Out-group size indicators are measured over very large spatial scales, such as U.S. counties or Canadian Metro Statistical Areas. Measures aggregated over such a large geographical scale might fail to capture out-group presence to which participants of these studies are actually exposed. One possible way of addressing this issue is to estimate exposure to out-groups at immediate residential context as recently done by Dinesen (Dinesen & Sønderskov, 2015). Recent review of Schaeffer indeed documents that likelihood to find negative effect of ethnic diversity increases when it's measured on neighborhood level (Schaeffer, 2013). Somewhat similarly, recent observational (Gimpelson & Treisman, 2015) and experimental (Nishi, Shirado, Rand, & Christakis, 2015) studies on economic inequality highlight that prosocial attitudes and behaviors are affected not by *real*, but by actually perceived or visible economic inequality. We try to account for this issue by using indicators of out-group exposure at very small spatial scale, such as street or zip code area.

Several other studies relevant in this context and immune of these criticisms are worth mentioning. Field experiments conducted in Northern Ireland, where group conflict between Catholics and Protestants is salient were reported in two recent studies. It was found that donation likelihood to out-group charities declines significantly in increasing exposure to inter-group conflict (Silva & Mace, 2014). In a latter study, field experiments were conducted before and after sectarian riots. It was revealed that donation rates to both in-group and out-group charities declined after riots (Silva & Mace, 2015). In another study Samson found evidence that perceived immigrant threat (in a form of job competition) has negative impact on donations to charities (Samson, 2016).

In addition, it is worth mentioning results of lab and the lab-in-the dictator games

(Kahneman, Knetsch, & Thaler, 1986). These games mirror charitable giving situations, as no direct strategic considerations are involved in the decision.⁵ Recent meta-analysis of research in experimental/behavioral economics suggests that dictators give less to variously defined out-group members (Lane, 2016). However, other reviews document that people that people are much more likely to engage in in-group favoritism than in out-group hate (Balliet et al., 2014; Everett, Faber, & Crockett, 2015). One possible explanation for this finding might be that out-group *hate* manifests not in harming behaviors, but rather in avoiding to provide help for out-group members (Weisel & Böhm, 2015).

⁵This one-shot game is played between two participants. First participant called Dictator gets endowment and should decide how to share it. The second player cannot affect outcome of the *game*. Such design controls for possible effect of strategic consideration, such as reciprocity, and thus is considered to be valid behavioral measure of charitable giving. However, it should also be noted that real life charitable giving is likely (at least partially) driven by reputation scoring.

2 Data Source, Analytical Strategy and Measures

As most of the studies reviewed before, this paper is based on observational research design. We explore if presence of ethnic out-group members (immigrants) in the neighborhood in which one resides is negatively associated with charitable giving to refugees. This goal is achieved by combining individual level data provided by German Socio-Economic Panel (Wagner, Goebel, Krause, Pischner, & Sieber, 2008) with neighborhood indicators supplied by market research company Microm (Goebel, Spieß, R. J. Witte, & Gerstenberg, 2007). Socio-Economic Panel is a multidisciplinary panel survey dedicated to the measurement of material and social well-being. Information representative of Germany's population is collected annually since 1984. Data from the questionnaires answered in year 2016 are used. SOEP-Microm dataset provides building, street and zip-code level social indicators.⁶

Traditional way of modelling presumed effect of ethnic/racial diversity in observational studies is to correlate aggregate indices with individual attitudes or behaviors. This approach, however, is not very suitable to test our hypotheses because it does not allow easily identifying exposure to out-group. As recently convincingly argued by several authors, traditionally used Hirschman-Herfindahl Index (Hirschman, 1964) is not relational and does not allow to see if individual belongs to majority or minority group (Koopmans & Schaeffer, 2015; Abascal & Baldassarri, 2015). Consequently, we think that slightly different approach is more suitable to test our hypotheses rooted in social identity framework. We try to locate individuals different from most of the people living in the same residential area along ethnic and economic dimensions. As recipients of prosocial behavior are economically deprived immigrants we assume that the most dissimilar individuals will be affluent natives. Consequently we try to identify affluent German natives exposed to economically deprived immigrants.

Microm estimated share of immigrant households at 8-digit zip code and street level using

⁶Spatial identifiers are assigned to housing blocks by external research agency in order to ensure anonymity of addresses.

small area estimation techniques. Information on the first and last names of residents is used to identify proportions of ethnic minorities residing in a zip code. This and other auxiliary information is used to infer proportion of migrant households. We exploit information on individual migration background to identify native Germans. People are considered to have migration background if they or at least one of their parents came to Germany from abroad.

At least in the case of Germany, it's very hard to get information on income distribution needed for the calculation of inequality indices on a very small spatial scale. ... We use two strategies to identify individuals different from their neighbors economically. Firstly, we exploit information on neighborhood level home-ownership rate and individual home-ownership status. Home ownership is a good proxy for salient economic differences. This is well-documented in many descriptive reports which show that home-owners hold substantially higher wealth than tenants in Germany (e.g. (Kindermann & Kohls, 2016)). In addition, we use information on average zip code purchasing power per household and monthly adjusted household income. While this latter indicator captures income differences, home ownership also allows to take wealth disparities into account.

We use refugee specific charitable giving as our outcome variable. Most of the outcome variables used in majority of previous studies do not allow to distinguish between ethnic/economic in-group and out-group targets. This measure allows us to test if exposure to out-group fosters help-avoidance to (in many ways) similar group. Moreover, some other (rather popular) indicators, such as trust, are rather ambiguous and their measurement validity is still under discussion in the scientific community (Glaeser, Laibson, Scheinkman, & Soutter, 2000; Ermisch, Gambetta, Laurie, Siedler, & Uhrig, 2009). In contrast, charitable giving provides rather good indicator of prosocial behavior. Refugee specific charitable giving was measured using retrospective survey instruments referring to year 2015. Respondents were asked the following question:

Which of the following activities relating to refugee issues have you engaged in since last

year and which do you plan to (also) engage in the future?

- *Donating money or goods to help refugees*
- *Working with refugees directly (e.g., accompanying them to government agencies, providing support in language learning)*
- *Going to demonstrations or collecting signatures for initiatives to help refugees*

We use information only on previous (not intended) donating of money or goods.

3 Empirical Analysis

The following chapter shortly presents results of exploratory statistics (Section 4.1.) and statistical modeling (Section 4.2.).

3.1 Descriptives

Descriptive inquiry shows that around 27.78% of residents of Germany donated to refugees in 2015 (Table 1.). This rate was similar among natives and immigrants. While around 31.88% of home owners donated, *only* 23.88% of tenants did.

Table 1: Rate of Charitable Giving to Refugees by Migration Background and Home-Ownership (Weighted)

Variable	Rate	Std. Err	Confidence Interval		N
Migration Background					
No	27.71	0.34	27.05	28.38	17 355
Direct	26.67	0.64	25.42	27.91	4 836
Indirect	30.99	1.04	28.95	33.02	1 988
Home Ownership					
Owner	31.88	0.44	31.02	32.73	11 394
Tenant	23.88	0.38	23.14	24.62	12 785

Source: SOEP-Microm, Own Calculations.

According to Microm-SOEP data median estimated proportion of migrant households is 15.42% and 14.65% at zip code and street level respectively (Table 2.). Meanwhile, median estimated share of home-owners is 45.38% and 41.78% at zip code and street level respectively. Median zip code area purchasing power per household is 42 370 Euro.

Table 2: Descriptive Statistics of Neighborhood indicators (Year 2015)

Variable	25p	Median	75p	Mean	SD	N
% Migrant HH Zip	7.59	20.63	37.33	23.79	18.69	28 261
% Migrant HH Street	5.45	20.17	41.03	24.94	21.59	28 255
% Owners Zip	26.74	42.28	56.76	42.28	16.44	28 261
% Owners Street	22	37.5	58	41.27	20.25	28 255
Purchasing Power Zip	35 436	42 370	49 130	43 017.49	9 977.43	28 261
Purchasing Power Street	34 355	41 442	49 114	42512.35	10679.12	28 255

Source: SOEP-Microm, Own Calculations.

Table 3. tabulates zip code areas by proportion of immigrant households and proportion

of home owners. On the one hand, almost 40 % of the neighborhoods in our sample have immigrant share below median and above median proportion of home owners. This can be dubbed as ethnically homogeneous affluent residential areas. On the other hand, around 40 % of the neighborhoods have above median share of immigrants households, but below median share of home owners. These are more ethnically diverse, but less affluent areas. Distribution of these neighborhoods is also visualized in sunflowerplot below (Figure 1.).⁷

Table 3: Tabulation of zip code areas by share of immigrant households and home owners

% Immigrant	Above Median	39.49%	10.56%
Households	Below Median	10.48%	39.47%
		Below Median	Above Median
		% Home Owners	

Source: SOEP-Microm, Own Calculations.

⁷There around 1000 observations of german home-owners residing in neighborhoods, where homeownership rate is below-median, but immigrant share is above-median.

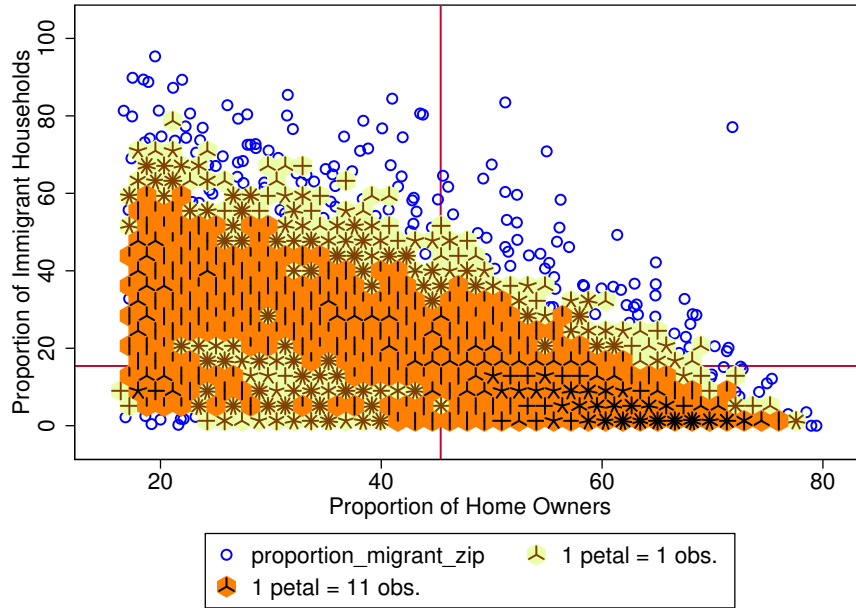


Figure 1: Sunflowerplot. German Neighborhoods by Proportion of Immigrant Households and Home Owners.

Source: SOEP-MICROM, Own Calculations

3.2 Modelling

This section presents results of our statistical models. We test our hypotheses using set of multivariate logistic regressions with robust standard errors clustered at household level.⁸

3.2.1 Donation Likelihood by Migration Background

Table 4. presents statistical association between zip code level share of immigrant households and charitable giving to refugees among all respondents, residents without migration background and residents with migration background. Only individuals who moved in to their residence before 2015 are included in the sample. Negative statistical association between immigrant share and charitable giving to refugees is found. However, it's not statistically significant among natives. Interestingly, statistically significant negative

⁸However, we also repeat our analysis using multilevel logistic regression models with individuals nested in households. Results (which are available upon request) are similar to ones obtained with *simple* logistic regression. We do not nest individuals in zip code areas, as in the most of the cases there are only one household per zip code area.

association is found among immigrants. However, this latter finding is not incompatible with our theoretical considerations because not only native Germans, but also immigrants might perceive refugees as an out-group. We discuss results among immigrants in Auxiliary analyses (Section 3.3.) and concentrate on the native Germans first.

Table 4: Immigrant Share and Donation to Refugees by Migration Background

	All	Natives	Immigrants
	b/se	b/se	b/se
% Migrant HH	-0.001***	-0.001	-0.002***
	0.000	0.000	0.000
East Germany	-0.130***	-0.133***	-0.123***
	0.009	0.010	0.022
N	21 715	15 817	5 898

Results of Logistic Regression with Standard Errors clustered at Household Level.

Average Marginal effects and standard errors reported.

Source: SOEP-Microm, Own Calculations.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

As discussed before, refugees might be perceived not only as immigrants, but also as economically deprived. Probability to be exposed to economically deprived immigrants is higher in economically deprived residential settings. To test second hypothesis we probe interaction effect between immigrant share and home-ownership rate. Our analysis indeed shows that negative effect of immigrant share is moderated by home-ownership rate (Table 5.). Negative statistical association holds in low home-ownership areas, but is indistinguishable from zero or even positive in above median home-ownership areas. When results are split by ethnic groups, we see that home-ownership moderates effect of immigrant share only among native Germans, but not among immigrants. Moreover, this interaction effect is mainly driven by home-owners. For instance, 10 percentage point difference in immigrant share translates into 5 percentage point lower donation likelihood

among German home-owners residing in the areas where home ownership rate is 20%. This finding might have several explanations. First of all, home-owners are usually of higher wealth than tenants. Consequently, economic distance between German home-owners and immigrants is higher than between German tenants and immigrants residing in these areas. Alternatively, German home-owners residing in these areas might be concerned with the price of their real estate. If latter is the case, however, we need to explain why negative effect holds in low home-ownership, but not high home ownership areas. Another plausible explanation is that German home owners have stronger identification with the community than German tenants. Then we capture not effect of economic distance, but rather identify people with stronger national identity (Wong, 2010).

Table 5: Immigrant Share and Donation to Refugees by Zip Code Level Home-Ownership Rate, Individual Home-Ownership Status and Migration Background

	All	Native		Immigrant	
		Owner	Tenant	Owner	Tenant
	b/se	b/se	b/se	b/se	b/se
% Owner					
20 %	-0.002***	-0.005***	-0.000	-0.002	-0.001
	0.000	0.001	0.001	0.002	0.001
40 %	-0.002***	-0.002*	-0.001	-0.002	-0.001
	0.000	0.001	0.001	0.001	0.001
60 %	-0.001	0.001	-0.001	-0.002	-0.001
	0.001	0.001	0.001	0.002	0.001
N	21 715	8 962	6 855	1 975	3 923

Results of Logistic Regression with Standard Errors clustered at Household Level.

Average Marginal effects and standard errors reported.

Source: SOEP-Microm, Own Calculations.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

We probe if effect on charitable giving is due to economic differentials using information on average neighborhood purchasing power per household and adjusted household income.⁹ We find that immigrant share has negative impact, but only among high income individuals (e.g. belonging to 90th percentile of income distribution in our sample) living in the residential areas where average purchasing power is median or lower. This is in line with reasoning that economic and ethnic differences play side by side in driving down charitable giving to refugees.

⁹Income was adjusted to household size using OECD equivalence scale (Hagenaars, de Vos, Zaidi, & of the European Communities, 1994).

Table 6: Immigrant Share and Donation to Refugees by Average Zip Code Level Purchasing Power, Adjusted Household Income and Migration Background

	Adjusted HH Income				
	5th pct.	25 pct.	50 pct.	75 pct.	90 pct.
	b/se	b/se	b/se	b/se	b/se
Average Purchasing Power					
10th pct.	0.001	0.000	-0.000	-0.001*	-0.003**
	0.000	0.000	0.000	0.001	0.001
25th pct.	0.000	0.000	-0.000	-0.001*	-0.002**
	0.000	0.000	0.000	0.000	0.001
50th pct.	0.000	0.000	-0.000	-0.001*	-0.002**
	0.000	0.000	0.000	0.000	0.001
75th pct.	0.000	0.000	-0.000	-0.001	-0.001*
	0.001	0.000	0.000	0.000	0.001
90th pct.	0.000	-0.000	-0.000	-0.000	-0.001
	0.001	0.001	0.001	0.001	0.001
N	15 817	15 817	15 817	15 817	15 817

Results of Logistic Regression with Standard Errors clustered at Household Level.

Average Marginal effects and standard errors reported.

Source: SOEP-Microm, Own Calculations.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

3.2.2 Individual Level Controls

German home-owners who reside in low home-ownership neighborhoods might be on average poorer than home-owners residing in high home-ownership neighborhoods. It is well-documented that that probability to engage in charitable giving increases in income and wealth (Wiepking & Bekkers, 2012). To rule out this possibility we control for adjusted household income and wealth.¹⁰ As reported in Table 7. our results are not

¹⁰We use information on net wealth, referring to the year 2012.

affected after adjusting for these covariates suggesting that observed association is not an artifact of income/wealth based residential self-sorting. To make sure, we also control for other socio-demographic traits which are known to be correlated with charitable giving and might play a role in residential choice: age, sex, education and marital status.¹¹ Similarly, three way interaction effect between immigrant share, average neighborhood purchasing power and household income remains statistically significant after controlling for age, sex, education and marital status (Table 8.).

¹¹In other specifications which are not reported here (available upon request) we also tried controlling for religious background, house type street type, concerns with immigration, xenophobia, social cohesion, job security, close friendships with immigrants, other involvement with refugees, length of residence and possibly relevant street level characteristics. Inclusion of these variables did not change our results.

Table 7: Immigrant Share and Donation to Refugees by Zip Code Level Home-Ownership Rate, Individual Home-Ownership Status and Migration Background + Individual Level Controls

	1	2	3	4	5	6	7
	b/se	b/se	b/se	b/se	b/se	b/se	b/se
<hr/>							
% Owner							
<hr/>							
20 %	-0.005***	-0.005***	-0.005***	-0.005***	-0.005***	-0.005***	-0.004***
	0.001	0.001	0.001	0.001	0.001	0.001	0.001
40 %	-0.002*	-0.002*	-0.002*	-0.002**	-0.002*	-0.002*	-0.002*
	0.001	0.001	0.001	0.001	0.001	0.001	0.001
60 %	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	0.001	0.001	0.001	0.001	0.001	0.001	0.001
<hr/>							
Individual Level Controls							
<hr/>							
Ost-West	✓	✓	✓	✓	✓	✓	✓
HH Income		✓	✓	✓	✓	✓	✓
Age			✓	✓	✓	✓	✓
Sex				✓	✓	✓	✓
Education					✓	✓	✓
Mar. Status						✓	✓
Wealth							✓
<hr/>							
N	8962	8962	8962	8678	8674	8674	7234
<hr/>							

Results of Logistic Regression with Standard Errors clustered at Household Level.

Average Marginal effects and standard errors reported.

Source: SOEP-Microm, Own Calculations.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 8: Immigrant Share and Donation to Refugees by Average Zip Code Level Purchasing Power, Adjusted Household Income and Migration Background + Individual Level Controls

	1	2	3	4	5
	b/se	b/se	b/se	b/se	b/se
Average Purchasing Power					
10th pct	-0.003**	-0.002**	-0.003**	-0.003***	-0.002**
	0.001	0.001	0.001	0.001	0.001
25th pct.	-0.002**	-0.002**	-0.002**	-0.002***	-0.002**
	0.001	0.001	0.001	0.001	0.001
50th pct.	-0.002**	-0.002**	-0.002**	-0.002***	-0.001**
	0.001	0.001	0.001	0.000	0.000
75th pct.	-0.001*	-0.001*	-0.001*	-0.001**	-0.001
	0.001	0.001	0.001	0.000	0.000
90th pct.	-0.001	-0.001	-0.001	-0.001	-0.000
	0.001	0.001	0.001	0.001	0.001
Individual Level Controls					
East-West	✓	✓	✓	✓	✓
Age		✓	✓	✓	✓
Sex			✓	✓	✓
Education				✓	✓
Marital Status					✓
N	15 817	15 817	15 817	15 288	15 273

Results of Logistic Regression with Standard Errors clustered at Household Level.

Average Marginal effects and standard errors reported.

Source: SOEP-Microm, Own Calculations.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

3.2.3 Neighborhood Level Controls

Immigrant share and home-ownership might be correlated with other neighborhood characteristics which are also correlated with prosocial behavior in general and charitable giving in particular. For instance, low home-ownership means less stable social networks because tenants are more likely to move. In order to rule out for this possibility we control for residential fluctuation which indicates how many people move -in and -out of the neighborhood and what result it has on it's population size. In addition, we control for other possible confounders: population density, age structure, area type (rural vs. urban) and socio-demographics mentioned above. Interaction effect between immigrant share and home-ownership rate remains statistically significant (Table 9.). Similarly, three-way interaction between immigrant share, neighborhood purchasing power and adjusted household income remain unaffected after controlling for the same covariates (Table 10.).

Table 9: Immigrant Share and Donation to Refugees by by Zip Code Level Home-Ownership Rate, Individual Home-Ownership Status and Migration Background + Neighborhood and Individual Level Controls

	1	2	3	4	5	6
	b/se	b/se	b/se	b/se	b/se	b/se
<hr/>						
% Owner						
20 %	-0.005***	-0.005***	-0.005***	-0.006***	-0.006***	-0.005***
	0.001	0.001	0.001	0.001	0.001	0.001
40 %	-0.002*	-0.002**	-0.002**	-0.003**	-0.003***	-0.003***
	0.001	0.001	0.001	0.001	0.001	0.001
60 %	0.001	0.001	0.001	0.001	-0.001	-0.001
	0.001	0.001	0.001	0.001	0.001	0.001
<hr/>						
Neighborhood and Individual Level Controls						
Ost-West	✓	✓	✓	✓	✓	✓
Fluctuation		✓	✓	✓	✓	✓
Population Density			✓	✓	✓	✓
Age Structure				✓	✓	✓
Urban/Rural					✓	✓
Socio-Demographics						✓
N	8962	8962	8962	8962	8962	7436

Results of Logistic Regression with Standard Errors clustered at Household Level.

Average Marginal effects and standard errors reported.

Source: SOEP-Microm, Own Calculations.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 10: Immigrant Share and Donation to Refugees by Average by Zip Code Level Purchasing Power, Adjusted Household Income and Migration Background + Neighborhood and Individual Level Controls

	1	2	3	4	5	6
	b/se	b/se	b/se	b/se	b/se	b/se
Average Purchasing Power						
10th pct	-0.003**	-0.004***	-0.004***	-0.005***	-0.005***	-0.004***
	0.001	0.001	0.001	0.001	0.001	0.001
25th pct.	-0.002**	-0.003***	-0.003***	-0.004***	-0.005***	-0.004***
	0.001	0.001	0.001	0.001	0.001	0.001
50th pct.	-0.002**	-0.003***	-0.003***	-0.004***	-0.004***	-0.003***
	0.001	0.001	0.001	0.001	0.001	0.001
75th pct.	-0.001*	-0.002***	-0.002***	-0.003***	-0.003***	-0.003***
	0.001	0.001	0.001	0.001	0.001	0.001
90th pct.	-0.001	-0.001*	-0.002*	-0.002**	-0.003***	-0.002**
	0.001	0.001	0.001	0.001	0.001	0.001
Neighborhood and Individual Level Controls						
Ost-West	✓	✓	✓	✓	✓	✓
Fluctuation		✓	✓	✓	✓	✓
Population Density			✓	✓	✓	✓
Age Structure				✓	✓	✓
Urban/Rural					✓	✓
Socio-Demographics						✓
N	15 817	15 817	15 817	15 817	15 817	15 273

Results of Logistic Regression with Standard Errors clustered at Household Level.

Average Marginal effects and standard errors reported.

Source: SOEP-Microm, Own Calculations.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

3.3 Auxiliary Analyses

We presented results using charitable giving and home-ownership measured at zip code area. These results hold when street-level measures of these indicators are used. Street level association remains robust after controlling for possible individual and neighborhood level confounders mentioned before (Table 11.).

Table 11: Immigrant Share and Donation to Refugees by Zip Code and Street Level Home-Ownership Rate, Individual Home-Ownership Status and Migration Background + Neighborhood and Individual Level Controls

	Zip				Street	
	1	2	3	4	5	6
	b/se	b/se	b/se	b/se	b/se	b/se
% Owner						
20 %	-0.005***	-0.006***	-0.005***	-0.002**	-0.004***	-0.003***
	0.001	0.001	0.001	0.001	0.001	0.001
40 %	-0.002*	-0.003***	-0.003***	-0.001*	-0.003***	-0.002***
	0.001	0.001	0.001	0.001	0.001	0.001
60 %	0.001	-0.001	-0.001	-0.000	-0.002**	-0.002*
	0.001	0.001	0.001	0.001	0.001	0.001
Neighborhood Level Controls		✓	✓		✓	✓
Socio-Demographics			✓			✓
N	8 962	8 962	7 436	8 961	8 961	7 436

Results of Logistic Regression with Standard Errors clustered at Household Level.

Average Marginal effects and standard errors reported.

Source: SOEP-Microm, Own Calculations.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

We previously report that immigrant share and charitable giving to refugees also de-

cline among immigrants. As most of the refugees come from countries where Islam is predominant religion, we check if this association differ by religious background among immigrants (Table 12.). We see that negative statistical association is stronger among people who have no religious background or belong to one of the christian denomination. Although association is not statistically significant among Muslims, it is still negative. Consequently we try to look at the religious variation within Muslim Immigrants. We know that majority of Muslim refugees coming to Germany are Suni Muslims (According to unweighted SOEP data approximately 71% of refugee population is Muslim and 84% of Muslim refugees belong to Suni denomination). Consequently, Suni Muslims would more likely to perceive refugees as belonging to their in-group and thus negative effect of immigrant share could not be observed. We see, that association is positive (although not statistically significant) among Suni Muslims (Table 13.).

Table 12: Immigrant Share and Donation to Refugees by Religious Denomination among Immigrants

	Religious Background		
	No Religion	Christian	Muslim
	b/se	b/se	b/se
% Migrant HH	-0.014***	-0.010***	-0.008
	0.004	0.003	0.005
East Germany	-0.768***	-0.313	-1.150
	0.196	0.247	0.770
N	1452	2420	962

Results of Logistic Regression with Standard Errors clustered at Household Level.

Average Marginal effects and standard errors reported.

Source: SOEP-Microm, Own Calculations.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 13: Immigrant Share and Donation to Refugees by Religious Denomination among Muslim Immigrants

	Religious Background	
	Suni Muslim	Other
	b/se	b/se
% Migrant HH	0.004	-0.017**
	0.007	0.006
East Germany	-0.137	-2.012*
	0.930	0.784
N	364	598

Marginal effects

(d) for discrete change of dummy variable from 0 to 1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4 Discussion

We find that likelihood of charitable giving to refugees among natives declines in neighborhood level share of immigrant households, but only in economically deprived residential settings. Interestingly, this interaction effect is driven by affluent individuals suggesting that ethnic distance has negative impact on giving to refugees only when economic distance is present as well. Importantly, it remains statistically significant after controlling for plethora of possible confounders. Thus this study contributes to small, but increasing amount of research suggesting that ethnic and economic differences work in combination in determining prosocial behavior to out-group. In addition, we find evidence that *effect* of these factors can be observed not only using large-area, but also small-area indicators. This feature of our study makes us more confident that we really measure out-group exposure in a naturalistic setting.

It should be emphasized that our current analysis does not provide evidence against prominent contact theory according to which under some circumstances contact with out-group members might reduce prejudice against that out-group (Allport, 1954). For instance, it might be that rich individuals living in poor areas are segregated from their immigrant neighbors.¹² Such spatial constellation would strengthen perception of immigrants as out-group in the eyes of native Germans. Thus exposure without contact possibilities might explain why this group is less likely to donate to refugees than affluent Germans living in heterogeneous but affluent residential areas (Klinger, Müller, & Schaeffer, 2017; Uslaner, 2012). If this negative effect is indeed driven by Germans living in segregated residential settings, however, merits separate detailed investigation.

Due to our study design, causal relationship cannot be inferred from these results as there might be unobserved individual or neighborhood level characteristics correlated with ethnic diversity, economic deprivation and charitable giving. We tried to account for this possibility by controlling for possible confounders, but attempt to account for problem

¹²Examples of various socio-spatial constellations in German cities are neatly documented in recent anthropological work ((Schönwälder et al., 2016), Chapter 5.

of self-selection using such techniques as sample-selection models (Heckman, 1979) or instrumental variables (Angrist & Pischke, 2008) could be made. Alternatively, panel data once available might be exploited as recently done by Laurence (Laurence & Bentley, 2015).

References

- Abascal, M., & Baldassarri, D. (2015). Love thy neighbor? ethnoracial diversity and trust reexamined. *American Journal of Sociology*, *121*(3), 722–782.
- Allport, G. W. (1954). *The nature of prejudice*. Addison-Wesley.
- Amankwaa, B., & Devlin, R. A. (2017). Visible minorities and majority giving. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, *28*(2), 510–531.
- Andreoni, J., & Payne, A. A. (2013). Charitable giving. *Handbook of public economics*, *5*, 1–50.
- Andreoni, J., Payne, A. A., Smith, J., & Karp, D. (2016). Diversity and donations: The effect of religious and ethnic diversity on charitable giving. *Journal of Economic Behavior & Organization*, *128*, 47–58.
- Angrist, J. D., & Pischke, J.-S. (2008). *Mostly harmless econometrics: An empiricist's companion*. Princeton university press.
- Balliet, D., Wu, J., & De Dreu, C. K. (2014). Ingroup favoritism in cooperation: A meta-analysis. *Psychological Bulletin*, *140*(6), 1556.
- Bettencourt, B., Charlton, K., Dorr, N., & Hume, D. L. (2001). Status differences and in-group bias: a meta-analytic examination of the effects of status stability, status legitimacy, and group permeability. *Psychological bulletin*, *127*(4), 520.
- Bjornsdottir, R. T., & Rule, N. O. (2017). The visibility of social class from facial cues. *Journal of personality and social psychology*, *113*(4), 530.
- Blalock, H. (1967). *Toward a theory of minority-group relations*. Wiley. Retrieved from <https://books.google.de/books?id=0SS5AAAAIAAJ>
- Blumer, H. (1958). Race prejudice as a sense of group position. *Pacific Sociological Review*, *1*(1), 3–7.
- Bowles, S., & Gintis, H. (2011). *A cooperative species: Human reciprocity and its evolution*. Princeton University Press.
- Cikara, M., & Van Bavel, J. J. (2014). The neuroscience of intergroup relations: an integrative review. *Perspectives on Psychological Science*, *9*(3), 245–274.
- Collins, C., Flannery, H., & Hoxie, J. (2016). *Gilded giving: Top-heavy philanthropy in an age of extreme inequality* (Tech. Rep.). Institute for Policy Studies.

- Cowley, E., McKenzie, T., Pharoah, C., & Smith, S. (2011). The new state of donation: Three decades of household giving to charity.
- Dimitrova-Grajzl, V., Grajzl, P., Guse, A. J., & Smith, J. T. (2016). Racial group affinity and religious giving: Evidence from congregation-level panel data. *The BE Journal of Economic Analysis & Policy*, *16*(2), 689–725.
- Dinesen, P. T., & Sønderskov, K. M. (2015). Ethnic diversity and social trust: Evidence from the micro-context. *American Sociological Review*, *80*(3), 550–573.
- Dinesen, P. T., & Sønderskov, K. M. (2017). Ethnic diversity and social trust: A critical review of the literature and suggestions for a research agenda. In *Oxford handbook on social and political trust* (pp. 175–204). Oxford University Press.
- Duquette, N. (2017). Inequality and philanthropy: High-income giving in the united states 1917-2016.
- Elster, J. (1989). *The cement of society: A survey of social order*. Cambridge University Press.
- Ermisch, J., Gambetta, D., Laurie, H., Siedler, T., & Uhrig, S. N. (2009). Measuring people’s trust. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, *172*(4), 749–769.
- Everett, J. A., Faber, N. S., & Crockett, M. (2015). Preferences and beliefs in ingroup favoritism. *Frontiers in behavioral neuroscience*, *9*, 15.
- Gimpelson, V., & Treisman, D. (2015). *Misperceiving inequality* (Tech. Rep.). National Bureau of Economic Research.
- Glaeser, E. L., Laibson, D. I., Scheinkman, J. A., & Soutter, C. L. (2000). Measuring trust. *The quarterly journal of economics*, *115*(3), 811–846.
- Goebel, J., Spieß, C., R. J. Witte, N., & Gerstenberg, S. (2007, 02). Die verknüpfung des soep mit microm-indikatoren : Der microm-soep datensatz.
- Hagenaars, A., de Vos, K., Zaidi, M., & of the European Communities, S. O. (1994). *Poverty statistics in the late 1980s: Research based on micro-data*. Office for Official Publications of the European Communities. Retrieved from <https://books.google.de/books?id=51qLQgAACAAJ>
- Heckman, J. J. (1979). Sample selection bias as a specification error. *Econometrica*,

- 47(1), 153–161.
- Hewstone, M., Rubin, M., & Willis, H. (2002). Intergroup bias. *Annual review of psychology*, 53(1), 575–604.
- Hirschman, A. O. (1964). The paternity of an index. *The American Economic Review*, 54(5), 761–762. Retrieved from <http://www.jstor.org/stable/1818582>
- Houle, C. (2017). Inequality, ethnic diversity, and redistribution. *The Journal of Economic Inequality*, 15(1), 1–23.
- Jetten, J., Wang, Z., Steffens, N. K., Mols, F., Peters, K., & Verkuyten, M. (2017). A social identity analysis of responses to economic inequality. *Current Opinion in Psychology*.
- Jordahl, H. (2007). Inequality and trust.
- Kahneman, D., Knetsch, J. L., & Thaler, R. (1986). Fairness as a constraint on profit seeking: Entitlements in the market. *The American economic review*, 728–741.
- Kindermann, F., & Kohls, S. (2016). *Rental markets and wealth inequality in the euro-area* (Tech. Rep.).
- Klinger, J., Müller, S., & Schaeffer, M. (2017). Der halo-effekt in einheimisch-homogenen nachbarschaften. *Zeitschrift für Soziologie*, 46(6), 402–419.
- Koopmans, R., & Schaeffer, M. (2015). Relational diversity and neighbourhood cohesion. unpacking variety, balance and in-group size. *Social science research*, 53, 162–176.
- Lane, T. (2016). Discrimination in the laboratory: A meta-analysis of economics experiments. *European Economic Review*, 90, 375–402.
- Laurence, J., & Bentley, L. (2015). Does ethnic diversity have a negative effect on attitudes towards the community? a longitudinal analysis of the causal claims within the ethnic diversity and social cohesion debate. *European Sociological Review*, 32(1), 54–67.
- Meer, T. v. d., & Tolsma, J. (2014). Ethnic diversity and its effects on social cohesion. *Annual Review of Sociology*, 40, 459–478.
- Nishi, A., Shirado, H., Rand, D. G., & Christakis, N. A. (2015). Inequality and visibility of wealth in experimental social networks. *Nature*, 526(7573), 426–429.
- Nowak, A., & Sayago-Gomez, J. (2017). Homeowner preferences after september 11th, a

- microdata approach. *Regional Science and Urban Economics*.
- Okten, C., & Osili, U. O. (2004a). Contributions in heterogeneous communities: Evidence from indonesia. *Journal of Population Economics*, 17(4), 603–626.
- Okten, C., & Osili, U. O. (2004b). Ethnic diversity and charitable giving.
- Payne, A. A. (2012). *Changing landscapes for charities in canada: Where should we go?*
- Payne, A. A., & Smith, J. (2015). Does income inequality increase charitable giving? *Canadian Journal of Economics/Revue canadienne d'économique*, 48(2), 793–818.
- Quillian, L. (1995). Prejudice as a response to perceived group threat: Population composition and anti-immigrant and racial prejudice in europe. *American sociological review*, 586–611.
- Rand, D. G., & Nowak, M. A. (2013). Human cooperation. *Trends in cognitive sciences*, 17(8), 413–425.
- Samson, F. L. (2016). Perceived group competition and charitable giving: Racial prejudice affect as a mediating factor. *Nonprofit and Voluntary Sector Quarterly*, 45(5), 1031–1051.
- Schaeffer, M. (2013). *Ethnic diversity, public goods provision and social cohesion: Lessons from an inconclusive literature* (Tech. Rep.). WZB Discussion Paper.
- Scheepers, D., Spears, R., Doosje, B., & Manstead, A. S. (2006). Diversity in in-group bias: Structural factors, situational features, and social functions. *Journal of personality and social psychology*, 90(6), 944.
- Schlueter, E., & Scheepers, P. (2010). The relationship between outgroup size and anti-outgroup attitudes: A theoretical synthesis and empirical test of group threat-and intergroup contact theory. *Social Science Research*, 39(2), 285–295.
- Schönwälder, K., Petermann, S., Hüttermann, J., Vertovec, S., Hewstone, M., Stolle, D., ... Schmitt, T. (2016). *Diversity and contact: Immigration and social interaction in german cities*. Palgrave Macmillan UK. Retrieved from <https://books.google.de/books?id=x66VDQAAQBAJ>
- Silva, A. S., & Mace, R. (2014). Cooperation and conflict: field experiments in northern ireland. In *Proc. r. soc. b* (Vol. 281, p. 20141435).
- Silva, A. S., & Mace, R. (2015). Inter-group conflict and cooperation: Field experiments

- before, during and after sectarian riots in northern ireland. *Frontiers in Psychology*, 6, 1790.
- Sokolowski, S. W. (2013). Effects of government support of nonprofit institutions on aggregate private philanthropy: Evidence from 40 countries. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 24(2), 359–381.
- Tajfel, H. (2010). *Social identity and intergroup relations*. Cambridge University Press.
- Tesei, A. (2015). Trust and racial income inequality: evidence from the us.
- Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory*. Basil Blackwell.
- Uslaner, E. M. (2012). *Segregation and mistrust: Diversity, isolation, and social cohesion*. Cambridge University Press.
- VanderHoff, J. (2012). Economic diversity, racial diversity and religious contributions.
- Wagner, G. G., Goebel, J., Krause, P., Pischner, R., & Sieber, I. (2008). Das sozio-oekonomische panel (soep): Multidisziplinäres haushaltspanel und kohortenstudie fuer deutschland—eine einfuehrung fuer neue datennutzer mit einem ausblick fuer erfahrene anwender. *AStA Wirtschafts-und Sozialstatistisches Archiv*, 2(4), 301–328.
- Weisel, O., & Böhm, R. (2015). “ingroup love” and “outgroup hate” in intergroup conflict between natural groups. *Journal of experimental social psychology*, 60, 110–120.
- West, S. A., Griffin, A. S., & Gardner, A. (2007). Social semantics: altruism, cooperation, mutualism, strong reciprocity and group selection. *Journal of evolutionary biology*, 20(2), 415–432.
- Wiepking, P., & Bekkers, R. (2012). Who gives? a literature review of predictors of charitable giving. part two: Gender, family composition and income. *Voluntary Sector Review*, 3(2), 217–245.
- Wong, C. (2010). *Boundaries of obligation in american politics: Geographic, national, and racial communities*. Cambridge University Press. Retrieved from <https://books.google.de/books?id=WrfxCmg-kNOC>