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Charitable giving, social capital and positional concerns

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Charitable giving, social capital and positional concerns

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Abstract

Research on the effects of positional concerns on individuals' attitudes and behavior in certain policy-relevant areas is lacking. In this paper, we investigate the relationship between positional concerns, charitable giving and social capital. We use data from the "Caucasus Barometer" survey administered in three post-Soviet transition economies: Armenia, Azerbaijan, and Georgia. Our analysis proceeds in two phases. First, controlling for absolute income and other individual and household characteristics, we show an association between positional concerns and charitable giving as well as between positional concerns and social capital. Second, we use an instrumental variable model that uses heteroskedasticity-based instruments generated through Lewbel's method to provide supporting evidence of the causal impact of positional concerns on the outcome variables of interest. We find that the relative deprivation of a household can have negative impacts on its members' charitable giving and social capital.

JEL Classifications: D31; D63; D91; P30; Z13.

Keywords: Positional Concern; Social Capital; Charitable Giving; Reference Group.

1. Introduction

Individuals are concerned with their relative position in society and tend to compare themselves with relevant others [1]. In the literature, such positional concerns are dubbed the 'comparison effect' (e.g., [2]) or 'keeping up with the Joneses effect' (e.g., [3]) and can have a detrimental impact on human behavior and feelings. In particular, the 'comparison effect' can increase consumption of redundant goods and services (e.g., [4], [5], [6], [7], [8]), intensify temporary emigration ([9], [10], [11], [12], [13]), shrink life satisfaction ([1],[14], [15], [16],[17]), promote risk-taking ([18], [19]) and intensify social protests [20].

In this paper, we study how one's perceived positional advantage and deprivation relate to one's recalled and self-reported charity donation decisions (i.e., whether an individual donated to charity or gave money to beggars or not in the last 6 months) in the three republics of the South Caucasus: Armenia, Azerbaijan, and Georgia.[1] In addition, we investigate the link between one's perceived relative position and social capital in the South Caucasus, measured by trust toward others and trust toward secular institutions.[2] For our purposes, we use a nationwide (cross-sectional) survey administered in Armenia, Azerbaijan, and Georgia.

The contribution of our work is multifold.

First, we contribute to the multidisciplinary literature on charitable giving, which strives to understand i) why people donate (e.g., [21], [22]); ii) who donates [23]; iii) how to increase the donations (e.g., [24], [25], [26]). Regarding the characteristics of donors, the literature puts forth individuals' gender, family composition, and absolute income as important predictors of charitable giving [23]. Nonetheless, our reading of the literature suggests that little is known about whether one's perceived relative income compared to her peers can serve as a predictor of charitable giving. This is somewhat important, as relative income and absolute income may not necessarily coincide: individuals may perceive themselves to be poorer relative to others than they actually are (e.g., [27]). In other words, the charitable donations of individuals *i* and *j* with identical demographic characteristics and absolute wealth can vary, simply because individual *i* perceives herself to be poorer than her peers, while individual *j* does not do so.

Second, given that charity donations can be motivated by prosocial motives such as altruism [21] we add to the inconclusive literature on positional concerns and social preferences. While some

[1] In other words, we focus on the extensive margin of charitable giving. More details will be provided later in the text.
[2] From here onward, whenever speaking about the relative standing of the respondents in the study we will refer to *"one's perceived relative standing"*. For the brevity and clarity of the paper we will not mention the entire phrase repeatedly.

experiments illustrate a positive (negative) impact of relative deprivation (advantage) on prosocial preferences (e.g., [28]), others find no relationship (e.g., [29]). In addition, the existing research suffers from a number of methodological weaknesses such as external validity, small sample sizes and sampling, publication or design biases (e.g., [30] and the references therein). We depart from this literature in two fundamental ways. While the mentioned papers proxy prosocial preferences through various acts such as allocation of needles on voodoo dolls, number of pens an individual helps to pick up from the floor, choice of prosocial professions and the like, we focus on one's recalled and self-reported charity donation decisions, which we believe is a more relevant variable for the economy (e.g., [21], [31]). Furthermore, we use multiyear nationwide surveys from three countries which allows us to circumvent the problems related to external validity, small sample sizes, and sampling. In other words, we study a prevalent real world (self-reported) behavior and we can generalize our findings beyond the sample under investigation. However, our approach is not without problems either, which we will discuss later in the text.

Third, we extend the paper of [32] to lower middle-income and upper middle-income post-Soviet countries in transition. The authors illustrate the social capital-lowering effect of positional concerns in 26 (mostly) institutionally and economically well-developed countries and justifiably posit that their findings can have important implications for developing economies, though a direct test of this claim seems missing in the literature.

Why do we focus on charitable donations and social capital? Similar to many lower- and middle-income countries (LMIC), the three republics of the South Caucasus face diverse socio-economic challenges that cannot be easily resolved since the governments do not have enough capacity and financial resources to provide essential public goods and services. Thus, charitable donations (both by individuals and organizations) become an important instrument through which various societal problems are settled. For example, 28% of deaths from non-communicable diseases (NCDs) is attributed to cancer in Armenia ([33]). Not all families are able to keep up with the high costs of cancer treatment, since out-of-pocket payments continue to be the main source of funds for the health sector ([34], [35]). As a result, social media pages are actively used either by charity organizations or by the patients themselves to raise money for cancer treatment. Regarding social capital, the extant research articulates the importance of high social capital for financial development [36] and economic performance (e.g., [37], [38]). In sum, both outcome variables are quite relevant for the socio-economic development of the three republics in the South Caucasus.

Our analysis proceeds in two phases. In the first phase, we estimate linear and probit regression models to show an association between positional concerns and social preferences as well as between positional concerns and social capital. More specifically, we regress the variables of interest on dummies that indicate the relative position of the respondents' households in the neighborhood (i.e., relatively deprived or relatively advantaged), controlling for households' absolute income and other relevant socio-demographic dimensions. Our results indicate a negative relationship between relative deprivation and charity donation decisions. Meanwhile, relative advantage either relates to charity donations positively or there is no relationship. We also manifest a negative association between relative deprivation and trust toward other members of the society and secular institutions, which is in line with [32]. Unlike this seminal work, however, our results demonstrate a positive relationship between relative advantage and the two facets of social capital. In sum, it seems that relatively deprived individuals are less benevolent and more distrustful, whereas relatively advantaged individuals are more benevolent and less distrustful.

In the second phase, we estimate an IV model to illustrate that causality runs from the individuals' positional concerns to the outcome variables of interest. The results of the IV model are coherent with those in the first-phase analysis, providing supporting evidence of the causal impact of positional concerns on social preferences and social capital.

The rest of the paper is structured as follows. Section 2 briefly discusses the region and the dataset. Section 3 poses the behavioral predictions. Section 4 describes the empirical strategy. Section 5 illustrates the results. Section 6 discusses the robustness checks, and section 7 concludes the paper.

2. The region

In this study, we focus our attention on the three former Soviet republics in the South Caucasus, Armenia, Azerbaijan, and Georgia. The three republics share many common problems with other post-Soviet states, as even after 25 years of independence, the transition processes have not concluded. One can still find evidence of relatively low levels of development of democratic institutions (e.g., Freedom in the World Index, 2018), high corruption [39], as well as high poverty [40] and inequality rates [41]. Table 1 summarizes the economic performance and macroeconomic conditions of these countries from 2010 to 2015 (which roughly corresponds to the survey timing used for the analysis).

Table 1. Snapshot of the Countries under Consideration

	Note	Armenia	Azerbaijan	Georgia
GDP growth, %	2010-2015 average	4.4	2.8	5.8
GDP per capita	PPP, current USD, 2015	8419	17776	9699
Gini index	Latest available year, 2015*	32.4	31.8	38.5
Unemployment rate, %	ILO estimates, 2014	17.1	5.2	13.4
Inflation, %	2010-2015 average	5.8	4.1	3.8
Poverty headcount ratio	At national line, 2012	32.4	6.0	14.8
Export (% of GDP)	Goods and services, 2015	29.8	37.8	45.0
Corruption perception index	2016 Rank (Score in parenthesis)	113 (33)	123 (30)	44 (57)

Note. Source for all data except Corruption perception index (CPI), - World Development Indicators database. Source for CPI - Transparency International.

(*) The most recent available data for the Gini index for Azerbaijan dates back to 2008.

As can be inferred from Table 1, growth rates after the economic crisis of 2008 remained shallow in the region. Since the mid-2000s, different development patterns have emerged in the republics. In particular, relative to Armenia and Azerbaijan, Georgia has had considerable success in implanting rule of law, fighting corruption, and improving the business climate. Due to favorable hydrocarbon resources, Azerbaijan evidenced impressive growth rates in the first decade of the 2000s, enabling it to combat poverty and unemployment, though civil and political rights remain severely suppressed. There were no major macro shocks in the period under scrutiny, as witnessed by low and stable inflation rates in all the three countries.

3. Behavioral predictions

The mainstream economic theory neglects the significance of social influences on individual decisions and postulates that absolute consumption or income is what matters for individuals: the higher the consumption or income, the higher the utility of an individual. Nonetheless, such prominent social scientists as Adam Smith, Albert Hirschman, Karl Marx, Thorstein Veblen, and James Duesenberry, among many others, acknowledge the importance of social influences on human behavior (e.g., [42], [43]). Following this line of reasoning, individuals are concerned with their relative position in the society and tend to compare themselves with relevant others (also called a reference group). If one is in a disadvantageous (or advantageous) situation vis-à-vis the reference group, then she considers herself relatively deprived (or advantaged). These comparisons can result in two diametrically opposite effects – a “keeping up with the Joneses” effect or a “tunnel” effect.

According to the "keeping up with the Joneses" effect, individuals who stand low in the social hierarchy tend to mimic the behavior of those who stand high in the social hierarchy to maintain a high social status relative to others in the society ([44], [45]). Similarly, individuals make upward comparisons and change their consumption patterns because of the need to eliminate the feelings of inferiority created by other people consuming superior goods (e.g., [42]; [46]). Relative disadvantage may trigger negative feelings such as dissatisfaction with life ([1],[14], [15], [16],[17]) and intensify deleterious behavior, such as the consumption of redundant goods and services (e.g., [4], [5], [6], [7], [8]), temporary emigration ([9], [10], [11], [12], [13]), and risk-taking ([18], [19]).

According to the "tunnel" effect, the situation of an individual's reference group serves as an informational device to form expectations regarding prospective opportunities ([43]). For instance, if an individual's neighbor or acquaintance improves her material wellbeing, this can serve as a signal that this individual will also improve her material wellbeing in the future. Thus, according to the "tunnel" effect, relative disadvantage should generate positive feelings since it can serve as a signal of upward mobility. For instance, in the context of post-Soviet economies, [2] documents that an individual's reference group income exerts a positive influence on her satisfaction with life. In other words, relatively disadvantaged individuals (i.e., those who compare themselves with a reference group richer than they are) increase their life satisfaction. Thus, the income of others is used as an informational device à la Hirschman and Rotschild. Despite the "tunnel" effect documented in Russia, [16] and [9] illustrate that the "keeping up with the Joneses" effect prevails in the LMICs of the South Caucasus. More specifically, relatively disadvantaged individuals decrease (i.e., "keeping up with the Joneses" effect) rather than increase (i.e., "tunnel" effect) their life satisfaction ([16]) and are more likely to express intentions of temporary migration ([9]). Stemming from these findings, the remaining discussion in this section is developed from the perspective of the "keeping up with the Joneses" effect.

What is the impact of relative disadvantage on charitable giving and trust toward others? Relative disadvantage may generate feelings of frustration and social injustice ([47], [48], [49], [50], [51]). For instance, relatively disadvantaged individuals may be rather frustrated since they may perceive that they are unjustifiably exploited by those who are economically better-off and that such unequal distribution of the resources in the society is the outcome of unequal distribution of power between economic agents rather than the result of market forces [32]. Indeed, according to nationally representative surveys administered in the USA, relative deprivation triggers strong feelings of an unjust society [52]. The perception of undeserved disadvantage may also trigger anger, evoking hostile

emotional reactions ([53]). For instance, violent crimes may often be explained by relative deprivation that leads to an individual's personal frustration and hostility ([53] and the references therein). In sum, the negative emotional reactions (e.g., envy, frustration, anger, hostility, perception of social injustice) activated by relative deprivation can induce a disadvantaged individual to develop rather negative feelings and behavior toward other members of the society (including individuals in her reference group) ([32]). Under these circumstances, disadvantaged individuals can behave less altruistically toward others and exhibit lower levels of trust in others. Nevertheless, it's worth noting that negative emotional reactions triggered by relative disadvantage may not be the only mechanism explaining the relationship between relative disadvantage and charitable giving. More specifically, individuals may be guided by egalitarian concerns ([54] [55] [56]). For instance, an individual who perceives herself as poorer than her reference group may ideally want to be the target for charity rather than give money to charity. In a similar vein, an individual who perceives herself to be richer than her reference group may give to charity to even out income.[3] Based on this discussion we can formulate the following hypotheses:

Hypothesis 1: Relative deprivation makes individuals less altruistic toward other members of the society needing help.

Hypothesis 2: Relative deprivation decreases individuals' trust in other members of the society.

What is the impact of relative disadvantage on trust toward secular institutions? Relatively disadvantaged individuals may hold the state institutions responsible for unfair distribution of societal wealth and therefore may blame these institutions for the relative income disadvantage they suffer compared to their reference group (e.g., [32]). This problem can be especially stark in post-Soviet countries, because since the fall of the Soviet Union the institutions in these countries have generally been in the hands of a wealthy minority that does not usually act in the best interest of the society. In other words, the sense of exploitation because of unfair distribution of the societal wealth may be higher in post-Soviet republics compared to Western democracies. To conclude, the frustration and the feeling of exploitation that individuals develop because of relative deprivation can decrease the trust not only on the horizontal but also on the vertical level ([32]). Stemming from this discussion, we develop the following hypothesis:

Hypothesis 3: Relative deprivation decreases individuals' trust in secular institutions.

[3] We thank an anonymous referee for this important comment.

The existing literature mainly discusses the impact of relative deprivation on individuals' attitudes and feelings, which is in line with Duesenberry's original claim that comparisons are mainly asymmetric and upwards (i.e., poorer individuals can be negatively influenced by the income of richer reference group members, while the opposite may not necessarily be true). Nevertheless, the empirical evidence obtained from the South Caucasus suggests that the comparisons in this region can be symmetric, as relatively advantaged individuals are positively influenced by the presence of poor reference group members (e.g., [16], [9]). Thus, one may be tempted to conjecture that relative advantage may be positively related to social capital and social preferences. Given the lack of empirical and theoretical literature about the impact of relative advantage, we do not form testable hypotheses. Instead, we will try to rationalize the findings *ex post facto*.

4. Empirical strategy

4.1. The Regression equation and the estimation approach

The main purpose of the current study is to empirically test the effect of positional concerns on charitable donations and social capital. First, we estimate a regression equation of the following form:

$$Y_{ijt} = \beta_o + \beta_1 \times RelInc_{ijt} + \beta_3 \times X_{ijt} + \beta_3 \times T_t + \beta_4 \times C_j + \beta_5 \times REG_j + \varepsilon_{ijt}. \qquad (1)$$

$RelInc_{ijt}$ indicates the relative position of individual i in country j at time t; X_{ijt} includes the absolute income of individual i in country j at time t as well as additional individual and household socio-demographic control variables, such as age, gender, number of household members, education, marital status and employment status. The descriptive statistics for these variables are available in Table A1 of the S1 Appendix. These independent variables are specified based on data availability and are in line with previous studies on happiness, migration and social capital (e.g., [32], [16], [9], [15]). Furthermore, most of the specified variables are important drivers of social preferences and trust. For example, social preferences and trust can vary by gender (e.g., [57], [58]), absolute income ([59], [60], [61]), regional differences within a country (e.g., [62], [63]) and education [64]. T_t, C_j, and REG_j dummy variables control for (other unobserved) temporal, national, and regional differences. The dependent variable Y_{ijt} is either the charity donation decision of individual i in country j at time t, or the self-reported social capital. We still cannot account for individual personal traits that may drive respondents' perceptions, feelings and behavior. In this regard, the literature on life satisfaction confirms the impact of positional concerns on life satisfaction both with panel data

estimators that allow one to control for individual personal traits, as well as with cross-sectional data estimators that omit individual personal traits (e.g., [14], [15], [65], [2]). These results provide us with reasons to think that utilizing cross-sectional data and omitting individual personal traits should not substantially bias our results.

Our dependent variables are either binary or measured on a scale from '1' to '10' or from '1' to '5.' In case of binary variables, we estimate linear probability (LPM) and probit models.[4] If variables are measured on a scale from '1' to '10' (or from '1' to '5'), we treat them as interval variables and estimate OLS models. Furthermore, to test the robustness of the results, we preserve the ordinal nature of the scale and estimate ordered probit models. Stemming from research on life satisfaction, there should be (qualitatively) very little difference between the results of OLS and ordered probit (or logit) models [66]. Throughout the text, we only interpret those coefficients that are robust across OLS and ordered probit models as well as across probit and linear probability models. Further, we account for the potential heteroskedasticity of residuals by introducing robust standard errors. For each outcome variable we run pooled sample and country-specific regressions. In the tables, we report only the coefficients of relative and absolute income variables for the sake of brevity and clarity of the text. The complete tables with all the variables are available in the S3 Appendix.

4.2. Data

We use cross-sectional data from the nationwide "Caucasus Barometer" survey, developed by the Caucasus Research Resource Centers (CRRC from here onward). The "Caucasus Barometer" has been administered in the South Caucasus since 2004. Starting from 2013 the survey has been administered once every two years and omits Azerbaijan because of bureaucratic complexities. To the best of our knowledge, the "Caucasus Barometer" is the only survey that collects comparable data from Armenia, Azerbaijan and Georgia, while containing a rich set of variables assessing the socio-demographic and economic conditions of the respondents at both individual and household levels. The data are collected through face-to-face interviews that take place in the households of the respondents. The sampling frame of the survey is the list of registered voters of voting precincts, while the respondents' households are selected using the "random walk" procedure. The respondent in a household is selected

[4] To validate the use of a linear probability model, we compare the deviation between fitted values obtained from the LPM and predicted probabilities obtained from the probit model. Our results indicate very little deviation between the LPM fitted values and the predicted probabilities obtained from the probit model. Lastly, only a small fraction of fitted values obtained from LPM models is negative. Both observations confirm the quality of LPM coefficients. Please refer to Figure E1 in S5 Appendix for the complete results.

with a Kish grid. In the following analysis, we use information from the 2010–2013 waves. An interested reader can refer to CRRC webpage for more details (http://www.crrccenters.org/n).

We would also like to note that the survey questionnaire is rather long and the questions that measure the variables of interest are quite far from each other. Thus, it is very unlikely that the responses are biased because of potential "priming" effects. Such priming bias could occur if, for instance, the participants had to answer the questions about their households' relative and absolute income just before providing an answer to the charity donation question.

4.3. Dependent variables

To proxy the charitable behavior of the individuals, we use a survey question that directly elicits respondents' recalled charitable giving: *"Could you please tell me which of these activities you were involved in during the past 6 months?" "Contributed to a charity, including donations by SMS and giving money to beggars"* is one of the activities mentioned in the questionnaire, with a binary "Yes" or "No" answer. Similar questions are asked in other surveys, such as the German Socio-Economic Panel (SOEP), the American Consumer Expenditure Survey (CEX), and the General Social Survey (GSS). Please note that large private donations to charities by ordinary individuals living in Armenia, Azerbaijan, and Georgia are not widespread phenomena; meanwhile donating small amounts of money through SMS or giving money to beggars on the streets is rather common. Thus, we most likely deal with small charity donations on average, though we cannot exclude that a few individuals in the sample made large contributions.

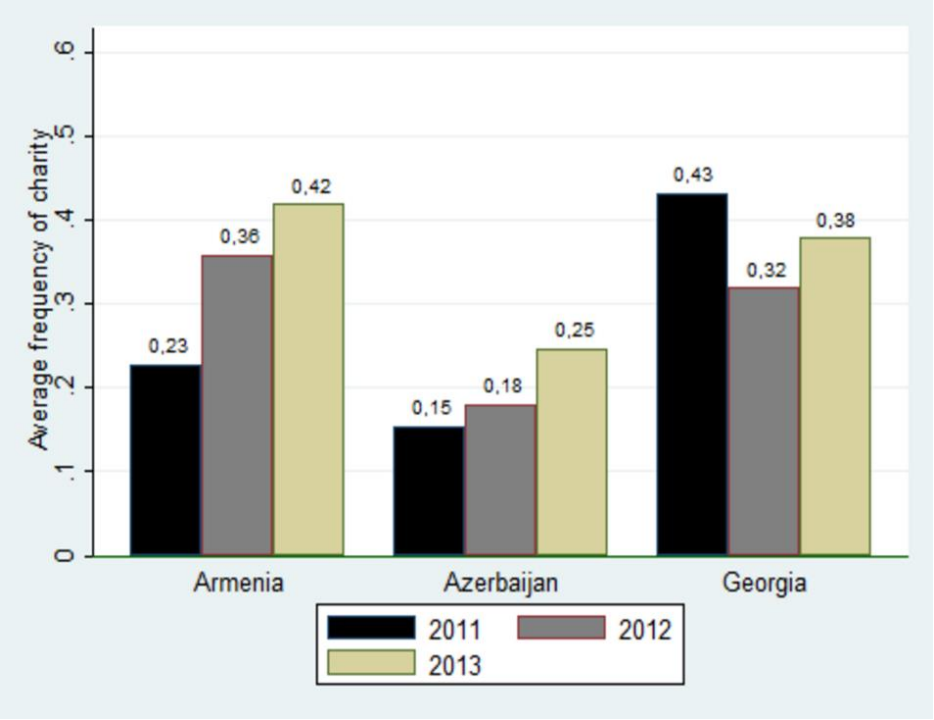
We would like to warn the readers that a glimpse of caution is required when working with such survey questions, since helping others can be perceived as a sensitive issue. A respondent may not report her true behavior so as not to harm her identity because of concerns about social approval. The magnitude of this concern can be rather heterogeneous among the respondents. Despite this problem, such questions are considered as important sources of information and are actively used to uncover the determinants of individuals' social preferences (e.g., [30]). Furthermore, recent empirical studies demonstrate that survey questions can be as good predictors of individual preferences (including social preferences, such as altruism) as incentivized experiments (e.g., [67]).

In line with [32], we acknowledge that social capital has multiple facets: horizontal trust, vertical trust, and norm compliance. However, the survey does not contain questions to measure the norm compliance of respondents, so we do not discuss this facet in the paper. We proxy horizontal (generalized) trust with the following question measured on a scale from "1" (you can't be too careful)

to "10" (most people can be trusted): *"Generally speaking, would you say that most people in /country/ can be trusted, or that you can't be too careful in dealing with people?"* The second facet of social capital is captured by questions that assess respondents' trust in state institutions: *"I will read out a list of social institutions and political unions. Please indicate your level of trust toward each of them on a 5-point scale, where '1' means 'Fully distrust,' and '5' means 'Fully trust'"* The institutions were shuffled for each respondent to exclude potential order effects. We concentrated our attention on the three principal decision-making institutions in the region: the parliament, the president, and the executive government (prime minister and the ministers). We constructed a combined index by averaging the trust toward the seminal institutions and treating it as our variable of interest.

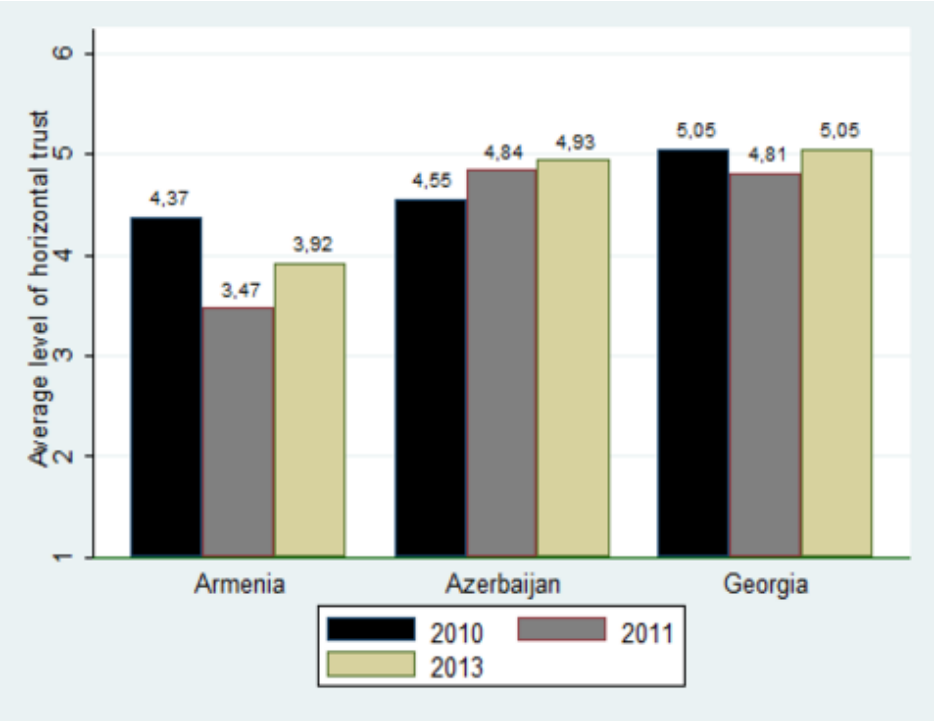
Figures 1-3 illustrate the average values of the variables of interest broken down by countries and years. Interestingly, the outcome variables are different in levels and exhibit different temporal dynamics across countries.

Fig 1. Frequency of Charity Donations



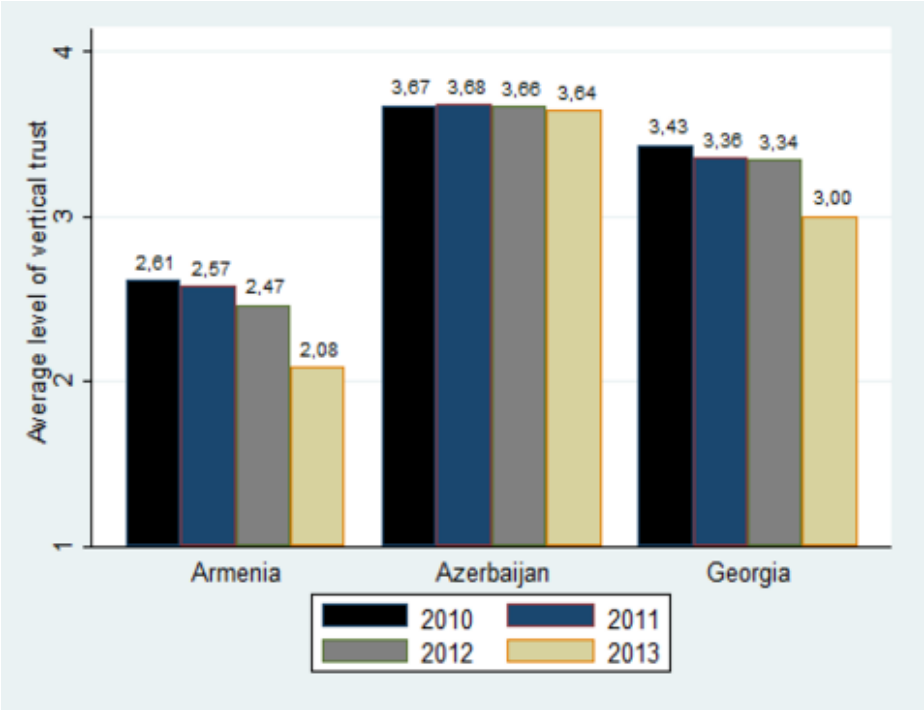
Note: The frequency of actual charity donations in the three countries. The numbers on the bars indicate the average value of the variable for the given year. The question was not asked in the 2010 wave.

Fig 2. Horizontal Trust



Note: Trust toward others in the three countries. The numbers on the bars indicate the average value of the variable for the given year. The question was not asked in 2012 wave.

Fig 3. Vertical Trust



Note: Combined index of trust toward the Parliament, the President and the Government. The numbers on the bars indicate the average value of the variable for the given year.

4.4. Relative and absolute income

To identify the respondents' relative position vis-à-vis the reference group, the literature suggests two approaches.

First, one can use the objective measure of welfare, which compares an individual's absolute income (or consumption) with the average income (or consumption) of her reference group (e.g., [15]). If a researcher follows this approach, an inherent difficulty is to define the reference group of individuals (e.g., [68]). To this date, an unequivocal definition of a reference group does not exist. The reference group of an individual can include the entire population of the country (e.g., [69]), professional peers (e.g., [2]) or neighbors living in the same community (e.g., [12], [1], [13]).

Second, one can opt for the subjective measure of welfare, which serves as a viable source of additional information, however, it is largely neglected by scholars (see the excellent discussion in [70]). In a subjective measure, survey respondents are asked to compare their well-being with that of their comparison group. Thus, it is left to the participant to define who she compares herself with and by what standard their economic status is to be judged (e.g., [70]). In other words, the subjective measure of relative wealth evokes individuals' first-person view of the social world and themselves within it [71]. Despite the obvious methodological differences, both approaches yield qualitatively similar results when assessing the impact of relative concerns on subjective well-being (e.g., [70]).

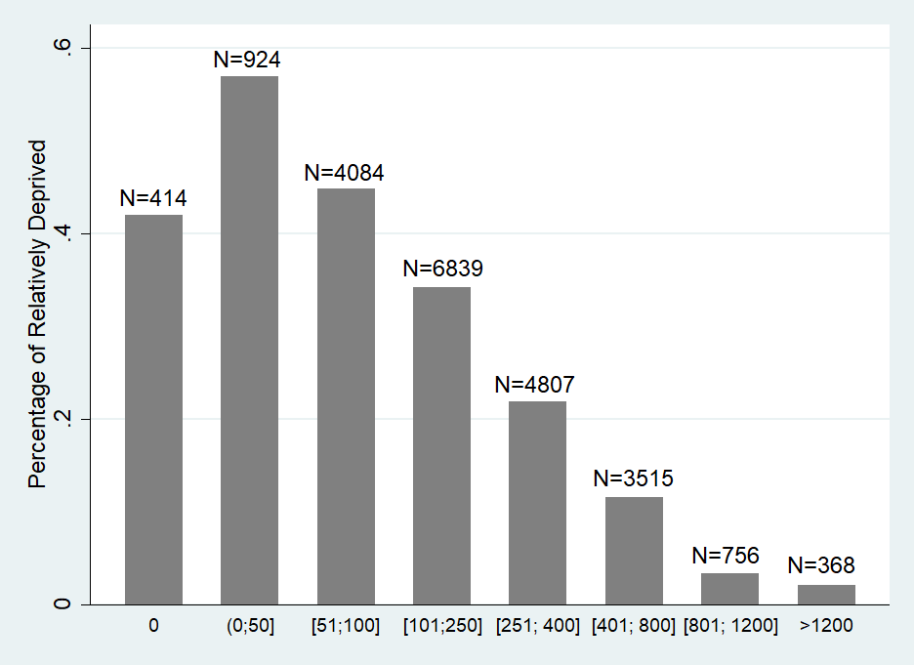
In this paper, we adopt the second approach and use self-reported information on a respondent's perception of the relative standing of her household in comparison to that of the households around her. The survey participants answered the following question on a scale from "1" (Very Poor) to "5" (Very Good) *"Relative to most of the households around you, would you describe the current economic condition of your household as …."* Hence, the respondent must judge which households around her constitute the reference group, and how the economic status of her household compares to that of her reference group. Based on the responses, we construct the dummy variable *Above Reference Group* if the individual perceives the conditions of her household as either *'Very Good'* or *'Good'* vis-à-vis the reference group. Similarly, we create the dummy variable *Below Reference Group* if the respondent's answer is either *'Poor'* or *'Very Poor.'* Individuals, who answer 'Fair' to the abovementioned question, i.e., perceive their households to be neither disadvantaged nor advantaged compared with surrounding households, constitute the omitted category.

In addition to the relative income measures, we need to evaluate the absolute income of the respondent's household. The inclusion of absolute income variables ensures separate identification of relative and absolute income effects. To categorize the households into different income groups, we

use respondents' answers to the following question: *"Household income is the sum of the monetary income of all household members. Speaking about monetary income of all your household members last month, to which of the following groups does your household belong?"* The respondents do not report exact figures and are asked to indicate to which of the eight income groups their households belong. It can be of potential concern that the income of the last month may not capture the average income throughout the year. We check the income stability in Armenia and Georgia utilizing survey data collected by the national statistical services of these countries. The most important takeaway of this exercise is that the monthly income is generally stable during the year (at least for the time interval under consideration). For the sake of brevity, we relegate this discussion to S2 Appendix.

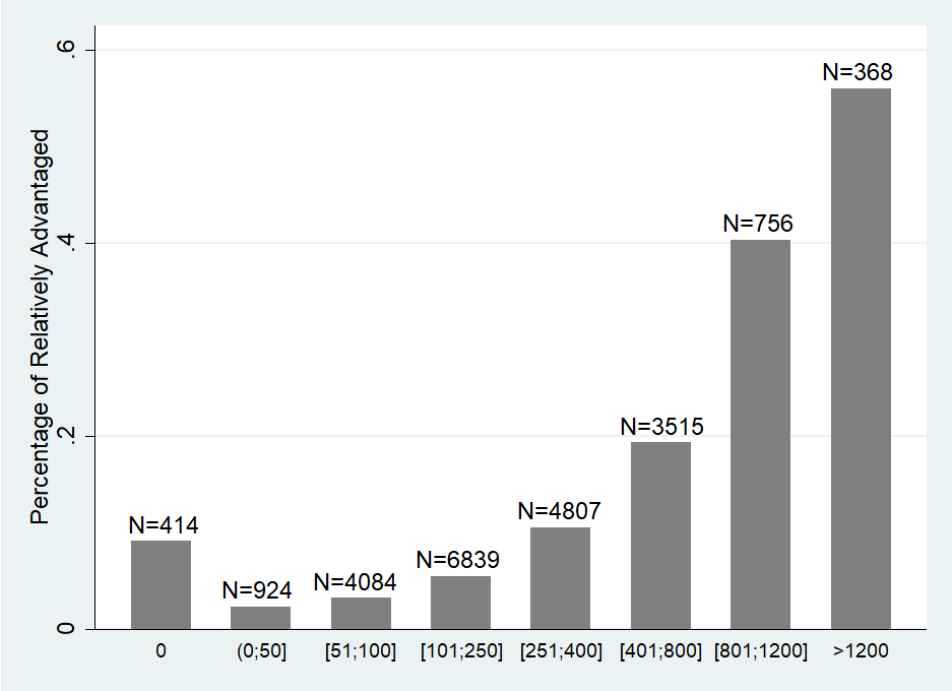
Figure 4 depicts the percentage of relatively deprived households for the eight categories of absolute income (the income categories on the horizontal axis are in USD). Likewise, Figure 5 illustrates the percentage of relatively advantaged households. The numbers on the bars show the overall number of observations for the given income group.

Fig 4. Relative Deprivation and Absolute Income Categories



Note: Percentage of relatively deprived individuals in each category of absolute income. The numbers on the bars show the overall number of observations for the given income group.

Fig 5. Relative Advantage and Absolute Income Categories



Note: Percentage of relatively advantaged individuals in each category of absolute income. The numbers on the bars show the overall number of observations for the given income group.

Figures 4 and 5 lead to several interesting considerations.

According to Figure 4, in all income categories except the very high ones, a considerable share of individuals perceives their household as relatively deprived. Furthermore, the fraction of relatively deprived households gradually reduces in absolute income. Last, but not the least, relative and absolute poverty do not coincide. In other words, not all individuals who declare either zero or little household income consider their households' economic condition worse than that of the reference group.

As for relative advantage, Figure 5 suggests that relatively advantaged households are present in all income categories. One can also detect that the number of relatively advantaged households spikes in the two highest income groups. Nonetheless, relative advantage and absolute wealth never coincide. To state it differently, not all individuals who declare high household income consider their households' economic condition better than that of the reference group.

5. Results

5.1. Charitable donations and positional concerns

Table 2 illustrates the relationship between the positional concerns and social preferences.

Table 2. Positional Concerns and Charitable Donations

	Region		Armenia		Georgia		Azerbaijan	
	LPM	Probit	LPM	Probit	LPM	Probit	LPM	Probit
Above Average	0.066***	0.066***	0.026	0.026	0.095***	0.111***	0.062***	0.046**
	(0.015)	(0.015)	(0.025)	(0.026)	(0.028)	(0.031)	(0.022)	(0.019)
Below Average	-0.065***	-0.077***	-0.091***	-0.114***	-0.081***	-0.093***	-0.031**	-0.031*
	(0.010)	(0.012)	(0.018)	(0.022)	(0.017)	(0.020)	(0.015)	(0.016)
Absolute Income	0.015***	0.016***	0.017**	0.019**	0.031***	0.034***	0.020***	0.023***
	(0.004)	(0.005)	(0.007)	(0.008)	(0.007)	(0.008)	(0.007)	(0.008)
Controls				Yes				
F stat.	48.866		36.239		39.574		13.374	
Adj. R^2	0.153		0.154		0.152		0.091	
N	15899	15899	5624	5624	5800	5800	4475	4475

Note. This table reports results from Linear Probability and Probit Models (with robust standard errors) estimated on the pooled dataset as well as for each country separately. For Probit Models the marginal effects are reported. All the regressions include year, regional, and country dummies. Dependent variable: Binary variable that equals 1 if the respondent contributed to charity in the last 6 months and 0 otherwise. Independent variables. Absolute Income: Integer variable that indicates the household income of the respondent: high values indicate high income levels; Below Reference Group=1 if the respondent is poorer than her reference group, 0 otherwise; Above Reference Group=1 if the respondent is richer than her reference group, 0 otherwise. Significance Levels: * $p<0.1$; ** $p<0.05$; *** $p<0.01$. For the extended table, please refer to Table C1 in S3 Appendix.

The highly negative and significant coefficient of *Below Average Dummy* in the pooled and country-specific regressions suggests a negative association between relative deprivation and donation decisions. This evidence is aligned with Hypothesis 1, which claims that relatively deprived individuals should be more selfish than non-deprived individuals. As indicated by the coefficient of the *Above Average Dummy*, we also document a positive relationship between relative advantage and donation decisions. Nevertheless, this relationship is heterogeneous across countries. While in Georgia and Azerbaijan, relative advantage is positively correlated with the social preferences of individuals compared to the reference category, in Armenia there is no effect. We do not have a meaningful explanation for the heterogeneous result across countries.

How can one rationalize the positive association between relative advantage and charitable donations? Presumably, living in a household that is better off than the reference group enhances the social status of the individuals belonging to the household. The experimental literature illustrates a positive link between social status and altruism: the higher the status of the decision-maker, the more she donates in a dictator game experiment (e.g., [72]).

Regarding absolute income, there is a positive relationship between income and charity donation decisions. The result that prosocial behavior may be correlated with absolute wealth is in line with the

findings of [30], [59] and [73]. Utilizing representative survey data that covered a broad range of countries, [30] illustrate that higher-class individuals are more likely to make charitable donations and contribute a larger percentage of their family income to charity. [73] use Dutch data and illustrate that individual wealth is positively correlated with prosocial behavior (e.g., volunteering). [59] play a dictator game with millionaires and conclude that the latter give away more than in any other example in the literature if matched with a low-income participant. Nonetheless, we would also like to note that both field and lab studies raise questions about the positive relationship between wealth and prosocial behavior, and the evidence is rather mixed (an interested reader can refer to [60], [74] and the references therein).

5.2. Social capital and positional concerns

First, we fix our attention on the first facet of social capital and analyze the relation between positional concerns and horizontal (generalized) trust. Table 3 illustrates the estimation results.

Table 3. Positional Concerns and Trust toward Others

	Region		Armenia		Georgia		Azerbaijan	
	OLS	Ordered Probit	OLS	Ordered Probit	OLS	Ordered Probit	OLS	Ordered Probit
Above Average	0.292***	0.124***	0.030	0.005	0.066	0.028	0.525***	0.235***
	(0.081)	(0.035)	(0.125)	(0.056)	(0.161)	(0.070)	(0.126)	(0.056)
Below Average	-0.435***	-0.191***	-0.199*	-0.079*	-0.291***	-0.132***	-0.598***	-0.275***
	(0.060)	(0.027)	(0.106)	(0.046)	(0.095)	(0.042)	(0.095)	(0.044)
Absolute Income	0.077***	0.034***	0.087*	0.040*	0.115***	0.050***	0.021	0.009
	(0.025)	(0.011)	(0.050)	(0.021)	(0.039)	(0.017)	(0.040)	(0.019)
Controls					Yes			
F stat.	21.769		15.391		6.391		11.917	
Adj. R^2	0.074		0.078		0.039		0.067	
N	15222	15222	5307	5307	5300	5300	4615	4615
Wald χ^2		899.922		352.567		151.674		258.942
Pseudo R^2		0.019		0.023		0.010		0.017

Note. This table reports results from OLS and Ordered Probit Models (with robust standard errors) estimated on the pooled dataset as well as for each country separately. All the regressions include year, regional, and country dummies. Dependent variable: Trust toward others measured on a scale "1" (you can't be too careful) to "10" (most people can be trusted). Independent variables. Absolute Income: Integer variable that indicates the household income of the respondent: high values indicate high income levels; Below Reference Group=1 if the respondent is poorer than her reference group, 0 otherwise; Above Reference Group=1 if the respondent is richer than her reference group, 0 otherwise. Significance Levels: * p<0.1; ** p<0.05; *** p<0.01. For the extended table, please refer to Table C2 in S3 Appendix.

The negative and significant coefficient of *Below Average Dummy* in pooled and country-specific regressions demonstrates a negative relationship between trust toward others and relative deprivation. This result backs Hypothesis 2, which claims that relatively deprived individuals should trust other members of the society less than others.

Regarding the relationship between positional advantage and generalized trust, unlike the existing literature (i.e., [32]) we do not demonstrate a trust-lowering effect of relative advantage in the countries under scrutiny. On the contrary, we even detect a positive link between positional advantage and trust in Azerbaijan. As discussed elsewhere in the text, positional advantage of individuals may enhance their social status in the reference group/neighborhood. Possessing high status may lead one to trust others more (e.g., [75]), since a high-status individual may perceive others as having positive intentions toward her. Furthermore, in traditional societies, the expectations of a high-status individual may well be met, as status has more expositional features than in more contemporary settings, in the sense that a high-status individual is often treated better than the rest.

Turning to absolute income, we find a positive association between income and trust in Armenia (marginal) and Georgia and no relationship in Azerbaijan (though the coefficient is positive). The finding that trust can increase with absolute income is in line with the literature (e.g., [76]).

Next, we analyze the link between positional concerns and trust toward secular institutions (i.e., president, parliament, and government). As mentioned before, we construct a combined index by averaging trust toward state institutions and treat it as our dependent variable. Table 4 reports the results of the estimations.

Table 4. Positional Concerns and Combined Vertical Trust (Parliament, President, Executive Government)

	Region		Armenia		Georgia		Azerbaijan	
	OLS	Ordered Probit	OLS	Ordered Probit	OLS	Ordered Probit	OLS	Ordered Probit
Above Average	0.272***	0.324***	0.100*	0.093*	0.229***	0.277***	0.361***	0.448***
	(0.027)	(0.032)	(0.053)	(0.050)	(0.052)	(0.064)	(0.039)	(0.050)
Below Average	-0.295***	-0.315***	-0.217***	-0.202***	-0.156***	-0.179***	-0.397***	-0.424***
	(0.022)	(0.024)	(0.043)	(0.040)	(0.032)	(0.038)	(0.034)	(0.039)
Absolute Income	-0.022**	-0.029***	0.009	0.009	-0.003	-0.004	-0.064***	-0.076***
	(0.009)	(0.010)	(0.020)	(0.019)	(0.013)	(0.016)	(0.015)	(0.017)
Controls				Yes				
F stat.	131.232		20.449		23.456		59.220	
Adj. R^2	0.312		0.085		0.109		0.248	
N	18962	18962	6869	6869	6289	6289	5804	5804
Wald χ^2		4,058.496		451.230		553.445		1,138.394
Pseudo R^2		0.075		0.021		0.028		0.056

Note. This table reports results from OLS and Ordered Probit Models (with robust standard errors) estimated on the pooled dataset as well as for each country separately. All the regressions include year, regional, and country dummies. Dependent variable: Combined Trust toward state institutions measured on a scale "1" (fully distrust) to "5" (fully trust). Independent variables. Absolute Income: Integer variable that indicates the household income of the respondent: high values indicate high income levels; Below Reference Group=1 if the respondent is poorer than her reference group, 0 otherwise; Above Reference Group=1 if the respondent is richer than her reference group, 0 otherwise. Significance Levels: * p<0.1; ** p<0.05; *** p<0.01. For the extended table, please refer to Table C3 in S3 Appendix.

According to the table, we document a negative association between relative deprivation and trust toward state institutions. This finding supports Hypothesis 3, which postulates a negative impact of relative advantage on trust toward state institutions.

Unlike [32], we observe a positive association between relative advantage and trust in secular institutions. The relatively advantaged individuals may give credits to the state for their advantageous position *versus* the reference group.[5] Why would relative advantage, rather than absolute income, be connected to giving credit to the state? If an individual is somewhat affluent, but she perceives others to be richer (i.e., the individual is relatively disadvantaged), she may perceive herself as poor.

[5] The analysis of marginal effects of relative standing confirm our findings. For the entire region (as well as for separate countries), *ceteris paribus*, relative deprivation contributes to having a higher probability of reporting a low level of trust toward others and trust in secular institutions. The results for relative advantage mirror the results for relative deprivation. Nonetheless, please note, that country by country results are not always statistically significant (this is aligned with our findings reported in Tables 3 and 4). The reader can refer to Figures E2, E3 in S5 Appendix for more details. Please note that while the vertical trust questions are asked on a scale from 1 (Fully distrust) to 5 (Fully trust), the vertical trust index we constructed has more categories (please refer to Figure E3). This is explained by the fact that for constructing the vertical trust index we took the average of three trust questions, which also resulted in non-integer numbers (please refer to section 4.3). When vertical trust index serves as a categorical variable, these non-integer numbers become separate categories.

Similarly, if an individual is affluent, but she perceives others to be of the same wealth, she may again not realize her absolute wealth.[6]

5.3. IV estimation and further robustness checks

It can be argued that in the estimations that we discussed so far causality can potentially run in both directions. For instance, on the one hand relative deprivation may have negative impact on social capital; on the other hand, low social capital may influence individuals' earnings and make them relatively deprived. Similarly, on the one hand relative deprivation may make an individual less benevolent; on the other hand, charity donations may induce an individual to feel materially disadvantaged relative to her reference group. Ideally, the extant literature should rule out such concerns. For instance, adopting an IV approach, [32] illustrate that causality runs from relative income to social capital and not the other way around. As for the relationship between social preferences and positional concerns, there is bulk of theoretical and empirical evidence on positional concerns, which has generally found that an individual strives to outperform the members of her reference group (e.g., [6], [77]) and suffers utility losses whenever she lags behind (e.g., [16]). Following this line of reasoning, we believe that an individual would have not made a (large) charity donation if it had resulted in actual or perceived relative deprivation. Lastly, as mentioned in section 4.3 large private donations to charities by ordinary individuals living in Armenia, Azerbaijan, and Georgia are not common; meanwhile donating small amounts of money through SMS or giving money to beggars is rather common. Given that we most likely deal with small charity donations, it is quite unlikely that an individual feels materially disadvantaged relative to her reference group after making a donation.

To fully rule out the reverse causality problem, we cannot use a conventional IV approach as the survey does not contain appropriate variables to determine respondent-level instruments. Under these circumstances, we estimate an IV model that uses heteroskedasticity-based instruments generated through Lewbel's method [78]. Recently, this method has been successfully applied by several authors, including [79], [80], [81], [82], and [83]. Below, we detail the approach to enhance the clarity of the text.

[6] Regarding the negative coefficient of absolute income, this result is mainly driven by Azerbaijan (for Armenia the coefficient is positive and insignificant, while for Georgia it is negative, albeit small and insignificant). Since Azerbaijan is an autocratic regime, most likely richer (hence more informed and educated) individuals trust the secular institutions less.

The generic model can be expressed in the following form:

$$Y_1 = X'\beta_1 + Y_2\gamma_1 + \varepsilon_1 \qquad (2)$$

$$Y_2 = X'\beta_2 + \varepsilon_2 \qquad (3)$$

where Y_2 is an endogenous variable ($Corr(Y_2, \varepsilon_1) \neq 0$), Y_1 is an outcome variable, X is a vector of exogenous variables, ε_1 and ε_2 are potentially correlated error terms. In the system of equations above, (2) is the structural equation while (3) is the first-stage equation. In a standard two-stage model, some of the elements in X are not part of the structural equation (2). However, these variables have the power to explain the endogenous variable Y_2 and are used as instruments in equation (3). In our case, such instruments are missing. To overcome the problem, [78] provides a solution to the identification of the parameters, which requires the following conditions to be held:

1. $E(X'\varepsilon_1) = 0$. This is the standard exogeneity condition for X.
2. $Cov(Z, \varepsilon_2^2) \neq 0$. In other words, heteroskedasticity should be present in the first stage model (testable by a standard Breusch – Pagan test).
3. $Cov(Z, \varepsilon_1\varepsilon_2) = 0$. This condition is somewhat analogous to the excludability condition of instruments from the structural equation.

Z is either a subset of exogenous variables X or equal to X. In our case we use a subset of variables. The list of variables, from which the instruments are generated, can be found in the captions under Tables D1–D3 in S4 Appendix. Estimations were performed using ivreg2h STATA module [84] following the estimation steps by [85].

We run the estimations with one endogenous variable, in line with the original [78] method. In this regard, [86] shows that assumptions required for [78] estimator can be satisfied when the endogenous regressor is binary. For this purpose, we use the variable capturing the perception of the relative standing of the respondent's household in its original form measured on a scale from "1" (Very Poor) to "5" (Very Good).

Tables D1–D3 in S4 Appendix illustrate the results of the OLS, LPM and the corresponding Lewbel specifications. For the sake of comparability of the results across different models, the relative standing variable is used in its original form in OLS and LPM models as well. The regression coefficients obtained using Lewbel's approach are consistent with those from OLS and LPM models, which reinforces the argument that positional concerns can have causal impact on the dependent variables under scrutiny. Furthermore, the sign and the significance of the coefficients are aligned with the main results of the paper. The discussion of the relevant model identification tests is reported in S4 Appendix. We also run estimations with two endogenous binary variables for relatively deprived

and advantaged groups. The two Lewbel specifications yield qualitatively comparable results.

On top of the IV estimation, we further check the robustness of the results discussed in Section 5. First, based on the graphical evidence in Fig 5, one can argue that there is a positive correlation between absolute income and relative advantage. In other words, those who declare high household income may perceive their households to have relative advantage vis-à-vis the reference group. This phenomenon is especially vivid in the last two income groups (around 40–60% of the individuals in these income groups report being relatively advantaged). The inclusion of both absolute and relative income variables in the main analysis is meant to ensure the separate identification of the relative and the absolute income effects. Nonetheless, if these two variables are highly correlated, the separate identification of the two effects will not be possible. To assure the validity of our estimations, we drop the households that are in the last two income groups and re-estimate the econometric models discussed in Section 4. In this way, we get rid of the potentially problematic income groups in which the relative and absolute incomes overlap. If this exercise yields a similar relationship between relative position and the outcome variables, we will have more fertile ground to argue that relative positions matter. The estimation results are in line with our main conclusions.

Second, instead of using integer numbers from one to eight to indicate various income levels, we construct an alternative absolute income variable in line with [65]. More specifically, we make household *i*'s income equal to the natural logarithm of the middle income of its income category. For example, if household *i* belongs to USD [51-100] income range, then we set its income equal to the natural logarithm of USD 75.5. To accomplish this exercise, we drop the households with either 0 income (logarithm of 0 does not exist) or an income higher than USD 1200 (an upper bound does not exist). Our main conclusions remain intact, and all abovementioned results are available upon request.

6. Conclusion

In this paper, we study how one's perceived positional advantage and deprivation relate to one's recalled and self-reported charity donation decisions and social capital in the South Caucasus. These variables under scrutiny are crucial for redistributive policies [87] and macroeconomic development [36], and they can be of great relevance for policymakers not only in the region, but also worldwide.

We illustrate a negative relationship between relative deprivation and charity donation decisions, concluding that an individual's perceived positional disadvantage can have detrimental consequences for her charitable behavior. More specifically, compared to the charitable donation of the group that feels neither positive advantage nor positive disadvantage (the omitted category), the probability of a

charitable donation by an individual in the relatively disadvantaged group may reduce by 7 percentage on average points in the region. Interestingly, we also illustrate a positive link between relative advantage and charity donation decisions, concluding that an individual's perceived positional advantage may enhance her charitable behavior. More specifically, compared to the charitable donation of the omitted category, the probability of a charitable donation by an individual in the positionally advantaged group may increase by 7 percentage points on average in the region.

Regarding the relationship between positional concerns and social capital, we illustrate that on the one hand relative disadvantage has a social capital-destroying effect, on the other hand relative advantage has a social capital enhancing effect. Compared to the omitted category, the positionally disadvantaged individuals are 7 percentage points more likely to report a horizontal trust level of 4 or lower (on the scale from 1 to 10) and 10 percentage points more likely to report a vertical trust level below 3.3 (on a scale from 1 to 5).[7] The results for the relatively advantaged individuals are symmetric.

On the one hand, our results demonstrate that relative economic deprivation is associated with lower levels of charitable giving and social capital. On the other hand, our data suggest that the number of relatively deprived individuals outnumbers the number of relatively advantaged individuals in the region. Combined, these results indicate that mitigation of relative deprivation can on aggregate contribute to higher frequency of charitable giving and trust. This serves as an additional convincing argument to undertake measures to equalize income distribution in the countries under consideration. For example, in such cases, [5] suggests that progressive income taxation enhances allocational efficiency. In a similar vein, [81] proposes a progressive consumption tax, to "…mould the frame of reference in mutually beneficial ways" (p.1844).

Future research may try to extend our analysis to OECD countries and check the robustness of the relationship between positional concerns and social preferences. The relationship between relative position and the actual provision of public goods is another interesting question worth tackling. Furthermore, because of the peculiarities of the data, we focused on the extensive margin and proxied social preferences by a binary variable assessing whether an individual donated money or not. Future research may want to focus on the intensive margin and assess the link between individuals' relative position and their donation levels. For the sake of robustness, the researchers may also want to use different survey questions that measure social preferences as well as different data collection methodologies (e.g., laboratory or field experiments).

[7] These numbers are calculated based on the marginal effects of ordered probit regressions. Recall that the vertical trust index has 13 categories. Please refer to footnote 5 for the details.

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Supporting information

S1 Appendix. Descriptive Statistics

S2 Appendix. Analysis of Income Stability over Time.

S3 Appendix. Complete Regression Tables

S4 Appendix. OLS, LPM and Lewbel (2012) regression tables

S5 Appendix. Additional Analysis

S1 Appendix. Descriptive Statistics

Table A1: The Descriptive Statistics of the Sample

Variable	Pooled Sample	Armenia	Azerbaijan	Georgia
Gender				
Male	10,569 (42.9%)	3,692 (43.4%)	3,450 (48.0%)	3,427 (38.3%)
Female	14,027 (56.9%)	4,797 (56.4%)	3,723 (51.8%)	5,507 (61.5%)
Missing*	41 (0.2%)	14 (0.2%)	8 (0.1%)	19 (0.2%)
Relationship Status				
Single	8557 (34.7%)	2914 (34.3%)	2168 (30.2%)	3475 (38.8%)
Non-Single	15905 (64.6%)	5537 (65.1%)	4956 (69.0%)	5412 (60.4%)
Missing	175 (0.7%)	52 (0.6%)	57 (0.8%)	66 (0.7%)
Age				
Mean	46.9	47.8	43.0	49.3
St. Dev.	17.7	17.8	15.9	18.3
Missing	4 (0.016%)	-	4 (0.06%)	-
Number of Household Members				
Mean	3.1	3.2	3.4	2.9
St. Dev.	1.55	1.58	1.55	1.48
Missing	2 (0.008%)	2 (0.02%)	-	-
Education				
University (higher education, incomplete higher education, postgraduate degree)	6927 (28.1%)	2341 (27.5%)	1520 (21.2%)	3066 (34.2%)
Below University	17647 (71.6%)	6143 (72.2%)	5630 (78.4%)	5874 (65.6%)
Missing	63 (0.3%)	19 (0.2%)	31 (0.4%)	13 (0.1%)
*Employment Status***				
Working (has a job or is self-employed)	8949 (36.3%)	3127 (36.8%)	2839 (39.5%)	2983 (33.3%)
Not Working	15502 (62.9%)	5289 (62.2%)	4287 (59.7%)	5926 (66.2%)
Missing values	186 (0.8%)	87 (1.0%)	55 (0.8%)	44 (0.5%)

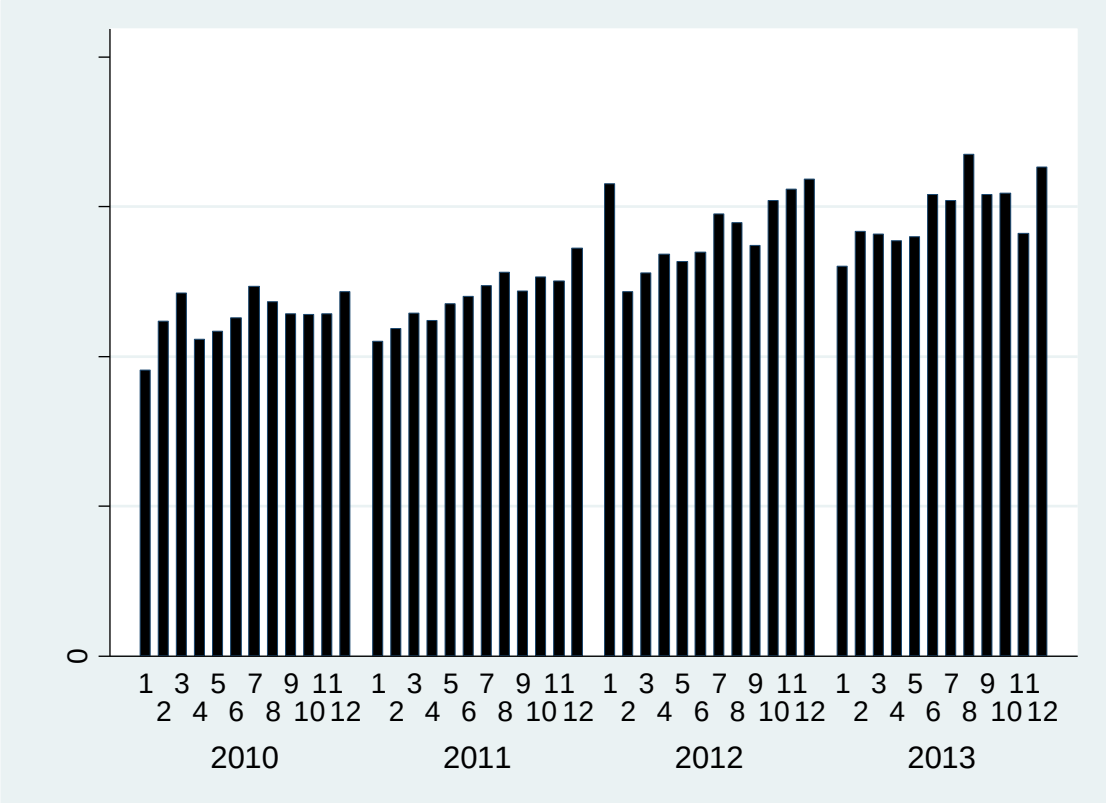
Note: The descriptive statistics of the full sample (including Do not Know, Refuse to Answer and the like). Please note that we need to apply weights to assure representativeness. Relative frequencies of categorical variables in parenthesis.

S2 Appendix. Analysis of Income Stability over Time

In this section, we provide a detailed discussion about the stability of household income throughout the year. We utilize the "Integrated Living Conditions Survey" (ILCS) administered by the National Statistical Service of the Republic of Armenia and the "Integrated Household Survey" (HIS) administered by National Statistics Office of Georgia.[8]

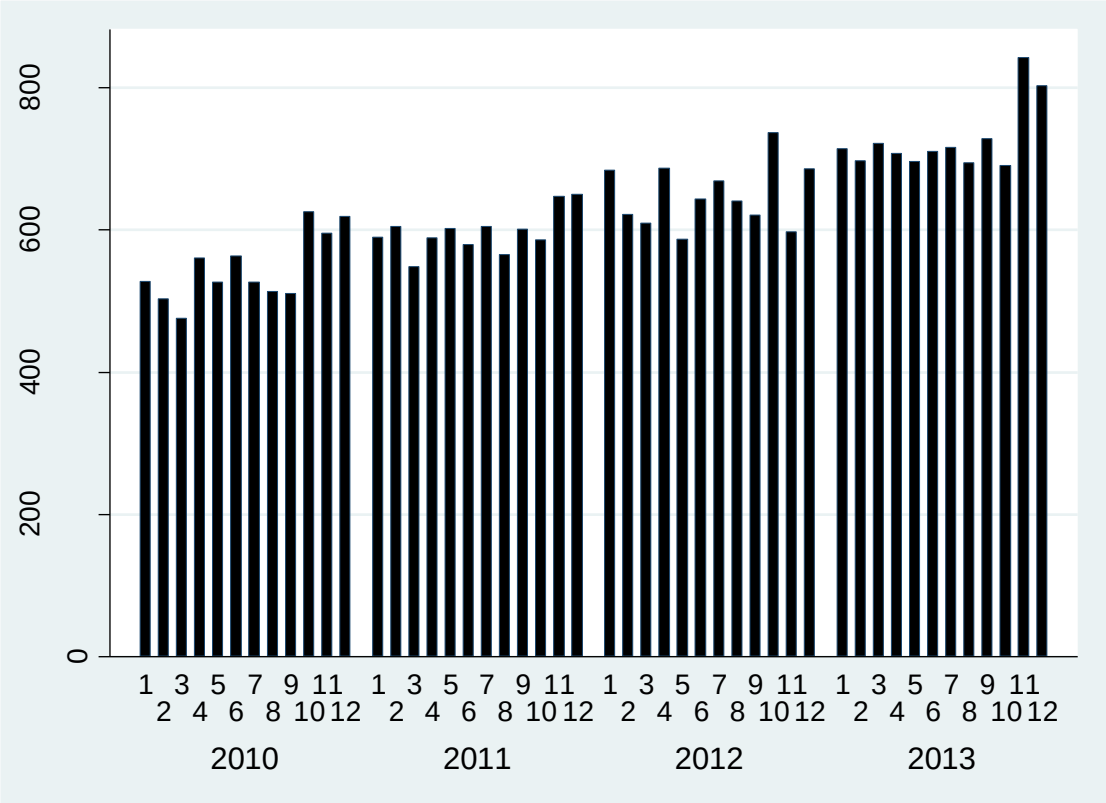
Figures B1 and B2 illustrate the monthly average household income from January 2010 to December 2013 in Armenia and Georgia, respectively.

Figure B1: Average monthly household income in Armenia from January 2010 to December 2013



[8] Microdata for Armenian ILCS is available at https://www.armstat.am/en/?nid=15 (retrieved May 17, 2019), and for the Georgian IHS at https://www.geostat.ge/en/modules/categories/128/databases-of-2009-2016-integrated-household-survey-and-2017-households-income-and-expenditure-survey (retrieved May 17, 2019).

Figure B2: Average Monthly household income in Georgia from January 2010 to December 2013



The figures indicate that there are no dramatic jumps in average household income during the year. The only exceptions are the spikes either at the end or in the beginning of the year. This can be associated with year-end bonuses.

We back up our claim with formal econometric analysis. More specifically, we regress household income on long-run time trend and month dummies. Table B1 illustrates that the month dummies are mainly non-significant. December is the omitted category.[9]

[9] In general, the number of significant month dummies varies from 1 to 4, depending on the omitted category. More results are available upon request.

Table B1: Income Stability in Armenia and Georgia

	Armenia	Georgia
Long-term Trend	1051.5***	2.8***
Month dummies		
Feb	-2047.8	-24.7
Mar	1924.2	-48.4*
Apr	-2666.6	-7.1
May	-1891.8	-45.6*
Jun	3059.2	-30.2
Jul	8226.9	-31.0
Aug	10144.4	-62.3**
Sep	1283.1	-56.0**
Oct	5186.0	-17.5
Nov	1448.3	-11.8
Dec	11406.6*	4.0
Number of Observations	48	48
R-squared	0.83	0.86

* $p<0.1$; ** $p<0.05$; *** $p<0.01$.

S3 Appendix. Complete Regression Tables

Table C1: Positional Concerns and Charitable Giving

	Pooled		Armenia		Georgia		Azerbaijan	
	LPM	Probit	LPM	Probit	LPM	Probit	LPM	Probit
Above Average	0.066***	0.066***	0.026	0.026	0.095***	0.111***	0.062***	0.046**
	(0.015)	(0.015)	(0.025)	(0.026)	(0.028)	(0.031)	(0.022)	(0.019)
Below Average	-0.065***	-0.077***	-0.091***	-0.114***	-0.081***	-0.093***	-0.031**	-0.031*
	(0.010)	(0.012)	(0.018)	(0.022)	(0.017)	(0.020)	(0.015)	(0.016)
Capital	-0.009	-0.003	0.369***	0.479***	0.174**	0.189**	-0.012	-0.008
	(0.031)	(0.040)	(0.030)	(0.059)	(0.069)	(0.089)	(0.031)	(0.031)
HH size	-0.003	-0.003	-0.002	-0.003	-0.011*	-0.012*	-0.002	-0.003
	(0.004)	(0.004)	(0.006)	(0.007)	(0.006)	(0.007)	(0.006)	(0.006)
Absolute Income	0.015***	0.016***	0.017**	0.019**	0.031***	0.034***	0.020***	0.023***
	(0.004)	(0.005)	(0.007)	(0.008)	(0.007)	(0.008)	(0.007)	(0.008)
Male	-0.004	-0.002	-0.022	-0.024	-0.016	-0.019	0.011	0.011
	(0.009)	(0.010)	(0.016)	(0.017)	(0.015)	(0.017)	(0.014)	(0.015)
Single	-0.000	-0.002	0.032*	0.030	-0.032**	-0.039**	0.004	0.007
	(0.010)	(0.011)	(0.017)	(0.019)	(0.016)	(0.018)	(0.015)	(0.016)
University	0.102***	0.101***	0.042**	0.046**	0.104***	0.112***	0.117***	0.099***
	(0.011)	(0.011)	(0.018)	(0.019)	(0.017)	(0.018)	(0.020)	(0.016)
Working	0.081***	0.088***	0.099***	0.109***	0.045***	0.051***	0.083***	0.081***
	(0.010)	(0.011)	(0.017)	(0.019)	(0.017)	(0.019)	(0.016)	(0.016)
Age1827	0.019	0.016	0.068***	0.081***	0.116***	0.132***	-0.071***	-0.077***
	(0.013)	(0.015)	(0.023)	(0.026)	(0.023)	(0.026)	(0.020)	(0.022)
Age2837	0.035***	0.033**	0.053**	0.059**	0.089***	0.101***	-0.027	-0.028
	(0.013)	(0.014)	(0.021)	(0.024)	(0.022)	(0.025)	(0.021)	(0.021)
Age3847	0.058***	0.058***	0.071***	0.080***	0.133***	0.149***	-0.012	-0.013
	(0.013)	(0.014)	(0.023)	(0.026)	(0.022)	(0.025)	(0.022)	(0.021)
Age4857	0.044***	0.045***	0.054***	0.065***	0.060***	0.070***	0.007	0.004
	(0.013)	(0.014)	(0.021)	(0.024)	(0.022)	(0.025)	(0.022)	(0.021)
Country Dummies	Yes							
Regional Dummies	Yes		Yes		Yes		Yes	
Year Dummies	Yes		Yes		Yes		Yes	

F statistics	48.866		36.239		39.574		13.374	
Adjusted R-squared	0.153		0.154		0.152		0.091	
Number of Observations	15,899	15899	5624	5624	5800	5800	4475	4475
Wald Chi-squared		1487.978		532.166		614.110		276.398
Pseudo R-squared		0.133		0.133		0.123		0.096

Note. This table reports results from LPM and Probit Models (with robust standard errors) estimated on the pooled dataset as well as for each country separately. All the regressions include year, regional, and country dummies. Dependent variable: Binary variable that equals 1 if the respondent contributed to charity in the last 6 months and 0 otherwise. Independent variables. Absolute Income: Integer variable that indicates the household income of the respondent: high values indicate high income levels; Below Reference Group=1 if the respondent is poorer than her reference group, 0 otherwise; Above Reference Group=1 if the respondent is richer than her reference group, 0 otherwise; Capital=1 if the household of the respondent is in the capital, 0 otherwise; Urban=1 if the household of the respondent is in an urban area, but not the capital, 0 otherwise; Male=1 if the respondent is male, 0 otherwise; Single=1 if the respondent is never married, divorced, separated, widow/widower, 0 otherwise; Working=1 if the respondent has a job or is self-employed, 0 otherwise; University Education=1 if the respondent has a higher education, incomplete higher education or a postgraduate degree, 0 otherwise; Number of Household Members- integer number indicating the number of members of the respondent's household; Age 18–27=1 if the respondent is aged between 18 and 27, 0 otherwise; Age 28–37=1 if the respondent is aged between 28 and 37, 0 otherwise; Age 38–47=1 if the respondent is aged between 38 and 47, 0 otherwise; Age 48–57=1 if the respondent is aged between 48 and 57, 0 otherwise. Significance Levels: * $p<0.1$; ** $p<0.05$; *** $p<0.01$.

Table C2: Positional Concerns and Trust in Others

	Pooled		Armenia		Georgia		Azerbaijan	
	OLS	Ordered Probit	OLS	Ordered Probit	OLS	Ordered Probit	OLS	Ordered Probit
Above Average	0.292***	0.124***	0.030	0.005	0.066	0.028	0.525***	0.235***
	(0.081)	(0.035)	(0.125)	(0.056)	(0.161)	(0.070)	(0.126)	(0.056)
Below Average	-0.435***	-0.191***	-0.199*	-0.079*	-0.291***	-0.132***	-0.598***	-0.275***
	(0.060)	(0.027)	(0.106)	(0.046)	(0.095)	(0.042)	(0.095)	(0.044)
Capital	-0.858***	-0.372***	-0.030	-0.031	0.543	0.263	-0.822***	-0.375***
	(0.153)	(0.065)	(0.182)	(0.076)	(0.453)	(0.206)	(0.155)	(0.068)
HH size	-0.013	-0.006	0.002	0.001	0.006	0.003	-0.021	-0.010
	(0.018)	(0.008)	(0.026)	(0.012)	(0.028)	(0.012)	(0.031)	(0.014)
Absolute Income	0.077***	0.034***	0.087*	0.040*	0.115***	0.050***	0.021	0.009
	(0.025)	(0.011)	(0.050)	(0.021)	(0.039)	(0.017)	(0.040)	(0.019)
Male	-0.014	-0.003	0.017	0.013	0.160*	0.073**	-0.183**	-0.080**
	(0.051)	(0.023)	(0.086)	(0.038)	(0.082)	(0.036)	(0.086)	(0.039)
Single	-0.050	-0.024	-0.154*	-0.075*	0.114	0.050	-0.123	-0.058
	(0.057)	(0.025)	(0.091)	(0.041)	(0.090)	(0.039)	(0.098)	(0.044)
University	0.049	0.019	0.021	0.007	-0.041	-0.019	0.131	0.061
	(0.057)	(0.025)	(0.092)	(0.041)	(0.092)	(0.040)	(0.104)	(0.047)
Working	0.056	0.026	-0.037	-0.009	0.091	0.038	0.123	0.055
	(0.057)	(0.025)	(0.089)	(0.040)	(0.095)	(0.041)	(0.098)	(0.045)
Age1827	0.037	0.019	-0.091	-0.028	0.318**	0.140**	-0.131	-0.054
	(0.079)	(0.034)	(0.128)	(0.056)	(0.128)	(0.055)	(0.136)	(0.061)
Age2837	-0.211***	-0.092***	-0.256*	-0.111*	-0.021	-0.009	-0.385***	-0.169***
	(0.077)	(0.034)	(0.137)	(0.060)	(0.118)	(0.051)	(0.139)	(0.063)
Age3847	-0.211***	-0.094***	-0.301**	-0.133**	0.034	0.015	-0.425***	-0.190***
	(0.079)	(0.035)	(0.140)	(0.061)	(0.122)	(0.053)	(0.142)	(0.064)
Age4857	-0.073	-0.034	-0.064	-0.030	-0.105	-0.052	-0.139	-0.061
	(0.080)	(0.035)	(0.134)	(0.058)	(0.121)	(0.053)	(0.145)	(0.066)
Country Dummies	Yes							
Regional Dummies	Yes		Yes		Yes		Yes	
Year Dummies	Yes		Yes		Yes		Yes	
F statistics	21.769		15.391		6.391		11.917	
Adjusted R-squared	0.074		0.078		0.039		0.067	
Number of	15,222	15,222	5,307	5,307	5,300	5,300	4,615	4,615

Observations				
Wald Chi-squared	899.922	352.567	151.674	258.942
Pseudo R-squared	0.019	0.023	0.010	0.017

Note. This table reports results from OLS and Ordered Probit Models (with robust standard errors) estimated on the pooled dataset as well as for each country separately. All the regressions include year, regional, and country dummies. Dependent variable: Trust toward others measured on a scale "1" (you can't be too careful) to "10" (most people can be trusted). Independent variables. Independent variables. Absolute Income: Integer variable that indicates the household income of the respondent: high values indicate high income levels; Below Reference Group=1 if the respondent is poorer than her reference group, 0 otherwise; Above Reference Group=1 if the respondent is richer than her reference group, 0 otherwise; Capital=1 if the household of the respondent is in the capital, 0 otherwise; Urban=1 if the household of the respondent is in an urban area, but not the capital, 0 otherwise; Male=1 if the respondent is male, 0 otherwise; Single=1 if the respondent is never married, divorced, separated, widow/widower, 0 otherwise; Working=1 if the respondent has a job or is self-employed, 0 otherwise; University Education=1 if the respondent has a higher education, incomplete higher education or a postgraduate degree, 0 otherwise; Number of Household Members- integer number indicating the number of members of the respondent's household; Age 18–27=1 if the respondent is aged between 18 and 27, 0 otherwise; Age 28–37=1 if the respondent is aged between 28 and 37, 0 otherwise; Age 38–47=1 if the respondent is aged between 38 and 47, 0 otherwise; Age 48–57=1 if the respondent is aged between 48 and 57, 0 otherwise. Significance Levels: * $p<0.1$; ** $p<0.05$; *** $p<0.01$.

Table C3: Positional Concerns and Combined Vertical Trust (Parliament, President, Executive Government)

	Pooled		Armenia		Georgia		Azerbaijan	
	OLS	Ordered Probit	OLS	Ordered Probit	OLS	Ordered Probit	OLS	Ordered Probit
Above Average	0.272***	0.324***	0.100*	0.093*	0.229***	0.277***	0.361***	0.448***
	(0.027)	(0.032)	(0.053)	(0.050)	(0.052)	(0.064)	(0.039)	(0.050)
Below Average	-0.295***	-0.315***	-0.217***	-0.202***	-0.156***	-0.179***	-0.397***	-0.424***
	(0.022)	(0.024)	(0.043)	(0.040)	(0.032)	(0.038)	(0.034)	(0.039)
Capital	-0.188***	-0.255***	-0.405***	-0.370***	-0.217**	-0.250**	-0.166**	-0.248***
	(0.064)	(0.077)	(0.073)	(0.067)	(0.103)	(0.119)	(0.066)	(0.080)
HH size	0.005	0.005	-0.003	-0.004	0.005	0.007	0.013	0.016
	(0.006)	(0.007)	(0.012)	(0.012)	(0.011)	(0.013)	(0.010)	(0.012)
Absolute Income	-0.022**	-0.029***	0.009	0.009	-0.003	-0.004	-0.064***	-0.076***
	(0.009)	(0.010)	(0.020)	(0.019)	(0.013)	(0.016)	(0.015)	(0.017)
Male	-0.110***	-0.114***	-0.061*	-0.059*	-0.043	-0.045	-0.192***	-0.212***
	(0.018)	(0.020)	(0.035)	(0.033)	(0.028)	(0.033)	(0.030)	(0.035)
Single	-0.021	-0.020	-0.008	-0.004	-0.024	-0.023	-0.016	-0.019
	(0.021)	(0.023)	(0.039)	(0.037)	(0.032)	(0.037)	(0.033)	(0.039)
University	-0.086***	-0.091***	-0.059	-0.056	-0.090***	-0.104***	-0.113***	-0.121***
	(0.021)	(0.023)	(0.040)	(0.038)	(0.030)	(0.036)	(0.037)	(0.043)
Working	0.086***	0.099***	-0.014	-0.014	0.039	0.046	0.188***	0.221***
	(0.020)	(0.022)	(0.037)	(0.035)	(0.031)	(0.037)	(0.033)	(0.039)
Age1827	0.010	0.006	0.107**	0.104**	0.047	0.052	-0.047	-0.055
	(0.028)	(0.031)	(0.053)	(0.049)	(0.043)	(0.051)	(0.046)	(0.054)
Age2837	0.002	-0.001	0.028	0.033	0.036	0.040	-0.040	-0.049
	(0.028)	(0.031)	(0.052)	(0.050)	(0.042)	(0.050)	(0.047)	(0.054)
Age3847	-0.048*	-0.052*	-0.068	-0.061	-0.052	-0.062	-0.058	-0.064
	(0.028)	(0.031)	(0.054)	(0.052)	(0.041)	(0.048)	(0.047)	(0.055)
Age4857	-0.056**	-0.062**	-0.078	-0.066	-0.064	-0.081	-0.053	-0.065
	(0.027)	(0.030)	(0.051)	(0.048)	(0.039)	(0.046)*	(0.047)	(0.054)
Country Dummies	Yes							
Regional Dummies	Yes		Yes		Yes		Yes	
Year Dummies	Yes		Yes		Yes		Yes	
F statistics	131.232		20.449		23.456		59.220	
Adjusted R-squared	0.312		0.085		0.109		0.248	

Number of Observations	18,962	18,962	6,869	6,869	6,289	6,289	5,804	5,804
Wald Chi-squared		4,058.496		451.230		553.445		1,138.394
Pseudo R-squared		0.075		0.021		0.028		0.056

Note. This table reports results from OLS and Ordered Probit Models (with robust standard errors) estimated on the pooled dataset as well as for each country separately. All the regressions include year, regional, and country dummies. Dependent variable: Combined Trust toward state institutions measured on a scale "1" (fully distrust) to "5" (fully trust). Independent variables. Absolute Income: Integer variable that indicates the household income of the respondent: high values indicate high income levels; Below Reference Group=1 if the respondent is poorer than her reference group, 0 otherwise; Above Reference Group=1 if the respondent is richer than her reference group, 0 otherwise; Capital=1 if the household of the respondent is in the capital, 0 otherwise; Urban=1 if the household of the respondent is in an urban area, but not the capital, 0 otherwise; Male=1 if the respondent is male, 0 otherwise; Single=1 if the respondent is never married, divorced, separated, widow/widower, 0 otherwise; Working=1 if the respondent has a job or is self-employed, 0 otherwise; University Education=1 if the respondent has a higher education, incomplete higher education or a postgraduate degree, 0 otherwise; Number of Household Members- integer number indicating the number of members of the respondent's household; Age 18–27=1 if the respondent is aged between 18 and 27, 0 otherwise; Age 28–37=1 if the respondent is aged between 28 and 37, 0 otherwise; Age 38–47=1 if the respondent is aged between 38 and 47, 0 otherwise; Age 48–57=1 if the respondent is aged between 48 and 57, 0 otherwise. Significance Levels: * $p<0.1$; ** $p<0.05$; *** $p<0.01$.

S4 Appendix. OLS, LPM and Lewbel (2012) regression results

For all models, Breush-Pagan test indicates strong heteroscedasticity in the first-stage model. Kleibergen-Paap F statistic rejects the null hypothesis that correlation between instruments and endogenous regressors is weak. In all models, except for charitable giving in Georgia, Hansen J statistic is highly insignificant, satisfying instruments' exclusion condition (that is, generated instruments are not correlated with the structural error term). The statistic of endogeneity test, with the null hypothesis that the relative condition (treated as endogenous) is exogenous, is insignificant only in horizontal trust model for Armenia.

Table D1: Positional Concerns and Charitable Giving

	Pooled		Armenia		Georgia		Azerbaijan	
	LPM	Lewbel (2012)	LPM	Lewbel (2012)	LPM	Lewbel (2012)	LPM	Lewbel (2012)
Relative condition	0.059***	0.038***	0.053***	0.115***	0.074***	0.224***	0.041***	0.113***
	(0.006)	(0.014)	(0.012)	(0.034)	(0.012)	(0.051)	(0.009)	(0.034)
Absolute income	0.014***	0.019***	0.016**	0.008	0.031***	0.001	0.018**	-0.005
	(0.004)	(0.005)	(0.007)	(0.008)	(0.007)	(0.013)	(0.007)	(0.013)
Capital	-0.011	-0.016	0.372***	0.467***	0.177**	0.238***	-0.014	-0.001
	(0.031)	(0.031)	(0.030)	(0.032)	(0.070)	(0.030)	(0.031)	(0.032)
Household size	-0.003	-0.003	-0.003	-0.003	-0.011*	-0.010	-0.002	0.000
	(0.004)	(0.004)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Male	-0.004	-0.005	-0.022	-0.018	-0.015	-0.008	0.011	0.012
	(0.009)	(0.009)	(0.016)	(0.016)	(0.015)	(0.015)	(0.014)	(0.014)
Single	0.000	-0.002	0.031*	0.036**	-0.031*	-0.016	0.005	0.010
	(0.010)	(0.010)	(0.017)	(0.017)	(0.016)	(0.017)	(0.015)	(0.016)
University	0.102***	0.105***	0.041**	0.032*	0.105***	0.089***	0.118***	0.103***
	(0.011)	(0.011)	(0.018)	(0.019)	(0.017)	(0.018)	(0.020)	(0.021)
Working	0.081***	0.083***	0.100***	0.098***	0.043**	0.026	0.082***	0.075***
	(0.010)	(0.010)	(0.017)	(0.017)	(0.017)	(0.018)	(0.016)	(0.017)
Age group: 18-27	0.019	0.023*	0.070***	0.055**	0.115***	0.096***	-0.071***	-0.078***
	(0.013)	(0.013)	(0.023)	(0.024)	(0.023)	(0.024)	(0.020)	(0.020)
Age group: 28-37	0.036***	0.035***	0.054**	0.046**	0.089***	0.092***	-0.025	-0.026
	(0.013)	(0.013)	(0.021)	(0.022)	(0.022)	(0.022)	(0.021)	(0.021)
Age group: 38-47	0.058***	0.057***	0.072***	0.071***	0.134***	0.133***	-0.012	-0.009
	(0.013)	(0.013)	(0.023)	(0.023)	(0.022)	(0.022)	(0.022)	(0.022)

Age group: 48-57	0.044***	0.044***	0.056***	0.054**	0.060***	0.067***	0.007	0.013
	(0.013)	(0.013)	(0.021)	(0.021)	(0.022)	(0.022)	(0.022)	(0.023)
Hansen J		7.121		5.412		18.659		5.744
P-value of Hansen J		0.130		0.248		0.005		0.125
Endogeneity test stat.		0.1296		0.2476		0.0048		0.1247
P-value of Endogeneity test stat.		0.0942		0.0739		0.0063		0.0328
Kleibergen-Paap Wald stat.		292.767		48.123		10.478		48.211
P-value of Kleibergen-Paap Wald stat		0.000		0.000		0.000		0.000
F statistics	50.425	49.172	36.156	36.350	40.631	38.038	14.146	14.130
Adjusted R-squared	0.154	0.153	0.154	0.148	0.152	0.121	0.092	0.077
N	15899	15899	5624	5624	5800	5800	4475	4475

Note. This table reports results from LPM and Lewbel specifications (with robust standard errors) estimated on the pooled dataset as well as for each country separately. All the regressions include year, regional, and country dummies. Dependent variable: Binary variable that equals 1 if the respondent contributed to charity in the last 6 months and 0 otherwise. Independent variables. Absolute Income: Integer variable that indicates the household income of the respondent: high values indicate high income levels; Relative condition: Integer variable that indicates the relative position of the respondents' households: high values indicate higher relative position. Generated instruments selected from the following set of variables: working status, household size, education, capital, male, age groups and year dummies. All other remarks of Tables A1-A4 apply. Significance Levels: * $p<0.1$; ** $p<0.05$; *** $p<0.01$.

Table D2: Positional Concerns and Trust in Others

	Pooled		Armenia		Georgia		Azerbaijan	
	OLS	Lewbel (2012)	OLS	Lewbel (2012)	OLS	Lewbel (2012)	OLS	Lewbel (2012)
Relative condition	0.347***	1.081***	0.094	-0.107	0.228***	0.815**	0.521***	2.792***
	(0.039)	(0.204)	(0.066)	(0.166)	(0.064)	(0.373)	(0.060)	(1.037)
Absolute income	0.071***	-0.085*	0.088*	0.081	0.107***	-0.005	0.007	-0.642**
	(0.025)	(0.049)	(0.050)	(0.053)	(0.039)	(0.081)	(0.040)	(0.305)
Capital	-0.862***	-0.698***	-0.019	-0.031	0.554	0.344**	-0.831***	-0.261
	(0.154)	(0.171)	(0.183)	(0.261)	(0.453)	(0.170)	(0.156)	(0.339)
Household size	-0.012	0.010	0.002	0.081***	0.008	0.021	-0.020	0.012
	(0.018)	(0.017)	(0.026)	(0.025)	(0.028)	(0.028)	(0.030)	(0.043)
Male	-0.012	0.017	0.015	0.005	0.165**	0.183**	-0.182**	-0.084
	(0.051)	(0.052)	(0.086)	(0.086)	(0.082)	(0.083)	(0.086)	(0.110)
Single	-0.048	0.046	-0.157*	-0.125	0.120	0.195*	-0.116	0.150
	(0.057)	(0.063)	(0.092)	(0.092)	(0.090)	(0.101)	(0.097)	(0.181)
University	0.046	-0.069	0.020	0.095	-0.048	-0.127	0.131	-0.345
	(0.057)	(0.066)	(0.092)	(0.096)	(0.092)	(0.103)	(0.103)	(0.243)
Working	0.056	-0.021	-0.034	-0.024	0.091	0.010	0.122	-0.118
	(0.057)	(0.060)	(0.089)	(0.090)	(0.095)	(0.106)	(0.098)	(0.151)
Age group: 18-27	0.034	-0.079	-0.088	-0.043	0.313**	0.228*	-0.136	-0.499**
	(0.079)	(0.085)	(0.128)	(0.128)	(0.127)	(0.137)	(0.137)	(0.230)
Age group: 28-37	-0.211***	-0.206***	-0.254*	-0.231*	-0.017	-0.001	-0.380***	-0.368**
	(0.077)	(0.078)	(0.137)	(0.136)	(0.117)	(0.118)	(0.138)	(0.167)
Age group: 38-47	-0.209***	-0.175**	-0.301**	-0.261*	0.037	0.069	-0.419***	-0.402**
	(0.079)	(0.081)	(0.140)	(0.137)	(0.122)	(0.124)	(0.141)	(0.170)
Age group: 48-57	-0.072	-0.028	-0.062	-0.041	-0.100	-0.062	-0.141	-0.005
	(0.080)	(0.080)	(0.134)	(0.131)	(0.121)	(0.125)	(0.145)	(0.175)
Hansen J		3.177		4.608		0.578		0.545
P-value of Hansen J		0.204		0.203		0.901		0.460
Endogeneity test stat.		14.753		1.767		2.754		13.690
P-value Endogeneity test stat.		0.0001		0.1838		0.0970		0.0002
Kleibergen-Paap Wald stat.		36.200		105.908		9.932		3.943
P-value of Kleibergen-Paap		0.000		0.000		0.000		0.017

Wald stat								
F statistics	22.545	20.254	16.049	11.138	6.844	6.735	13.028	6.775
Adjusted R-squared	0.075	0.036	0.078	0.052	0.039	0.018	0.070	-0.358
N	15222	15222	5307	5307	5300	5300	4615	4615

Note. This table reports results from OLS and Lewbel specifications (with robust standard errors) estimated on the pooled dataset as well as for each country separately. All the regressions include year, regional, and country dummies. Dependent variable: Trust toward others measured on a scale "1" (you can't be too careful) to "10" (most people can be trusted). Independent variables. Absolute Income: Integer variable that indicates the household income of the respondent: high values indicate high income levels; Relative condition: Integer variable that indicates the relative position of the respondents' households: high values indicate higher relative position. Generated instruments selected from the following set of variables: male, working status, absolute income, age groups, household size, single and capital. All other remarks of Tables A1-A4 apply. Significance Levels: * p<0.1; ** p<0.05; *** p<0.01.

Table D3: Positional Concerns and Combined Vertical Trust (Parliament, President and Executive Government)

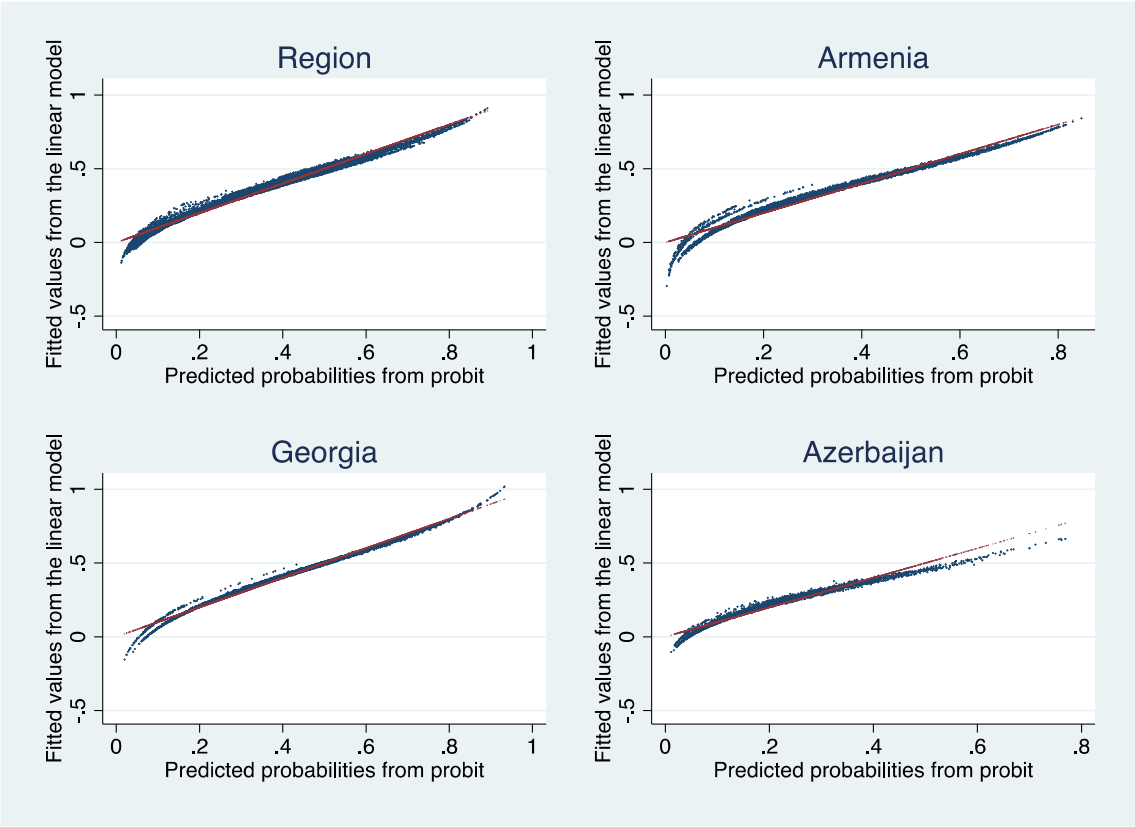
	Pooled		Armenia		Georgia		Azerbaijan	
	OLS	Lewbel (2012)	OLS	Lewbel (2012)	OLS	Lewbel (2012)	OLS	Lewbel (2012)
Relative condition	0.242***	0.561***	0.132***	0.686**	0.151***	0.441***	0.330***	0.709***
	(0.014)	(0.067)	(0.028)	(0.336)	(0.023)	(0.157)	(0.021)	(0.190)
Absolute income	-0.023**	-0.092***	0.010	-0.064	-0.003	-0.060*	-0.067***	-0.181***
	(0.009)	(0.017)	(0.020)	(0.052)	(0.013)	(0.033)	(0.015)	(0.055)
Capital	-0.195***	-0.155**	-0.394***	-0.276**	-0.211**	-0.140**	-0.174***	-0.119
	(0.064)	(0.069)	(0.073)	(0.126)	(0.103)	(0.065)	(0.065)	(0.077)
Household size	0.004	0.010	-0.003	-0.011	0.004	0.008	0.013	0.025**
	(0.006)	(0.006)	(0.012)	(0.013)	(0.011)	(0.011)	(0.010)	(0.010)
Male	-0.110***	-0.094***	-0.062*	-0.022	-0.042	-0.034	-0.194***	-0.179***
	(0.018)	(0.019)	(0.035)	(0.046)	(0.028)	(0.028)	(0.030)	(0.032)
Single	-0.019	0.015	-0.011	0.037	-0.022	0.009	-0.012	0.027
	(0.021)	(0.022)	(0.039)	(0.051)	(0.032)	(0.036)	(0.033)	(0.040)
University	-0.084***	-0.131***	-0.059	-0.135**	-0.086***	-0.121***	-0.111***	-0.178***
	(0.021)	(0.024)	(0.039)	(0.062)	(0.031)	(0.036)	(0.037)	(0.052)
Working	0.087***	0.050**	-0.012	-0.049	0.035	-0.000	0.192***	0.144***
	(0.020)	(0.022)	(0.037)	(0.045)	(0.031)	(0.036)	(0.033)	(0.043)
Age group: 18-27	0.010	-0.030	0.112**	-0.012	0.044	0.005	-0.047	-0.087
	(0.028)	(0.030)	(0.053)	(0.098)	(0.043)	(0.048)	(0.046)	(0.053)
Age group: 28-37	0.004	-0.001	0.030	-0.028	0.036	0.039	-0.036	-0.036
	(0.028)	(0.028)	(0.053)	(0.065)	(0.042)	(0.042)	(0.047)	(0.048)
Age group: 38-47	-0.046*	-0.030	-0.066	-0.075	-0.052	-0.036	-0.054	-0.032
	(0.028)	(0.028)	(0.054)	(0.056)	(0.041)	(0.042)	(0.047)	(0.049)
Age group: 48-57	-0.055**	-0.038	-0.075	-0.087*	-0.065*	-0.047	-0.052	-0.027
	(0.027)	(0.027)	(0.051)	(0.052)	(0.039)	(0.040)	(0.047)	(0.050)
Hansen J		6.525		0.886		0.354		2.359
P-value of Hansen J		0.163		0.346		0.552		0.125
Endogeneity test stat.		0.1632		3.821		3.811		0.1245
P-value of Endogeneity test stat.		0.0000		0.0506		0.0509		0.0115
Kleibergen-Paap Wald stat.		42.148		5.598		19.935		9.378
P-value of		0.000		0.006		0.000		0.000

Kleibergen-Paap Wald stat								
F statistics	132.538	116.663	20.826	18.889	24.125	22.740	61.515	46.461
Adjusted R-squared	0.311	0.279	0.084	0.000	0.109	0.075	0.248	0.188
N	18962	18962	6869	6869	6289	6289	5804	5804

Note. This table reports results from LPM and Lewbel specifications (with robust standard errors) estimated on the pooled dataset as well as for each country separately. All the regressions include year, regional, and country dummies. Dependent variable: Combined Trust toward state institutions measured on a scale "1" (fully distrust) to "5" (fully trust). Independent variables. Independent variables. Absolute Income: Integer variable that indicates the household income of the respondent: high values indicate high income levels; Relative condition: Integer variable that indicates the household's relative position of the respondent: high values indicate higher relative position. Generated instruments selected from the following set of variables: male, working status, absolute income, household size, age groups and capital. All other remarks of Tables A1-A4 apply. Significance Levels: * p<0.1; ** p<0.05; *** p<0.01.

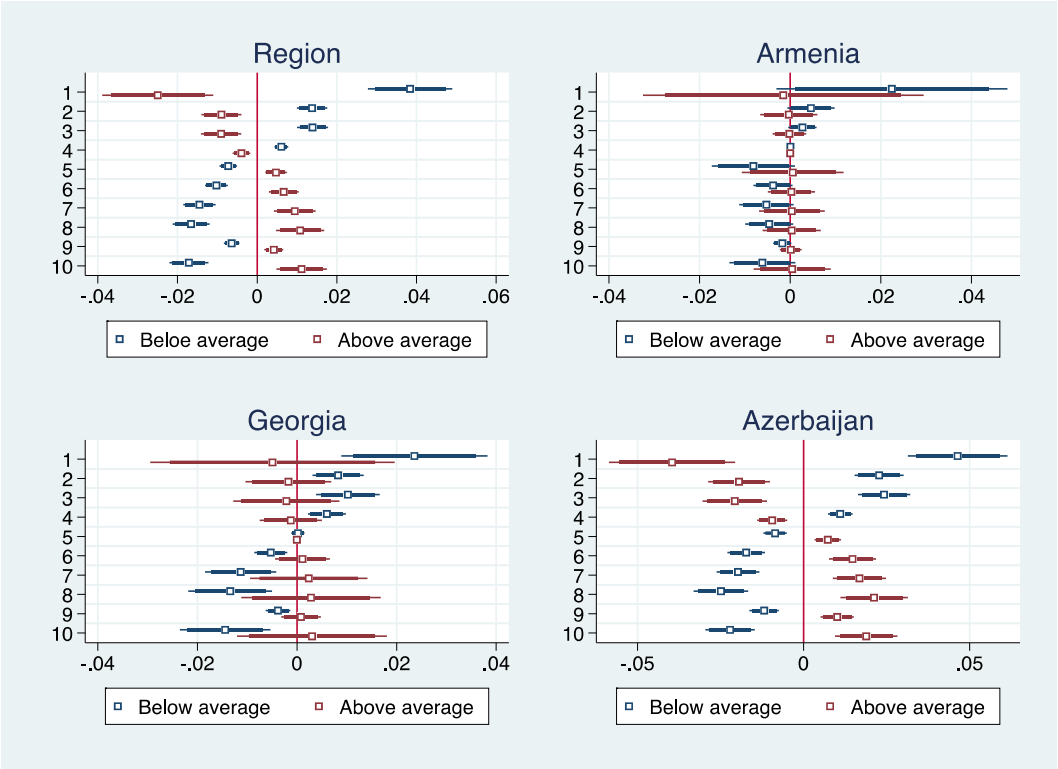
S5 Appendix. Additional Analysis

Figure E1: LPM Fitted Values *versus* Probit Predicted Probabilities



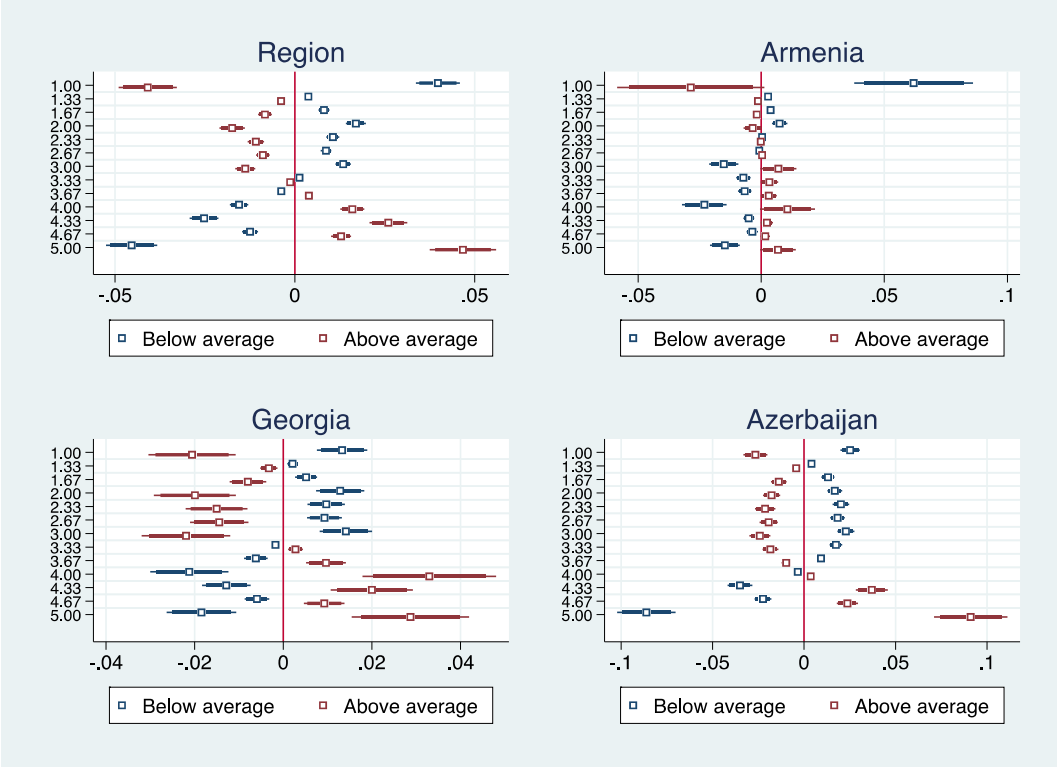
Note. Negative values for LPM fitted values constitute 1.70 percent of fitted values for the whole region, 3.98 percent of fitted values for Armenia, 0.95 percent of fitted values for Georgia and 2.32 percent of fitted values for Azerbaijan. With the scatterplot, a 45-degree line is plotted.

Figure E2: Marginal Effects (Horizontal Trust)



Note. 95 percent and 90 percent confidence intervals are plotted in solid and bold lines, respectively.

Figure E3: Marginal Effects (Vertical Trust).



Note. 95 percent and 90 percent confidence intervals are plotted in solid and bold lines, respectively.