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Abstract

We investigate the motives of pro-social behavior in collective decisions in an economic experiment. It compares individual behavior in private and collective decisions in a unified experimental setup. Subjects are given an individual endowment and have to decide how much of it to donate to charity. The experiment is combined with two long questionnaires that provide us with background information on subjects and enables us to learn more about the motives driving their behavior. Contrary to theoretical predictions, the distribution of amounts donated individually is remarkably similar to the distribution of amounts proposed for collective donation. In regressions, we find individual donations to be driven by consequentialist motives, social norms and moral convictions. In collective decisions, neither the motive-related variables nor any of the control variables are found significant. Comparing subjects' affective state before and after the experiment, we find that individual donations create a feeling of warm glow while collective donations do not. On the other hand, the change in affective state in the collective decision is higher the higher the amount proposed for the collective donation. This pattern is consistent with expressive motives.

Key words: voting motives, voluntary contributions, redistribution, charity, economic experiment, warm-glow, Immanuel Kant, affect

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1. Introduction

Experimental economists have compiled impressive evidence for pro-social behavior in dictator games, public good games and various other settings. This evidence inspired economists to investigate more deeply into the motives behind pro-social behavior. Drawing on insights from sociology and social psychology (e.g., Batson et al.,, 1988; Batson, 1998), motives like altruism, warm glow and social norms are now recognized to play an important role in motivating individuals to share resources with the less fortunate, volunteer for social projects or donate money to charitable organizations (e.g., Andreoni 1988, 1990; Fehr and Schmitt 1999; Kotzebue and Wigger, 2010; Konow 2010). In this paper, we draw on these insights to investigate the motives behind pro-social behavior in *collective* decisions: Why do people vote for policy-proposals to tax everyone and use the money to help the needy?

It seems straightforward to assume that most motives that make people behave pro-socially in private decisions should also matter for their decision to vote in favor of pro-social policies. On the other hand, collective decisions confront individuals with distinctly different incentives. Most importantly, the single voter's decision to vote one way or the other is extremely unlikely to have any impact on the outcome of the collective decision (e.g., Beck, 1975; Tyran, 2004). Given this lack of pivotality, all motives that relate to the consequences of the collective decision finally reached (hereafter consequentialist motives) should be largely irrelevant for the individual voting behavior. Instead, it should be driven by the non-consequentialist motives that relate to the very act of voting (e.g., Hamlin and Jennings, 2011; Shayo and Harel, 2012). Some scholars argue against the irrelevance of consequentialist motives for voting decisions. They point out that – according to survey data – many voters participate in elections because they feel a sense of duty to contribute to the functioning of the polity (e.g., Güth and Weck-Hannemann, 1997; Schram, 1997, Battaglini et al., 2010). This implies that they judge policy proposals by their consequences and vote accordingly because

elections as a means of aggregating individual preferences can only function if voters behave as if they were pivotal. In this case, consequentialist motives strongly influence individual behavior in collective decisions even if the individual voter cannot expect to be pivotal.

In this paper, we use an economic experiment to investigate the importance of consequentialist motives in collective decisions on pro-social behavior. In addition, we assess the importance of different non-consequentialist motives. Our strategy is to compare individual and collective decisions in a unified setting. The observations from the individual decision setting serve as the benchmark against which the observations in the collective decisions are measured. We chose an experiment with a between-subject design and two different treatments. Every subject is given an initial endowment of 10 €. In treatment VOTE, the group decides collectively how much of this endowment every group-member must donate to charity. Every subject proposes an amount for the per-capita donation. In the end, every participant has to donate the median amount proposed. In treatment IND, every individual can decide for himself how much of his endowment to donate. We use subjects' answers on two detailed questionnaires to learn more about the motives driving their behavior and possible differences in the impact of these motives across treatments. We employ a psychological scale to measure subjects' short-run affective state before and after the experiment (see Mackinnon et al., 1999; Konow, 2010).

Our main findings can be summarized as follows: The average individual donation does not differ significantly from the average amount proposed for the collective donation. The distribution of donations resp. proposals is remarkable similar: approximately 30 % of participants in both treatments propose to respectively donate the full 10 € an approximately, 20 % propose to respectively donate exactly 5 €. In treatment IND, the probability that a subject donates the full 10 € is driven by a factors that relate to consequentialist motives, social norms and moral convictions with social norms yielding the largest marginal effects by far. In treat-

ment VOTE, we do not find any distinct behavioral pattern: Neither the motive-related nor the control variables make a significant contribution to predicting subjects' proposals for the collective donations. The individual donation in treatment IND has a positive impact on the participants' short-run affective state. This result supports the notion that donations are motivated by warm-glow. In treatment VOTE, we find no indication that the expected size of the collective donation influences participants' affective state. This result suggests that collective donations do not generate a feeling of warm-glow. However, the improvement in an individual's affective state is higher the higher the amount he proposes to donate collectively. This pattern is in line with the theory of expressive voting. Proposing an additional Euro for the collective donations in treatment VOTE has a marginal impact on subjects' short-run affective state that does not differ significantly from the marginal impact of actually donating an additional Euro in treatment IND.

The paper proceeds as follows: In section 2, we review the literature on motives for pro-social behavior. Section 3 describes the experimental set-up. Section 4 presents the central hypothesis. Results are described in section 5 and discussed in section 6. Section 7 concludes.

2. Motives for pro-social behavior – a brief review of literature

Economics assumes that pro-social behavior is driven by self-serving motives that refer to the consequences of the individual decision (e.g., Hochman and Rogers 1969; Piven and Cloward 1971; Blanchet and Fleurbaey 2006). Social psychologists emphasize the importance of altruistic motives. The concept of "true" altruism assumes that individuals are motivated by his wish to help the needy (e.g. Warr, 1982; Roberts, 1984).[1] Empathy plays an important role

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[1]   In the literature, the term altruism is sometimes used to characterize behavior and sometimes used to describe an underlying motive. Following Andreoni (1988, 1990) economists often use the term "pure"

for altruistic motives because it creates a "genuine concern for the situation of someone else" (Schokkaert, 2006: 134). Andreoni (1988, 1990) argues that private donations are not solely motivated by the improved well-being of the needy. Additionally, people experience a good feeling "like a warm glow" from the very *act* of giving. True altruism (pure altruism in the terminology of Andreoni) is a consequentialist motive while warm-glow belongs to the non-consequentialist motives (e.g. Andreoni, 1988).

Some scholars argue that pro-social behavior may also be motivated by a feeling of duty resulting from internalized social norms (e.g., Elster, 1989; Lindbeck et al., 1999). Individuals motivated by social norms experiences negative feelings of guilt and shame when acting against these norms. They can avoid these psychic costs by behaving in accordance with these norms. These psychic costs are related to the act of choice rather than the consequences of the course of action chosen. Therefore, we regard the motive of following social norm to be a non-consequentialist motive. Kotzebue and Wigger (2010) point out that a feeling of duty may also result from moral convictions. According to deontological ethics, the individual shall behave in accordance with rules justified by moral considerations (deon (Greek) = duty). The German philosopher Immanuel Kant (1724-1804) is one the most influential philosophers in the realm of deontological ethics (e.g., Beauchamp, 2000). He proposed the well-known Categorical Imperative: An individual shall "[…] *act only on that maxim through which you can at the same time will that it should become a universal law"* (Kant, 1907: 88). Individuals who believe in the Categorical Imperative feel an obligation to behave pro-socially (e.g. donate to charity) if they are convinced that the universal law suggested by their moral standards demands such behavior. Following it is a question of principle and not of the specific consequences of individual behavior in the current context. This holds despite the fact that the

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altruism. As this term refers to both behavior and motivation, we will hereafter follow Schokkaert (2006) and speak about the motive of "true" altruism. This term refers to the motivation only.

considerations leading to the universal law refers explicitly to the consequences of behavior in general. Thus, following the Categorical Imperative is a non-consequentialist motives.

There are many empirical studies on the motives that make individuals behave pro-socially (see Batson 1998; Schokkaert 2006; Kotzebue and Wigger 2010; Shayo and Harel. 2012). They provide evidence for the importance of social norms and truly altruistic motives. Recent studies also provide evidence for an idosyncratic warm glow effect (e.g., Crumpler and Grossman 2008, Korenok et al., 2013). Konow (2010) runs an experiment based on variations of the dictator game. Based on behavioral data, he concludes that both warm glow and truly altruistic motives make subjects share with others. In addition, he uses a psychological scale to measure of participants' short-run affective state at the beginning of the experiment and after they have made their decisions to share in the dictator game. The basic hypothesis behind this approach is the following: If giving to others creates a positive feeling of warm glow, there must be a positive relationship between the amount given in the dictator game and the change in short-run affective state. His observations support this hypothesis: Giving has a positive impact on the donor's short-run affect if giving means a donation to an organization that helps children in need. Giving to fellow-students does not evoke a comparable change in affective state. Next to the new insight Konow produces, his essential contributions is a methodological one. He shows how psychological measures for affect can be used in economic experiments. When combined with the behavioral data from the experiment, data on subjects' affect can further our understanding of the role of different motives in pro-social behavior.

Both the insights and the methodological contribution of Konow (2010) are highly relevant for our study on the motives behind pro-social behavior in *collective* decisions. Consider an individual who has to vote in favor or against a tax-funded redistribution scheme. His individual vote is very unlikely to have a direct impact on his wealth or on the funds available for the needy because he cannot expect to be pivotal (Beck, 1975; Tyran, 2004; Shayo and Harel,

2012). Thus, consequentialist motives are largely irrelevant for a rational voter's decision. Even the good feeling of warm-glow is beyond his control because the question of how heavily he is taxed to support the needy is unlikely to depend on his vote. At the same time, he can behave in accordance with his social norms and moral convictions at negligible material costs. Hamlin and Brennan (1998) argue that voters experience a good feeling when expressing their opinion on political issues (see also Hamlin and Jennings, 2011). It is commonly assumed that this so-called expressive utility is higher for expressing approval to redistribution than for rejecting redistributive policies (e.g. Tullock 1971; Tyran 2004). As the individual vote is unlikely to have any material consequences, the expressive utility coming along with voting pro redistribution constitutes a non-consequentialist motive that applies primarily to collective decisions. The empirical support for the importance of expressive motives is mixed. While early experimental studies do not find support for expressive motives (e.g., Carter and Guerette, 1992; Fisher, 1996; Tyran, 2004), more recent experiments support importance of expressive motives (e.g., Shayo and Harel, 2012, Bischoff and Egbert, 2013).[2] The existing studies relied solely on behavioral data to test for expressive motives.[3] In this paper, we addi-

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[2] There is an independent strand of literature in voter behavior that focuses the question whether strategic voting may undermine the majority votes's ability to aggregate private information as proposed by Condorcet's Jury Theorem (e.g., Battaglini et al., 2010). In the corresponding experiments, majority voting is a means of aggregating private information when individuals share a common goal but disagree about the correct way to pursue it. In treatment VOTE of our experiment, voting serves as a means of aggregating heterogeneous individual preferences for pro-social policies. There is no consensus about the correct policy. More importantly, there is no room for strategic voting in our experiment. Thus, the main questions raised by Battaglini et al. (2010) and other authors in this strand of literature do not apply to our expeirment.

[3] Bischoff et al. (2012) are an exception in this respect. They provide first neuro-scientific evidence for the existence of expressive motives in voting.

tionally use information about subjects' change in short-run affective state It is especially in this feature that our paper builds on Konow (2010). However, it differs from the latter in important aspects. The most obvious difference is the fact that we focus on collective rather than individual decisions. Beyond that, we use a more sophisticated scale to capture the short-run affective state. We also use a richer questionnaire which captures a large variety of factors that are reported to influence subjects' willingness to donate money to charitable organizations. By combining information from the questionnaire with behavioral data from the experiment in regressions, we try to explain subjects' willingness to donate to charity and compare the importance of different factors for the individual and the collective decision. We also analyze the impact of subjects' decisions on their short-run affective state to assess the importance of non-consequentialist motives. While our focus lies on collective decisions, we use the same experimental setting to analyse individual donations in a separate treatment. The result from this treatment provide a meaningful benchmark against which the behavior in the collective decisions can be measured.

3. Experimental set-up

The experiment involves two treatments IND and VOTE. Every subject makes one decision during the experiment (see appendix D for instructions). The decision task can be described as follows: At the beginning of the experiment, every subject receives a voucher worth 10 €. Under treatment IND; subjects are asked to decide how much of the initial endowment to donate to the Kinderschutzbund (KSB), a large German NGO that uses funds to help children in need or threatened by violence. Every subject states the amount X he wants to donate. This amount is donated on his behalf and he can cash in the remaining $10 - X$ €. Under treatment VOTE, subjects have to make a collective decision about how much of the individual endowment every subject in the group has to donate to the KSB. Every participant has to propose an amount X to be donated per capita. In the end, every participant in treatment

VOTE has to donate the median amount X^M proposed in his group. The remaining $10 - X^M$ €
can be cashed in after the experiment.

The experimental procedures are identical for both treatments: All subjects involved in
one session take the decision simultaneously. They sit in one classroom so that can see their
fellow-players. Instructions are given in written form and communication is prohibited
throughout the experiment. Decision sheet and questionnaires are handed out on paper and
subjects fill them in during the session in the classroom. We answer arising questions on the
instructions in private with the individual. A session lasts about 30 minutes. We guarantee
anonymity during the experiment. To minimize social pressure or experimenter demand ef-
fects (Zizzo, 2010; Bischoff and Frank, 2011), we use sealed envelopes to pay subjects. The
envelopes have been filled days before the subjects receive them.

During the experiment, the participants are asked to fill in two questionnaires – one at
the beginning of the session and one at the end of it. The first questionnaire contains questions
on subjects' knowledge and attitude towards the KSB, questions from the World Value Sur-
vey (1990) and ALLBUS (2006) and a set of questions on altruism against strangers proposed
by Tankersley et al. (2007). In the second questionnaire, we ask subjects for biographical in-
formation and their expectations with respect to the behavior of fellow-participants. The esti-
mates for the average donation (treatment IND) resp. the median amount proposed for the
collective donations (treatment VOTE) are incentivized. In each session, the subject with the
most accurate prediction receives an extra 10 €. We also use the short version of the Positive
Affectivity Negative Affectivitiy Schedule (PANAS) proposed by MacKinnon et al. (1999) to
measure the current affective state of subjects at the beginning of the experiment as well as
immediately after they have made their decision to donate respectively stated their proposal
for a collective donation. Participants who answer all questions in the questionnaires are paid
an extra amount of 1 €.

4. Hypotheses

4.1 Allocation decisions in treatment VOTE and IND

Consider an individual i who has a certain endowment E_i and decides how much to donate to charity. He will choose the level of donation X_i that maximizes his expected utility. Table 1 names the consequentalist and non-consequentialist motives for pro-social behavior discussed in section 2 and states the argument that drives the utility from the different motives in treatment IND and in treatment VOTE. All arguments are stated in a way that a higher value of the argument goes along with a higher utility for individual i – other things equal. Here, N denotes the number of participants in a particular session and $\overline{F}$ stands for all the funds used to help children in need but raised outside the current experiment. X_i^{norm} denotes the amount that subject i's social norms and moral convictions identify as adequate donation. Subjects incur psychic costs when they donate respectively propose an amount that deviates from X_i^{norm}. The loss in utility is higher the more X_i deviates from X_i^{norm}. Table 1reveals some fundamental differences in the incentives to state a high value of X_i across treatments.[4]

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[4] There is a strand of literature showing that social identity influences voter behavior (e.g., Shayo, 2009; Klor and Shayo, 2010). Accordingly, a subject is more likely to favor tax schemes that benefit is own social group. They tend to vote for more redistribution if their group is relatively poor even if they personally are well off. In the context of our paper, the impact of social identity is at best indirect because the participants are adults while the donations benefit children. Surely, there is the possibility that some of our subjects witnessed child abuse when they were young. We decided not to include a question that asks subjects for their individual history in this respect because we considered it inappropriate. Thus, we cannot control for the possible impact of belonging to the social group "abused children". At the same time, it seems likely that the members of this group find the work of the KSB important and consider child protection by the government to be deficient. Thus, our variables on subjects' attitudes to KSB indirectly

[insert Table 1 about here]

First, expressive motives apply to treatment VOTE only. Second, the individually chosen value for X_i has a direct influence on the utility from the consequentialist motives in treatment IND while this direct influence is missing in treatment VOTE. Here, the individually proposed amount X_i influences the utility from these motives only indirectly through its influence on the median proposition X^M. This influence is, however, negligibly small (i.e., $\partial X^M / \partial X_i \approx 0$). Thus we arrive at our first hypothesis H1:

> **H1** Consequentialist motives are more important for the individual donation observed in treatment IND than for the proposal for a collective donation in treatment VOTE.

This has implications for the level of pro-social behavior we can expect across treatments. First, proposing a high donation in treatment VOTE is unlikely to influence the amount of resources finally available for consumption. Contrary to that, the individual donation X_i in treatment IND directly reduces the funds available for private consumption. Thus, the consequentialist motive "self-interest" limits the donation in treatment IND but not in treatment VOTE. Here, expressive motives set incentives for subjects to propose high amounts for donation – amounts they would not donate in treatment IND. Thus, we arrive at hypothesis H2:

> **H2**: The average individual donation in treatment IND is lower than the average amount proposed for the collective donation in treatment VOTE.

Helping children in need is a public good that can be consumed by all truly altruistic individuals even if they do not contribute personally. Compared to the funds $\overline{F}$ raised outside the experiment, the money that can possibly be donated in one session of our experiment is negli-

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control for this element of social identity. In sum, we are convinced that the main results reported in this paper are not jeopardized by not controlling for the social identity of "abused children" directly.

gible. Therefore, subjects in both treatments can free-ride on the resources that the state and donors to KSB and other child-care organizations outside the current experimental setting give to help children in need. One might argue that the donation of the group as a whole may well be of noticeable size and sufficient to fund a small additional project. With respect to this additional money raised during the experiment, subjects in treatment IND can free ride on the donations of their co-players. In treatment VOTE, subjects do not have the possibility to free ride in this respect. Thus, the incentives to free-ride are slightly larger in treatment IND than in treatment VOTE. In any case, they are large in both treatments because of the large amount of outside funds $\overline{F}$. If free riding matters, it provides further support for Hypothesis H2.

The argumentation that led to hypothesis H2 can be used to derive a third hypothesis. This hypothesis only applies to subjects whose social norms or moral convictions demand a high level of pro-social behavior. In treatment VOTE, this type of subject can avoid the disutility from breaking the corresponding norm or ignoring moral convictions at negligible material costs. In treatment IND, avoiding the disutility from breaking the social norm and ignoring moral convictions comes at considerable opportunity costs because a high individual donation causes direct and certain material losses. Thus, we arrive at hypothesis H3:

> **H3**: Social norms and moral convictions that demand a high level of pro-social behavior have a larger impact on the collective donation proposed in treatment VOTE than on the individual donation in treatment IND.

4.2 Changes in short term affect

Inspired by Konow (2010), we go beyond the analysis of behavioral data and turn to the impact of subjects' decisions and expectations on their short-run affective state. Short-run affect captures the way that an individual feels at the moment. Affect is the supraordinate concept that includes mood and emotions (e.g. Marcus, 2000). An emotion is psychophysiological

experience that is caused by an external impulse or sensation. Emotions can be "attributed do a concrete sensation or experience" (Steenbergen, 2010) while mood is defined as a "general and pervasive feeling state" that exists without explicit reference to its sources (Marcus, 2000: 224). Konow (2010) measures subjects' short-run affective state using a scale proposed by Batson et al. (1988). Specifically, he asks subject to express their current affect in the dimensions *elated – depressed* and *good mood – bad mood* (10 point Likert-scale). He adds the change in score across both dimensions to arrive at his indicator for change in short-term affective state. The PANAS-concept we use provides subjects with a list of 2x5 adjectives that describe how one can feel and asks them to state the degree to which they feel this way right now on a 5-point scale (MacKinnon et al., 1999). The answers are aggregated to derive one indicator for subjects' positive and one for their negative affective state. The main advantage of these indicators compared to the one used by Konow (2010) is that – by aggregating across a five items – the PANAS indicators provide more reliable picture of the subjects' affective state.

While most scholars would agree that utility and affect are related, the precise relationship the two concepts is still disputed (e.g., Kahneman et al. 1997; Kimball and Willis 2006). For the purpose of our study, it is sufficient to assume that a difference between the affect reported before and after our experiment is causally related to the subject's experiences during the experiment. Positive sensations or feelings thus elevate subjects' affective state and negative ones impair it. The non-consequentialist motives warm glow and expressive utility are explicitly defined by positive feelings experienced during the experiment and therefore influence subjects' affective state if experienced. For this reason, we concentrate on the changes in the scale for positive affective state. Like Konow (2010) we hypothesize that subjects witness an improvement in short-run affective state if they donate money. The improvement is expected to be higher the higher the amount donated. Hypothesis H4 thus reads:

H4: In treatment IND, the change in short-run affective state is increasing in the amount X donated.

Treatment VOTE provides the interesting possibility to test whether giving collectively generates a comparable feeling of warm-glow. Harbaugh et al. (2007) analyze the neural activity when individuals are forced to donate collectively. The subject in one treatment are taxed to finance donations to charity while the subject in the other treatment decide voluntarily and on an individual basis to donate an equivalent amount of money to charity or to keep it for private use. In their studies, subjects classified as altruists show reward-related neural activity even when being forced to give the money to charity. The activation is higher when charitable giving is voluntary than when transfers are mandatory. This result suggests that giving is especially rewarding when subjects do so voluntarily. In treatment VOTE, the individual participant has only very limited influence on how much he donates in the end. Thus, his feeling of warm-glow may be lower for a given amount than the feeling of a subject in treatment IND who donates the same amount but has fixed this amount personally. In treatment VOTE, the warm glow of giving does not depend on the amount X an individual proposes for the collective donation. Instead, it depends on the individual's expectations concerning the median amount proposed for the collective donation $\widehat{X^M}$. Thus, we arrive at hypothesis H5:

H5: In treatment VOTE, the change in short-run affective state is increasing in the amount $\widehat{X^M}$ that an individual expects to donate.

In treatment VOTE, the essential logic of expressive voting applies. Proposing a high per capita donation X brings certain expressive utility at negligible costs. This lead to hypothesis H6:

H6: In treatment VOTE, the change in short-run affective state is increasing in the amount X proposed, other things being equal.

5. Results

5.1 Descriptive statistics

The sessions took place in November 2011 at the University of Kassel, Germany and – a few days later – at the University of Applied Sciences Anhalt (Bernburg), Germany. Subjects were recruited in a lecture on "math for economists" in Kassel and in an introductory lecture of economics in Bernburg. Both lectures were held by lecturers who are not involved in the experimental project. In both cities, we divided subjects at random to one of the treatments and ran the corresponding sessions simultaneously. A total of 412 undergraduate students participated. Subject pools for both treatments are similar with respect to age, sex composition and field of study (see table 2 and appendix C). Table 2 reports the average and median donations for both treatments as well as on the expected donation per capita. We found no significant difference between the average individual donation in treatment IND and the average collective donation proposed in treatment VOTE. Thus, hypothesis H2 is not supported. Table 2 also reports the average and median change in affect by treatment. The change is positive on average and there are no differences across treatments.

[insert table 2 about here]

Figure 1 contains histograms for the individual donations resp. the collective donations proposed. The distribution is similar across treatments. In both treatments, about 30 % of subjects donate respectively propose the full 10 € and some 20 % donate resp. propose exactly 5 €.

[insert figure 1 about here]

5.2 Regressions using behavioral data

In section 4, we hypothesized that the influence of consequentialist motives on subjects' decisions is higher for individual decisions (treatment IND) than for collective decisions to donate

(treatment VOTE). To test of this hypothesis, we must compare the major factors driving subject behavior in treatment IND and VOTE. Our endogenous variables are X_i^{IND} – the donation of subject i in treatment IND – and X_j^{VOTE} – the per capita donation proposed by subject j in treatment VOTE. We derive proxies for various driving factors for X_i^{IND} and X_j^{VOTE} from the questionnaires. In the main text, we restrict ourselves to the baseline regression model. A number of additional variables have been tested (see appendix A).

1) Variables related to consequentialist motives

We start by developing indicators that capture subjects' consequentialist motives. First, we generate three variables for subjects' attitude towards the Kinderschutzbund by asking them to state their level of agreement to the following statements: 1) I consider the purpose of the Kinderschutzbund to be very important; 2) The Kinderschutzbund uses the money it receives responsibly.; 3) In Germany, child protection is guaranteed by the state to a sufficient degree. A 5-point scale is used from (5) "I agree fully" to (1) "I disagree entirely". The dummy variables IMPORT, RESPON and SECURE take on the value 1 for subjects stating a value higher than 3, otherwise it is 0. We expect a positive influence for IMPORT and RESPON and a negative influence for SECURE on X_i^{IND} in treatment IND and X_j^{VOTE} in treatment VOTE.

Second, we use subjects' answers to the altruism-score (towards strangers) proposed by Tankersley et al. (2007) to classify subjects as altruists and non-altruists. The scale asks subjects to state their inclination to help strangers in a number of different every-day situations (e.g., help to carry a heavy object, let the person use one's cell phone). Tankersley et al. (2007) use the scale to classify subjects as altruists or non-altruists and analyse differences in their neural activation patterns. They find differences in brain regions that are involved in social perception tasks and are linked to neural systems that facilitate empathetic responses (see also Mayr et al, 2009: 312-318). Any participant who scores an above median score ($\geq$ 30) on the scale

is hereafter classified an altruist, all other participants are classified non-altruists. If an individual is classified as altruist, the ALTRUISM-dummy is 1 otherwise it is 0. Altruists are expected to voice a higher X_i^{IND} in treatment IND and a higher X_j^{VOTE} in treatment VOTE than non-altruists.

Third, we use two variables to capture possible differences in income. The dummy variable WORK takes on the value 1 for subjects who work for money during the semester and 0 for subjects who do not work. We expect a negative sign because subjects who work are expected to receive less support from their families and/or the government or have a higher preference for present private consumption. Again, this prediction holds for both treatments. We also asked subjects whether they have successfully passed vocational training or have a university degree. The corresponding dummy variable JOB_EDU takes on the value 1 for those who already have acquired this form of job education (0 else). Subjects with job-education can expect higher hourly wages and – other things equal – have a higher income. Thus, we expect them to state higher values for X_i^{IND} in treatment IND and X_j^{VOTE} in treatment VOTE.

Finally, subjects' trust in non-governmental organizations is measured by using a scale from 1 (very much trust) to 4 (no trust). If subjects stated to have very much (1) or much trust (2), the variable NGO_T, is 1; otherwise it is 0. We expect subjects who trust in these organisations to state a higher value for on X_i^{IND} in treatment IND and X_j^{VOTE} in treatment VOTE. The same scale is also used to measure subjects' trust in the media and construct the dummy variable MEDIA_T. We expect subjects with trust in media to feel better informed about issues of public interest, including the situation of children in the country, the level of protection they receive from the government and the activities of NGOs in this field. In other words, they feel better informed about the consequences of their decisions. We have no predictions with respect to the expected sign of the MEDIA_T variable.

Looking through the paragraphs above, we see that the predicted sign for the explanatory variables is the same for both treatments. However, hypothesis H2 states that variables associated with consequentialist motives have a stronger impact on X_i^{IND} than on X_j^{VOTE}. Thus, we expect variables WORK, JOB_EDU, IMPORT, SECURE, ALTRUISM and MEDIA_T to have a larger marginal effect on subjects' inclination to donate money to the KSB in treatment IND than in treatment VOTE.

2) Variables capturing social norms

We cannot observe the amount X_i^{norm} that subject i's social norms identify to be adequate for donation. However, demographic information can give us some indication as to which subjects have internalized norms that suggest high levels of pro-social behavior. In our study, two sets of variables are used for this purpose. The first set is constructed using information about the subject's native language. The dummy-variable RUSSIAN is 1 for subjects whose mother tongue is Russian (0 else) and the variable CEEL takes on the value 1 for subjects whose native language is the official language of one of the other former socialist countries in Central and Eastern Europe (0 else). The dummy-variable OTHER_LANG captures all other non-German languages that were not reported frequently enough to justify a separate category. We hypothesize that the socialist past of their home-countries makes subjects from former socialist countries as captured by RUSSIAN and CEEL more supportive of pro-social policy (e.g.,Corneo and Grüner, 2002). Thus, we expect these variables to have a positive impact on X_i^{IND} in treatment IND and X_j^{VOTE} in treatment VOTE. Following hypothesis H3, we expect the marginal effect of RUSSIAN and CEEL to be larger in treatment VOTE than in treatment IND.

The second set of variables capturing social norms draws on information concerning subjects' religious denomination. In the baseline model, we use the dummy-variable UNDENOM that

takes on the value 1 for all subjects not affiliated with any religion (0 else). We expect a negative impact of UNDENOM on X_i^{IND} in treatment IND and X_j^{VOTE} in treatment VOTE (e.g., Tan, 2006). As there is no conflict between material self-interest and social norms, hypothesis H3 does not predict treatment-specific differences in marginal effects. The questionnaire also asks subjects for their specific religion (Christian, Muslim, others). Based on this information, we construct the variable MUSLIM that takes on the value 1 for those who belonging to an Muslim community (0 else). While most religious communities put forward the norm to give to the needy, this norm is much stronger in Muslim communities. Here, it takes the form of the so-called Zakat (alms tax) which is explicitly named in the Qur´an (sura 9, verse 60; see Abdel Haleem, 2008). Thus, we expect a positive impact on X_i^{IND} in treatment IND and X_j^{VOTE} in treatment VOTE. Again, hpothesis H3 suggests that the marginal effect of MUSLIM is larger in treatment VOTE than in treatment IND. Unfortunately, we only have a small number of Muslim subjects in our sample. For this reason we cannot compare the impact of specific religious norms across treatments.[5]

3) Variables capturing individual morality

We account for the impact of moral convictions by introducing a variable that captures subjects' attitude towards Kant's Categorical Imperative (see section 2). We ask participants to what degree one should follow this guideline when making decisions (10 point scale). If a participant chose a value of 8 or higher, we classify him as Kantian. In this case, the dummy variable KANT takes on the value 1 (0 else). Given that helping children in need is widely accepted as a positive thing to do, we expect Kantian subjects to arrive at the conclusion that

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[5]   Data allows for a separate test of the MUSLIM-variable in treatment IND. We do not find a significant impact (see appendix B).

every subject should donate at least some of the 10 € to the KSB. In treatment VOTE, sub-jects can propose exactly this: Every subject should donate a certain amount X to the KSB. The individual subject can make this proposal at negligible material costs because he cannot expect to be pivotal. As the lack of pivotality holds for all subjects, however, it is not clear ex ante that Kantian subjects should propose a higher X for the collective donation than non-Kantian subjects. This is entirely different for treatment IND, because the Categorical Impera-tive strictly forbids free-riding. If a subject arrives at the conclusion that every subject should donate a certain amount X, the Categorial Imperative demands to donate exactly this amount individually. Thus, in treatment IND, we expect Kantian subjects to donate more than non-Kantian subjects – other things equal. It is important to note that there is no reason to believe that Kantian subjects ex ante prefer a higher level of pro-social behaviour than non-Kantian subjects. Thus, hypothesis H3 does not support a treatment-specific difference in the marginal effects of the KANT variable.

4) *Variables capturing expressive motives*

The theory of expressive voting suggests that selfish individuals are more likely to vote against redistribution if they see a good chance of being pivotal. We introduced the variable CLOSE to capture this effect. It takes on the value 1 for subjects who expect between 40 % and 60 % of their fellow-subjects to donate more than they do. For all subjects stating a share outside these boundaries, it takes on the value 0. We expect a negative impact of CLOSE on subjects' proposed donations in treatment VOTE.

5) Control variables

There are a number of factors that may influence subjects' behavior but relate either to none or to more than one of the motives named above. Among the personal characteristics, gender is found to play an important role in previous studies (e.g., Corneo and Grüner, 2002; Piper

and Schnepf, 2008). We introduce a FEMALE-dummy that takes on the value 1 for female subjects and 0 for males. Females are expected to state a higher X_i^{IND} in treatment IND and a higher X_j^{VOTE} in treatment VOTE. The same pattern is expected for married couples as these may be more empathetic with children in need. The dummy variable MARRIED captures subjects' marital status. We also use the variable BELIEF_FATE that takes on the value 1 for subjects who believe that an individual controls his own fate (scoring 8 or higher on a 10-point scale, see ALLBUS, 2006). Subjects that believe in individual control of fate are sometimes found to be more reluctant to share resources (e.g., Bischoff etl al., forthcoming). Thus, we expect a negative sign for BELIEF_FATE. We also control for the possibility that people who are in a better mood are more generous than people in a bad mood. Thus we use the average PANAS-score for short-run positive affectivity to capture subjects' affective state at the beginning of the experiment. In this case the affective state has an influence on subjects' behavior, a positive sign is expected for the corresponding variable SRA_0 in both treatments. Finally, we introduce the session-dummy BERNBURG to account for possible session-effects, We have no predictions concerning their relative impact across treatments.

We check for possible collinearity among explanatory variables and find the coefficients of direct correlation are all below 0.3.[6] To test for the impact of the above variables on individual donations (in treatment IND) respectively the proposals for the collective donation (in treatment VOTE), we use a two-step estimation approach. Step 1consists of a probit regression with the dependent variable taking on the value 1 if X = 10 € and 0 if X < 10 €. In step 2, we us an OLS-approach to explain the amount X proposed respectively donated among those subjects with X < 10 €. We prefer this approach to a tobit-regression for two reasons. First, essential conditions for the applicability of tobit-regressions are violated (e.g., Cameron and

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[6]   Correlation matrices are available with the authors upon request.

Trivedi, 2009: 535-538). Second, the tobit-approach covers up an essential feature of subjects' behavior revealed in the two-step procedure: The factors driving subjects' decision to give/propose X = 10 € or less (step 1) are distinctly different to those driving the choice of X of subjects who gave less than 10 € (step 2).

The results are presented in table 3a. In the probit-regression for treatment IND, we find a significantly positive impact of JOB_EDU, KANT, RUSSIAN and CEEL on the probability to donate the full 10 €. A significantly negative coefficient estimator is found for MEDIA_T and SRA_0. Among the significant variables, RUSSIAN has by far the largest marginal effect, followed by CEEL. In the OLS-regressions for those subjects who donate less than 10 €, IMPORT has a positive and KANT a negative impact on the amount donated. The F-statistic suggests that the OLS regression model as a whole is only weakly significant. We see a distinctly different picture for treatment VOTE: In the probit-regression, only ALTRUISM has a significant impact. The probability to propose 10 € as collective donations is higher for subjects classified as altruists. BELIEF_FATE has a weakly positive effect. Among those who propose less than 10 €, only UNDENOM is significant and has a negative impact. A weakly positive effect is reported for RESPON and BERNBURG. Again, the F-statistic suggests that the latter regression model as a whole is only weakly significant. We test for the joint significance of the variables associated with consequentialist motives for both steps of our analysis in both treatments (see "joint χ^2-test "table 3a). In step 1 of our analysis, consequentialist variables have a significant impact in both treatments. In step 2, we find a weakly significant impact only for treatment IND but no such effect for treatment VOTE.

[insert table 3a about here]

It is one of the striking results in the baseline model that the ALTRUISM variable is insignificant in treatment IND while it is the only significant variable in treatment VOTE. The varia-

ble captures a subject's inclination to help strangers in need as stated in a hypothetical survey question. The insignificant performance in treatment IND suggests that it is not a good proxy for an empathy-driven truly altruistic motivation. Besides and more generally, one could argue that the ALTRUISM variable – i.e. the stated inclination to help strangers in need – should not be used as explanatory variable for the effective willingness to help a particular group of strangers (i.e. children) in need. To account for these points, we present a second set of regressions using the same variables as the baseline model but dropping ALTRUISM (see table 3b)

[insert table 3b about here]

For treatment IND, the omission of ALTRUISM does not change the results in substance. In step 1, the variables significant in the baseline models remain significant, the KANT variable becomes significant at the 5 % level (10 % before) while RESPON becomes weakly significant and SRA_0 loses its significance. Again, the joint significance of the consequentialist variables is strongly supported (see joint χ^2-test) and again, RUSSIAN and CEEL have by far the largest marginal effects. In step 2, the IMP and KANT variable are significant and the F-statistic for the regression model as a whole is only weakly significant – just like in the baseline model. The consequentialist variables are not found to be jointly significant (see joint χ^2-test). For treatment VOTE, the omission of the ALTRUISM-variable causes the χ^2-statistic in step 1 and the F-statistic in step 2 to become insignificant (even at the 10 % level of significance). In step 1, KANT and MARRIED yield weakly significant coefficient estimators, all other variables are insignificant. In step 2, significant coefficient estimators are found for RESPON (positive) and UNDENOM (negative). CLOSE and BERNBURG are weakly significant. The consequentialist variables are not found to be significant in either step.

5.3 Regressions using data on change in short-run affective state

We hypothesize that the affective state improves with subjects' donations respectively proposals for the per capita donations stated in the experiment (see hypotheses H4-H6). We test these hypotheses in regressions that use the change in positive short-run affective state ΔSRA that subjects witness during the experiment as endogenous variable. ΔSRA is measured by the difference in average short-run-affectivity score at the beginning of the session and at the end of it. In treatment IND, the individual donation X_i^{IND} is the primary explanatory variable (test for warm glow in treatment IND (H4)). To account for the possibility that the change in affective state also depends on the total amount raised in the experiment, we include the average donation $\widehat{X_i^{AV}}$ as expected by subject i. In the regression for treatment VOTE, we include the expected per capita donation $\widehat{X_j^{M}}$ (test for warm glow in treatment VOTE (H5)) as well as the individually proposed per capita donation X_j^{VOTE} as explanatory variable (test for expressive motives in treatment VOTE (H6)). We also account for the fact that – unlike in treatment IND – subjects in treatment VOTE only have limited control over how much they donate in the end. Some subjects in treatment VOTE will be forced to donate more than they want to, while for some subjects the collective per capita donation is lower than the one they proposed. In both cases, this will have a negative impact on these subjects' affective state after the experiment and thus – other things equal – on ΔSRA. We control for this by including the difference between individual proposal and expected donation $\left| X_j^{VOTE} - \widehat{X_j^{M}} \right|$ in the regression.

[insert table 4 about here]

The results are reported in the first two columns of table 4. In both treatments, the individually donated respectively proposed amount has a positive and highly significant impact

on ΔSRA. In treatment VOTE, the expected median donation $\widehat{X_j^M}$ and $\left| X_j^{VOTE} - \widehat{X_j^M} \right|$ do not

cause a significant change in subjects' short-run affective state. The size of the coefficient

estimator for X_i^{IND} in treatment IND and X_j^{VOTE} in treatment VOTE is strikingly similar. This

is surprising because we expected proposing a donation to be less rewarding than actually

donating. As the regressions for IND and VOTE differ a) in the definition of the central ex-

ogenous variable X_i^{IND} resp. X_j^{VOTE} and b) in the set of other variables used to explain ΔSRA,

there is no straight-forward test to compare the impact of these two variables. To deal with

this problem, we pool all observations and introduce a treatment dummy VD (equal to 1 for

treatment VOTE). In the pooled regressions reported in the third column of table 4, we rede-

fine all variables used in the first two columns of table 4 by multiplying $X_j^{VOTE}, \widehat{X_j^M}$ and

$\left| X_j^{VOTE} - \widehat{X_j^M} \right|$ by VD and $X_i^{IND}, \widehat{X_i^{AV}}$ by - *(VD-1)*. This procedure reproduces the coefficient

estimators from the separate regressions but allows for a test that compares the coefficients

for X_j^{VOTE} and X_i^{IND}. We cannot find a significant difference in the coefficients (not even at

the 10 % level). This results holds if we drop all insignificant variables and use only VD,

X_j^{VOTE} and X_i^{IND} (see last row in table 4).

6. Discussion

In the previous sections, we reported on an economic experiment to investigate the im-

portance of consequentialist and non-consequentialist motives in collective decisions. It com-

pares pro-social behavior in individual and collective decisions in a unified experimental set-

ting. We find that the average individual donation does not differ significantly from the aver-

age amount proposed for the collective donation and the overall distribution of donations resp.

proposals is remarkably similar: approximately 30 % (respectively 20 %) of participants in

both treatments state a value of 10 € (respectively 5 €). This result clearly indicates that subjects in treatment IND did not free ride heavily on the donations of their fellow-subjects. At the same time, it does not exclude the possibility that subjects in both treatments free ride on the funds outside of the current experiment.

We use a two-step regression approach to identify the factors that drive subjects' behavior, i.e. the amount X donated individually respectively proposed for the collective donation. We find important treatment-specific differences when it comes to the specific variables that drive subjects' behavior. While consequentialist and non-consequentialist variables are found to be significant in treatment IND, only the subjects' score on the altruism-scale proposed by Tankersley et al. (2007) is significant in treatment VOTE. Once we drop this variable for treatment VOTE, we are left with no significant variables and a regression approach that has no overall explanatory value. Furthermore, consequentialist variables seize to be jointly significant. In treatment IND, ALTRUISM is not significant and the consequentialist variables are jointly significant regardless of whether ALTRUISM is included or not.[7] Thus, the assessment of hypothesis H1 – consequentialist motives are more important in treatment IND – depends on the interpretation of the ALTRUISM variable. If we accept this variable as a valid indicator for truly altruistic motives, the hypothesis is not supported. If, however, we do not follow this interpretation, H1 is clearly supported. Thus, the essential question is: What does the altruism-scale by Tankersley et al. (2007) measure? It asks subjects to state their inclination to help strangers in need in a hypothetical survey question (e.g. "I would give $ 2 for bus fare to a stranger" on a 5-point Likert scale). Tankersley et al. (2007) show that subjects classified as altruists show a specific pattern of neural activation in a brain area that is associated with social perception. They do not claim that it can be directly linked to empathy but they do

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[7] This holds if we redo the χ^2-test in the baseline model without the ALTRUISM-variable.

argue that this link is in line with existing theoretical brain models (see also Mayr et al. 2009: 312-318). In Tankersley et al. (2007) and similarly in Harbaugh et al. (2007), subjects' answers to such hypothetical questions are accepted as a good indicator for their true behavior in the field. Our results create substantial doubt. The ALTRUISM-score predicts subjects' behavior in treatment VOTE where the individual proposal is unlikely to have any material consequences. Once such behavior becomes costly (like in treatment IND), the ALTRUISM-score loses its explanatory power. This pattern is much more consistent with the notion that the altruism-scores by Tankersley et al. (2007) measures the degree to which subjects follow social desirability: A high score may identify subjects who are willing to give socially accepted answers in surveys. Following this interpretation, we cannot interpret the ALTRUISM-variable as a measure for truly altruistic motives. More importantly, it does not capture a consequentialist motives. Thus, we conclude that our results support hypothesis H1.

Turning to the impact of social norms, we predicted a stronger impact of social norms in treatment VOTE than in treatment IND for subjects whose social norms propose high donations as adequate (hypothesis H3). We test this by constructing a dummy variables for subjects whose mother-tongue is from Central and Eastern Europe. In tretatment IND, these variables have a highly significant and positive effect on the probability to donate the full 10 €. Judged by the marginal effect, this social-norm variables are the most important driving force by far. In treatment VOTE, however, the social-norm variables are insignificant. This result clearly contradicts hypothesis H3. It cannot be explained by the argument that subjects from central and eastern Europe are more empathetic with children in need. This argument does not explain the insignificance of RUSSIAN and CEEL in treatment VOTE, nor is it consistent

with the (lack of) correlation between these variables and IMPORT (r_{sp} = -0.02) or SECURE (r_{sp} = -0.17).[8]

One of the most striking result of our regressions using behavioural data is the fact that only the hypothetical inclination to help strangers in need voiced in survey questions has any predictive value in treatment VOTE. Once this variable is dropped,neither consequentialist motives nor social norms, nor any of the control variables are found to drive subjects' behavior. While surprising at first, this result is in line with the economic theory of voting according to which collective decisions are low-cost decisions: Here, the individual cannot expect to influence the outcome and thus a rational individual should not devote much thought or deliberation to choosing the amount X of the collective decision that would maximize his utility in the unlikely case that he should be pivotal. In the light of these results, the conjecture that a feeling of duty may convince people to devote thought and deliberation to collective decision seems overly optimistic.

In our questionnaires, we elicit subjects' short-run affective state before and after they donate resp. propose a value to be donated. The individual donation in treatment IND has a positive impact on the participants' short-run affective state. This result supports the notion that donations are motivated by warm-glow. Thus, hypothesis H4 is supported. We find no indication that the expected size of the collective donation influences participants' short-run affective state. This result suggests that collective donations do not generate a feeling of warm-glow: Hypothesis H5 is not supported. In line with the theory of expressive voting and hypothesis H6, the individual subject witnesses an improvement in short-run affective state that is stronger the larger the size of the amount he proposes to donate collectively. Proposing

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[8]   The correlation (Spearman's r) is calculated for a compound variable RUSSIAN + CEEL. Similar coefficients are observed for the separate variables.

an additional Euro for the collective donations in treatment VOTE has a marginal impact on subjects' short-run effect that does not differ significantly from the marginal impact of actually donating an additional Euro in treatment IND. In other words, the act of voting in favour of donating a certain amount X collectively is rewarding to a similar extent as it is to donate this amount X privately. This result provides support for the importance of expressive motives.

Next to the immediate results, there are two other elements of our study that seem noteworthy: First, our two-step procedure reveals an interesting aspect: It is surprising to see the relatively poor performance of the OLS regression models in step 2 of our behavioral regressions for treatment IND. The large array of factors that we included in the regression does not contribute significantly to predicting the amount X (X < 10 €) donated. These results suggest that the factors that we used in this study help to understand the main direction in pro-social behavior (Shall I donate at all, shall I keep part of the money for myself?) but performs less well for the extent of this behavior.

Second, it is worthwhile to take a closer look at the KANT-variable. Our study is one of the few studies that explicitly ask for subjects' abstract moral convictions and relates them to their behavior. Our KANT-variable has a significantly positive impact on the probability to donate the full 10 € individually. This result is in line with the hypothesis that subjects who believe in Kant's Categorical Imperative view free-riding as not coherent with moral standards. Once we turn to those subjects who give less than the full 10 € in treatment IND, the impact changes dramatically: We find a significantly negative impact of the KANT-variable on the amount donated. This result clearly shows that following the Categorical Imperative does not automatically make people donate more. Furthermore, it suggests that Kantian subjects are more radical or prefer clear-cut solutions. If their moral convictions support a general law that requires every subject to donate, a Kantian subjects are likely to gives the full 10 €. If not, they choose to keep most of the money for private use. Figure 2 supports this notion, al-

beit ignoring all the other factors controlled for in section 5.2. This interpretation is preliminary and more research is needed.

[Figure 2 about here]

At the present state, a note of caution is also advisable when interpreting the KANT-variable as a measure capturing a non-consequentialist motive. While philosophers agree that the Categorical Imperative is a deontological rule and thus constitutes a non-consequentialist motive, it is not clear whether all subjects classified as Kantian regard following the Imperative as a matter of principle. Laymen who know the Categorical Imperative (e.g. from school) may not be aware of the general philosophical context and the deontological nature of the Categorial Imperative as Immanuel Kant saw it. Instead, the wording of the Categorical Imperative may be interpreted to suggest that one shall think about the consequences when choosing the course of action. Thus, subjects may accept the Categorical Imperative and follow it for consequentialist motives. To account for this, we redid the joint tests for significance of consequentialist motives in section 5.2 including the KANT variable. The main conclusions remain the same (see row labeled "joint F-Test + KANT" in table 3).

7. Conclusion

In this paper, we present an economic experiment on the impact of consequentialist and non-consequentialist motives on voter behavior. While this is not the first experiment on this topic (e.g., Tyran, 2004, Shayo and Harel, 2012, Korenok et al. 2013; Bischoff and Egbert, 2013), our study differs from the previous ones in two important aspects. First, it addresses a wide range of different motives rather than focussing on one specific motive. We use two long questionnaires to elicit subjects' preferences, attitudes and beliefs and derive proxies that can be related to different motives. Among other things, we analyse subjects' attitude to Kant's Categorical Imperative and their change in short-run affective state in the context of

collective decisions. Both concepts proved fruitful and contributed significantly to our understanding of the motives underlying collective decisions. Second, we do not observe subjects' behavior in collective decisions only but apply the same basic experimental set-up in a second treatment where a similar subject pool makes an individual decision about the same issue (and at the same time and place). This provides a benchmark that allows for a more meaningful interpretation of the behavior observed in the collective decision setting.

The results of our experiment are in line with previous experiments in showing that prosocial behavior on the individual level is driven by consequentialist motives, social norms and moral convictions. In our study, social norms have the strongest marginal impact by far. In line with previous studies, our results confirm the warm glow of giving. Like in Konow (2010), the feeling of warm-glow occurs even though a personal relationship between donor and beneficiary is missing. From a methodological perspective, it supports the notion by Konow (2010) that analysing subjects' short-run affective state can provide interesting insights. As a side-result, our paper contributes a novel result to the literature on the motives driving private donations through our KANT-variable. The results suggest that participants who follow Kant's Categorical Imperative prefer clear-cut solutions. They are more likely to donate the full amount to charity; those Kantian subjects who decided to give less are much more likely to keep the largest amount for themselves than the non-Kantian subjects. So far, this result is still preliminary. At the same time, our analysis shows that it is worthwhile to take a closer look at the impact of moral convictions on economic behavior.

The major focus of our study rests on the motives driving individual behavior in collective decisions on pro-social behavior. Two results are particularly striking. First, the array of exogenous variables that contributes significantly to our understanding of pro-social behavior on the individual level fails to have any predictive power when it comes to collective decisions. The insignificance of consequentialist motives is in line with the low-cost theory of

voting. However, the fact that our indicators for social norms are not significant in the context of collective decisions while producing high marginal effects in individual decisions is not in line at all: Social norms contain information about appropriate behavior that is easily available. In collective decisions, subjects do not have to worry about the opportunity costs of following them. Therefore, the low-cost theory of voting suggests that social norms have strong predictive power for collective decisions. Looking at subjects' short-run affective state, we find that proposing a high level of pro-social policy in a collective decision. produces a feeling of warm-glow while there is no indication that collective donations generate a feeling of warm-glow. At the same time, proposing a certain amount X is found to have a positive effect on subjects' affective state that does not differ from the one from donating this amount X individually. This points at the relevance of expressive motivs. Our results indicate that the use of detailed questionnaires and scales to measure subjects' affective state can deepen our understanding of individual behavior. It seems reasonable to assume that they can do valuable services in experiments on other contexts.

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Appendix A: additional variables and an extended regression model

Here, we introduce a number of additional variables to the baseline model in section 5.2. First, we asked subjects whether they agree to the following statement: 1) I know very much about the work of the KSB. Like for IMPORT, a 5-point scale was used (5) I agree fully to (1) I do not agree at all. The dummy variables INFORM takes on the value 1 for subjects stating a value higher than 3 (0 else). Following Borgloh et al. (2010), our questionnaire also included a question on the perceived size of the NGOs. Given that there was virtually no variation in answers, we do not use this information in our regressions. Analogous to the variable NGO_T, we constructed a variable the GOV_T to capture subjects' trust in the government. We account for the possibility that people who are more active in church are more religious and thus feel a higher obligation to give part of their endowment to the needy (e.g., Tan 2006). The variable CHURCH_ACT takes on the value 1 for all subjects who report to be active in their church community (0 else). We also construct a dummy variable CHILDREN that takes on the value 1 for subjects who have children. We hypothesize that subjects who have children are more empathetic with children in need and thus the KSB appeals mores strongly to their empathy. In our sample, only very few of them have children. Nevertheless, we expect a positive sign for CHILDREN. Furthermore, we control for subjects' risk preference by asking subjects in a hypothetical question to choose between a secure payoff and three different insecure payoffs with different probabilities yet the same expected payoff. For subjects who prefer one of the lotteries to the safe payoff, the dummy variable RISK takes on the value 1 (0 else). To account for important subjects' beliefs concerning the level of social justice in society, we use a question from the ALLBUS-Survey and ask subjects to express their approval to the following sentence on a 4-point scale: "All in all, I think the social differences in this country are just". The dummy BELIEF-FAIR is 1 for subjects who (fully) approve, else 0. We expect a negative sign for this variable. Finally, the concept of life-

satisfaction is used as an alternative measure for subjects' mood at the beginning of the experiment. We measured the life-satisfaction using the corresponding question from the World Value Survey. It employs a scale with a range from 1 to 10. If a person states a value of 8 or higher, we classify him as happy. In this case, the LIFE_SAT-Dummy takes on the value 1 (0 for scores below 8).

The influence of these additional variables is tested using an extended regression model (see table A.1). The additional variables do not produce significant coefficient estimates in the extended regression and they also prove insignificant in virtually all other extended models we estimated. At the same time, they do not change the sign of significance of the key variables of the baseline model. However, they reduce the significance of a small number of variables, in particular the IMPORT-variable in the step 2-regressions for the models IND and INTERACTION.

[insert table A.1 about here]

Appendix B: The impact of religious affiliation on subjects' behavior

Table B.1 reports on the performance of the MUSLIM-variable in treatment IND. The dummy-variable OTHER_REL is 1 for all subjects reporting another religion (not Christian and not Muslim). Both these new variables are insignificant.

[insert table B.1 about here]

Appendix C: Descriptive statistics of all variables

[insert table C.1 about here]

Appendix D: Instructions, decision sheets and questionnaires (translated from German)

D.1 Instructions for treatment IND

Today, you are taking part in an economic experiment. We divide the participants in two groups. One group consists of all students on the right (left) side of the classroom, the other group consists of all students on the left (right). The experiment consists of three parts:

(1)First, we will ask you to fill in a first questionnaire.

(2)After that, you have to make an economic decision. All members in your group make the same decision simultaneously. Every subject can earn 10 €.

(3)Finally, we ask you to answer a second questionnaire. If you fill in both questionnaires completely, you receive an extra payment of 1 €.

Both groups fill in the same questionnaire and decide about the same issue. The earning opportunities are identical for both groups.

Attached to this sheet of instructions, you find the first questionnaire (takes approx. 15. Minutes). You will receive the decision sheet and the second questionnaire after you filled in and we collected the first questionnaire.

Please note:

(1)We will not ask for you student ID or your name. Your decisions and answers to the questionnaire are anonymous. They are not used beyond the context of this experiment and not handed to third parties. Even when the payments are made, your decision remains secret. We will hand out the money in a sealed envelope.

(2)Attached to this sheet, you find a card with your ID-number for this experiment. Please keep the card and store it safely. You will need it to receive the payment.

Please note that communication is prohibited during the experiment.

Part 1: questionnaire 1 is filled in.
It starts with the PANAS-scale for short-run affect and asks a number of questions concerning subjects' trust, belief in fate, happiness, altruism (scale by Tankersley et al. (2007)) their attitude towards Kant's Categorical Imperative, and risk. Next, it briefly introduces the KSB and asks subjects for their knowledge and attitudes concerning its work. The full questionnaire is available upon request.

Part 2: the decision task
Please put your ID-Number here:_____
In this part, you will make an individual decision. All members of your group make the same individual decision.

You will find the rules of the decision sheet below.

Please note that you are deciding about real money.

Rules

Every group member receives a voucher worth 10 €. Next, every group member has to make a decision concerning a donation to the KSB:

Which amount X of your individual endowment of 10 € do you donate to KSB?

(Any payment between 0 € and 10 € is possible.)

Every group member decides for himself or herself how much to donate to KSB. The individual donation and the amount a group member can cash in later depends only on the amount X stated by the individual.

Your individual decision leads to the following payments:

    1) We will keep the amount X from your endowment and donate it to KSB.

    2) You can cash in the remaining 10-X €.

You earnings depend solely on your own decision.

Please note again: Your decision leads to real payments to the KSB and to you!

If you have questions, please raise your hand. We will answer them in private.

DECISION SHEET

Each member of your group decides individually:

Which amount X of your individual endowment of 10 € do you donate to KSB?

Please state the amount you want to donate.

My individual donation to
Deutschen Kinderschutzbund e.V.

__,____ €

For your information: [1]

The Deutsche Kinderschutzbund e.V. is a non-profit organization. It uses the donations to promote the cognitive, psychic, social and physical development of children and protect children against exclusion, discrimination, and violence of any kind.

The local committees of the KSB offer – among other things – advice and courses for children and parents.

In larger cities, they run "children shelters". These offer a home for children, in which they can find safety, reliability, empathy and comfort. Children shelters are an emergency home for children in acute need or crisis.

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[1] The same text and picture was used to introduce subjects to the KSB in questionnaire 1. It is taken from the official documents characterizing the purpose of the KSB. The sign on the right reads "Children Shelter" and states an address. In the sessions in Bernburg, the address is dropped. The logo reads "KSB – the lobby for children".

Part 3: questionnaire 2 is filled in.

Again, it starts with the PANAS-scale for short-run affect, followed by questions on subjects' expectations concerning the behavior of their co-subjects and questions on biodata. The full questionnaire is available upon request.

D.2 Instructions for treatment VOTE

Apart from part 2 and the question concerning the expected behavior of fellow-subjects, the same instructions etc as in treatment IND are used. For the treatment-specific part 2, see below:

Part 2: the decision task

Please put your ID-Number here:_____

In this part, you will make a collective decision together with all other subjects in your group. You will find the rules of the decision sheet below.

Please note that you are deciding about real money.

Rules

Every group member receives a voucher worth 10 €. Next, your group has the task to decide about the amount of a collective donation to the KSB. Every subject in your group has to donate the same amount X.

Every group member has to propose an amount per capita for the collective donation:

Which amount X per capita of his or her individual endowment of 10 € shall every member of your group donate to KSB?

(Any payment between 0 € and 10 € can be proposed.)

The amount X that every subject hast o donate in the end is chosen from all proposals by the following decision rule:

All proposals are sorted in ascending order. X is the amount in the center of the ordered line of proposals (for instance, the amount in position 6 if there is 11 proposals). Mathematically, X is called the median. For the amount X, the following statements holds: At least 50 percent of all group members have proposed a per capita donation that is less or equal to X. And no more than 50 percent of all group members proposed an amount higher than X.

The collective decision leads to the following payments:

1) X € of the initial endowment of every group member is donated to KSB. Every group member donates the same amount, regardless of whether he or she proposed to donate more or less.

2) Every group member can cash in the remaining 10-X €.

Please note again: Your decision leads to real payments to the KSB and to you!

If you have questions, please raise your hand. We will answer them in private.

DECISION SHEET

Your group decides collectively:

Which amount X per capita of his or her individual endowment of 10 € shall every member of your group donate to KSB?

Please state the amount you want to propose for the collective donation.

My proposal for the collective donation to
Deutschen Kinderschutzbund e.V.

__,____ € per capita

For your information:

The Deutsche Kinderschutzbund e.V. is a non-profit organization. It uses the donations to promote the cognitive, psychic, social, and physical development of children and protect children against exclusion, discrimination, and violence of any kind.

The local committees of the KSB offer – among other things – advice and courses for children and parents.

In larger cities, they run "children shelters". These offer a home for children, in which they can find safety, reliability, empathy and comfort. Children shelters are an emergency home for children in acute need or crisis.

Figure 1: Histogram of individual donations resp. proposals (absolute numbers)
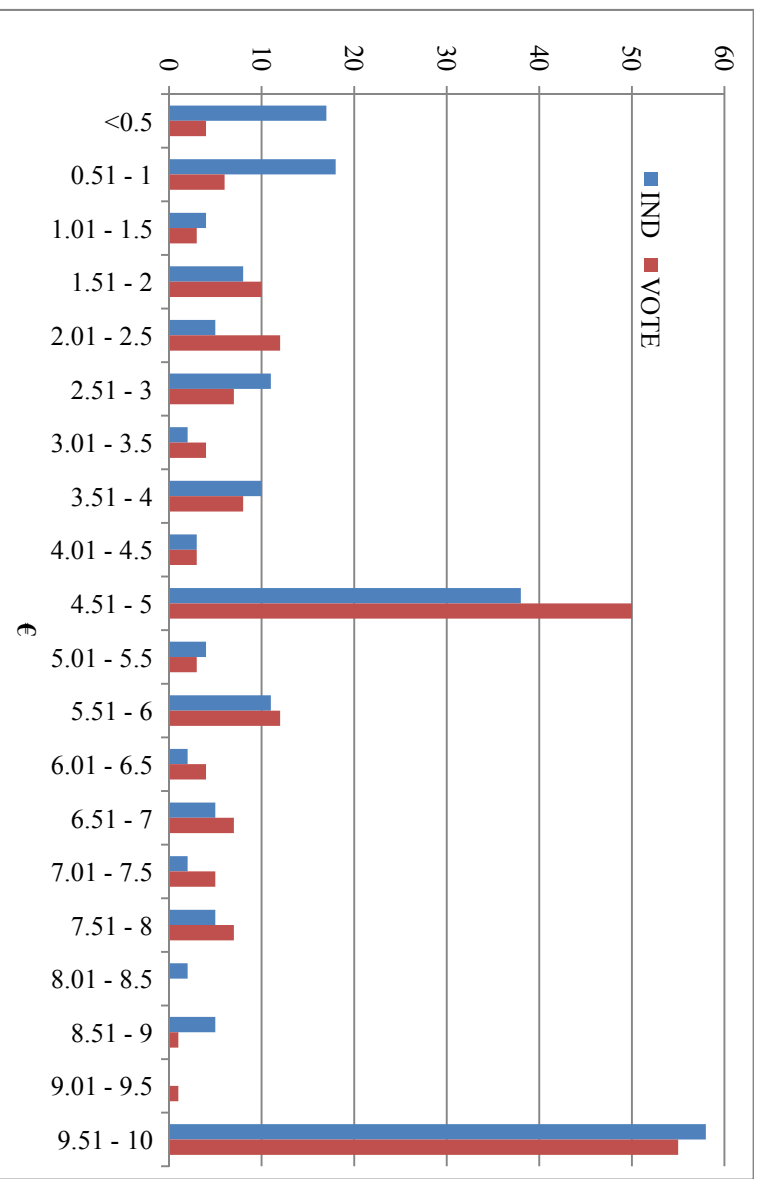
Figure 2: Histogram of donations in treatment IND by KANT (relative frequency)
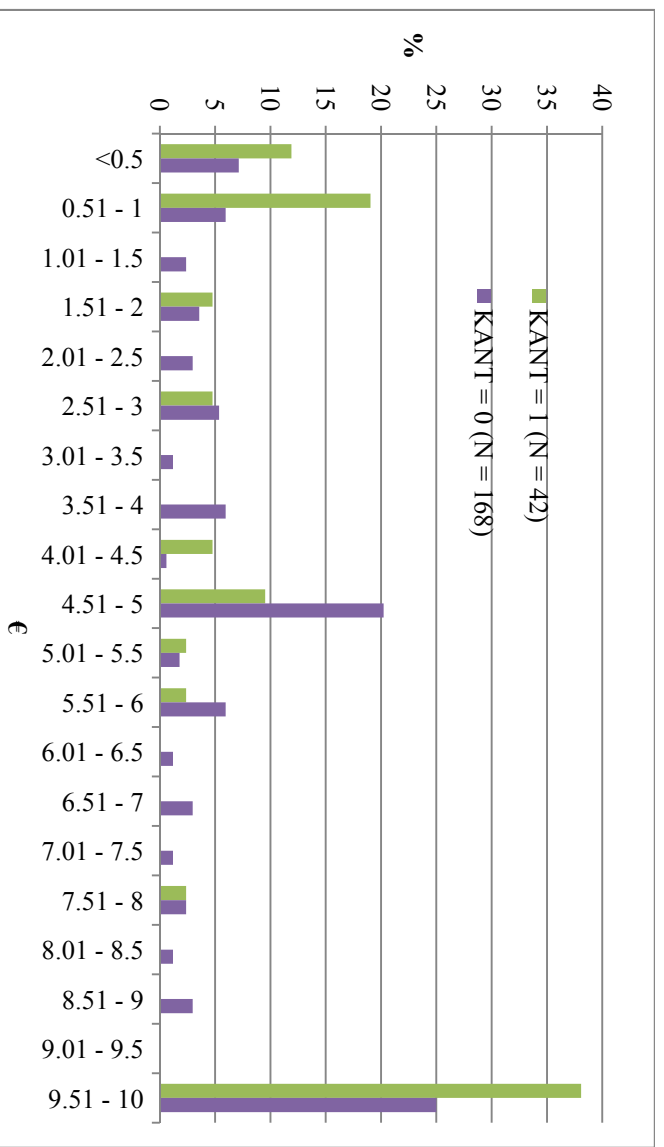
Table 1: Argument driving individual i's utility for the different motives by treatment

Motives		Argument driving individual i's utility in treatment	
		IND	VOTE
Consequentialist	material self-interest	$E_i - X_i$	$E_i - X^M$
	true altruism	$\sum_{i=1}^{N} X_i + \overline{F}$	$N \cdot X^M + \overline{F}$
non-consequentialist	following social norms or moral standards	$\left| X_i - X_i^{norm} \right|$	$\left| X_i - X_i^{norm} \right|$
	warm-glow	X_i	X^M
	Expression of own attitude		X_i

Table 2: Descriptive statistics

Treatment	IND	VOTE	ALL
N	210	202	412
N (Kassel)	152	144	296
N (Bernburg)	58	58	116
average X	5.56	6.01	5.78
median X	5	5	5
average ΔSRA	.2331	.1468	.1907
female participant [%]	40 %	53 %	49 %
average age	21.88	22.12	22

** significantly different to the other treatment by Mann-Whitney-U-Test (p = 0.05)

**Table 3a: Two-step regressions on behavioural data by treatment
– baseline model including ALTRUISM**

End. Var. X_i^{IND} / X_j^{VOTE}	PROBIT (X=10)				OLS (X≠10)	
	IND	IND (marg. eff.)	VOTE	VOTE (marg. eff.)	IND	VOTE
WORK	-.3559(.2425)	-.0784(.0637)	-.08864(.2214)	-.035(.0879)	.1454(.4461)	.00444(.3527)
JOB_EDU	.5919(.2343)**	.1304(.0496)***	-.04974(.2305)	-.0196(.0913)	.5029(.4418)	-.2646(.3673)
ALTRUISM	.37(.2342)	.0815(.069)	.9828(.2381)***	.3877(.1018)***	.6783(.4225)	.511(.372)
IMPORT	.3514(.296)	.0774(.0789)	.1061(.2687)	.0419(.1063)	1.121(.5033)**	.02494(.4275)
RESPON	.3531(.2275)	.0778(.047)*	-.0794(.2205)	-.0313(.0867)	-.2756(.4737)	.8035(.3738)**
SECURE	-.4622(.3631)	-.1018(.0895)	-.2909(.3328)	-.1147(.1321)	-.2738(.5796)	-.08079(.512)
NGO_T	.2784(.2218)	.0613(.0436)	.05828(.2123)	.023(.0833)	.4871(.4472)	.1703(.3574)
MEDIA_T	-.8751(.3043)***	-.1929(.0973)**	-.1902(.2984)	-.075(.1185)	.4866(.5076)	.2483(.4376)
KANT	.5082(.2642)*	.112(.0584)*	.3227(.2291)	.1273(.0899)	-1.328(.5567)**	.3353(.4103)
UNDENOM	-.326(.2948)	-.0718(.0691)	-.00795(.2595)	-.0031(.1024)	-.3927(.5787)	-.9534(.4489)**
RUSSIAN	1.935(.5912)***	.4265(.1931)**	-.00629(.4276)	-.0025(.1687)	-.933(1.838)	-.3658(.7097)
CEEL	1.217(.5633)**	.2681(.1484)*	-.7978(.751)	-.3147(.3)	-.4165(1.492)	.138(.8671)
OTH_LANG	-.09193(.4854)	-.0203(.108)	-.6592(.6771)	-.26(.2692)	.4225(.8182)	-.3082(.8533)
CLOSE			-.3375(.2535)	-.1331(.1013)		.6119(.382)
FEMALE	.2704(.2238)	.0596(.0482)	-.1528(.2267)	-.0603(.0881)	-.029(.4516)	.3077(.3725)
MARRIED	.03595(.8724)	.0079(.1923)	.921(.5842)	.3633(.231)	-.5249(1.915)	.05038(1.205)
BE-LIEF_FATE	-.1347(.2241)	-.0297(.0486)	.3708(.2156)*	.1463(.0877)*	-.6402(.4219)	.427(.3487)
SRA_0	-.3004(.1769)*	-.0662(.0418)	-.06898(.1634)	-.0272(.0645)	.2168(.3326)	-.1888(.2763)
BERN-BURG	.2509(.2914)	.0553(.0621)	.2259(.265)	.0891(.1037)	.5989(.5864)	.9093(.4688)*
CONSTANT	-.8726(.5224)*		-1.198(.5407)**		2.138(.9409)**	3.749(.8392)***
Pseudo R²/Adj. R²	0.1966		0.1387		0.0757	0.0639
χ²/F-Statistic	48.4***		32.82		1.68*	1.52*
N	208		202		150	147
Joint χ²-Test	24.27***		19.11**		1.79*	1.34
Joint χ²-Test + KANT	26.57***		21.87***		2.33**	1.34

*** 1% level of significance, ** 5% level of significance, * 10% level of significance

**Table 3b: Two-step regressions on behavioural data by treatment
– baseline model including ALTRUISM**

End. Var. X_i^{IND} / X_j^{VOTE}	PROBIT (X=10)				OLS (X≠10)	
	IND	IND (marg. eff.)	VOTE	VOTE (marg. eff.)	IND	VOTE
WORK	-.3355(.2402)	-.0571(.0492)	-.00291(.2117)	-.001(.07)	.2047(.4472)	.03837(.353)
JOB_EDU	.6652(.2283)***	.1133(.0438)**	.06129(.2184)	.0203(.0709)	.5472(.4436)	-.2595(.3686)
IMPORT	.3386(.293)	.0577(.0617)	.07929(.2573)	.0262(.0859)	1.134(.5062)**	.00811(.4288)
RESPON	.4112(.2238)*	.07(.0384)*	.08262(.2077)	.0273(.0701)	-.1614(.4711)	.9074(.3673)**
SECURE	-.5119(.3571)	-.0872(.0724)	-.2275(.3239)	-.0752(.1096)	-.3233(.5822)	-.01776(.5117)
NGO_T	.3017(.2192)	.0514(.0336)	.1378(.2024)	.0455(.0641)	.5833(.4458)	.1768(.3586)
MEDIA_T	-.911(.3036)***	-.1551(.0821)*	-.2902(.2795)	-.0959(.0979)	.4511(.5102)	.1362(.4314)
KANT	.5526(.26)**	.0941(.0477)**	.4042(.2212)*	.1336(.0748)*	-1.35(.5599)**	.4515(.4028)
UNDENOM	-.375(.2898)	-.0639(.0561)	.06741(.2476)	.0223(.0815)	-.524(.5764)	-.8928(.4483)**
RUSSIAN	1.886(.5723)***	.3211(.1513)**	.09826(.4076)	.0325(.134)	-1.457(1.819)	-.3417(.7119)
CEEL	1.277(.5621)**	.2174(.1226)*	-.7263(.6844)	-.2401(.24)	-.2059(1.495)	.05504(.868)
OTH_LANG	.00302(.4754)	.0005(.0809)	-.4012(.6474)	-.1327(.2177)	.4606(.8228)	-.1877(.8517)
CLOSE			-.315(.2415)	-.1041(.0849)		.6424(.3827)*
FEMALE	.327(.2203)	.0557(.039)	-.03525(.2182)	-.0117(.071)	.1207(.4445)	.3955(.3682)
MARRIED	.1451(.8675)	.0247(.1483)	.945(.5529)*	.3124(.1916)	-.3008(1.922)	.0128(1.209)
BE-LIEF_FATE	-.08674(.2211)	-.0148(.0366)	.1803(.2026)	.0596(.0712)	-.6125(.424)	.3147(.3401)
SRA_0	-.2688(.1748)	-.0458(.0307)	-.00055(.1591)	-.0002(.0526)	.2576(.3336)	-.124(.2732)
BERNBURG	.2319(.2901)	.0395(.0472)	.1247(.2534)	.0412(.0819)	.5456(.589)	.7746(.46)*
CONSTANT	-.8378(.5203)		-.9187(.5131)*		2.242(.9443)**	3.772(.8419)***
Pseudo R²/Adj. R²	.1863		.0611.		.0647	.0574
χ^2/F-Statistic	45.88***		14.45		1.61*	1.49
N	208		202		150	147
Joint χ^2-Test	22.47***		2.39		1.66	1.25
Joint χ^2-Test + kant	24.78***		5.74		2.27**	1.27

*** 1% level of significance, ** 5% level of significance, * 10% level of significance

Table 4: OLS-Regressions to explain the change in short-run positive affectivity

End. Var. ΔSRA	IND	VOTE	POOLED 1	POOLED 2
X_i^{IND}	.0564(.0160)***		.0564(.0154)***	.0441(.0112)***
X_j^{VOTE}		.0378(.0181)**	.0378(.0189)**	.0491(.0145)***
$\widehat{X^{AV}}$	-.0307(.0276)		-.0307(.0264)	
$\widehat{X^{M}}$		.028(.0285)	.028(.03)	
$\left| X_j^{VOTE} - \widehat{X^{M}} \right|$		-.0419(.0281)	-.0419(.0295)	-.0505(.0279)*
VD			-.2249(.1759)	-.038(.1186)
_cons	.077(.1105)	-.1479(.1338)	.077(.1059)	-.0121(.0734)
AdjPs. R²	0.0619	0.0522	0.0606	0.0594
F-Stat.	7.67***	4.6***	5.29***	7.41***
N	203	197	400	407
F-Test $X_i^{IND} = X_j^{VOTE}$			0.58	0.07

*** 1% level of significance, ** 5% level of significance, * 10% level of significance

Table A.1: Extended model (Appendix A)

End. Var.	Probit (X=10)		OLS (X≠10)	
X_i^{IND} / X_j^{VOTE}	**IND**	**VOTE**	**IND**	**VOTE**
WORK	-.3661(.2481)	.0259(.2183)	.2159(.4617)	.0747(.3599)
JOB_EDU	.7207(.2423)***	.0753(.2232)	.5593(.4788)	-.2881(.3718)
IMPORT	.3168(.3037)	.1139(.2696)	1.0467(.5204)**	.1525(.4407)
RESPON	.4103(.2372)*	.0767(.2177)	-.1226(.4948)	.7247(.3764)*
SECURE	-.6027(.3925)	-.3591(.3393)	-.2876(.6178)	-.074(.5309)
NGO_T	.2615(.233)	.1334(.2084)	.6685(.4801)	.189(.3637)
MEDIA_T	-.9652(.3096)***	-.3131(.2873)	.49(.5206)	.2654(.4429)
KANT	.5843(.2712)**	.4065(.233)*	-1.0679(.5895)*	.5824(.4145)
UNDENOM	-.356(.2948)	.0257(.2545)	-.4763(.5964)	-1.1611(.4629)**
RUSSIAN	2.1828(.6306)***	.1354(.4222)	-308(2.1216)	-.4674(.7161)
CEEL	1.5811(.5875)***	-.9299(.741)	.0037 (1.5195)	-.0149(.8736)
OTH_LANG	.0912(.5295)	-.3237(.6623)	-.6016 (.9443)	-.3099(.8702)
CLOSE		-.3476(.2486)		.4088(.3944)
FEMALE	.3314(.2272)	-.0501(.2333)	.0667 (.4739)	.4353(.3923)
MARRIED	-.0098(.9131)	1.347(.7144)*	-.5762(2.0262)	1.186(1.456)
BELIEF_FATE	-.2033(.2398)	.2672(.2134)	-.454(.4469)	.4347(.3476)
SRA_0	-.2997(.2398)	.0067(.1653)	.2656(.3458)	-.02667(.2787)
BERNBURG	.1818(.2971)	.1797(.2654)	.7266(.6133)	.8021(.4647)*
CHILDREN	-.842(.9982)	-.3593(.6168)	-1.9458(2.0968)	-1.907(1.1447)*
GOV_T	.2319(.2407)	.282(.2402)	-.6382(.5341)	.4494(.3976)
INFORM	.1547(.4751)	-.44(.3987)	.3426(.8051)	.1156(.6479)
BELIEF_FAIR	.1262(.2517)	.0056(.2224)	-.0458(.477)	-.3785(.379)
LIFE_SAT	.3172(.2274)	-.2982(.2087)	-.0039(.43)	-.1915(.3465)
CHURCH_ACT	-.3092(.8399)	omitted	-.3873(1.444)	-2.1644(1.211)*
RISK	-.2494(.2953)	-.2126(.2578)	-.6238(.5361)	.3641(.403)
CONSTANT	-.9192(.5532)*	-.8211(.5458)	2.354(1.0044)**	3.619(.8978)***
Pseudo R²/Adj. R²	0.2061	0.0869	0.0554	0.0658
χ^2/F-Statistic	50.75***	20.39*	1.36	1.41
N	208	199	150	147
Joint χ^2-Test	21.93***	3.24	1.56	1
Joint χ^2-Test +KANT	24.17***	6.14	1.85*	1.18

*** 1% level of significance, ** 5% level of significance, * 10% level of significance

Table B.1: Baseline model + muslim (Appendix B)

	PROBIT (X=10)		OLS (X≠10)	
	IND	**IND**	**IND**	**IND**
WORK	-.349(.2409)	-.3704(.2433)	.3038(.4572)	.2553(.4548)
JOB_EDU	.683(.2305)***	.6103(.2365)***	.4648(.4505)	.4053(.4486)
ALTRUISM		.3713(.2348)		.7241(.4235)*
IMPORT	.3491(.2936)	.364(.2969)	1.0786(.5089)**	1.056(.5054)**
RESPON	.4244(.2249)*	.3668(.2287)	-.1621(.471)	-.2841(.473)
SECURE	-.5278(.357)	-.4804(.3632)	-.2667(.5846)	-.2054(.5815)
NGO_T	.3074(.2194)	.2848(.222)	.5226(.4495)	.4108(.451)
MEDIA_T	-.9076(.304)***	-.8718(.3047)***	.4346(.5103)	.47(.507)
KANT	.5578(.2601)**	.5128(.2644)*	-1.365(.5599)**	-1.343(.556)**
UNDENOM	-.3642(.2914)	-.3146(.2965)	-.5684(.5778)	-.4348(.5789)
RUSSIAN	1.9072(.5747)***	1.957(.5936)***	-1.525(1.8199)	-.9752(1.835)
CEEL	1.2625(.5697)**	1.206(.5707)**	-.3031(1.497)	-.5425(1.493)
OTH_LANG	-.2058(.5767)	-.2995(.5822)	1.0211(.98499	1.064(.978)
FEMALE	.327(.2204)	.2699(.2239)	.12(.4444)	-.03984(.4509)
MARRIED	.223(.8776)	.1115(.8823)	-.4716(1.928)	-.7364(1.92)
BELIEF_FATE	-.0839(.2218)	-.1319(.2248)	-.6524(.4257)	-.6879(.4231)
SRA_0	-.2891(.1789)	-.3217(.1812)*	.289(.3349)	.2502(.3332)
BERNBURG	.253(.2933)	.2732(.2949)	.479(.5923)	.5259(.5887)
MUSLIM	.3398(.5358)	.3404(.5331)	-.9681(.9357)	-1.113(.9328)
CONSTANT	-.8294(.5225)	-.8656(.5247)*	2.3255(.9475)**	2.226(.9424)**
Pseudo R²/Adj. R²	.1879	0.1982	0.0652	0.0787
χ^2/F-Statistic	46.28***	48.81***	1.58*	1.67**
N	208	208	150	150
Joint χ^2-Test	22.74***	24.43***	1.38	1.59
Joint χ^2-Test +KANT	25.11***	26.8***	1.98*	2.11**

*** 1% level of significance, ** 5% level of significance, * 10% level of significance

Table C.1: Descriptive statistics of all variables

Variable	N	Mean	Std. Dev	Min	Max
X_i (IND)	210	5.562	3.459	0	10
X_j (VOTE)	202	6.010	2.989	0	10
WORK	412	.3592	.4804	0	1
JOB_EDU	411	.438	.4967	0	1
ALTRUISM	412	.5825	.4937	0	1
IMP	412	.7767	.417	0	1
RESPON	412	.483	.5003	0	1
SECURE	412	.1408	.3482	0	1
NGO_T	412	.4417	.4972	0	1
MEDIA_T	412	.1772	.3822	0	1
KANT	412	.2354	.4248	0	1
UNDENOMINATIONAL	412	.2597	.439	0	1
RUSSIAN	412	.051	.2202	0	1
EASTERNCENTRAL	412	.0364	.1875	0	1
OTH_LANG	412	.0607	.239	0	1
GENDER	412	.4684	.4996	0	1
MARRIED	410	.0268	.1618	0	1
OWN_FATE	412	.5388	.4991	0	1
B_M_PA	412	2.6675	.6565	1	4.6
BERNBURG	412	.2816	.4503	0	1
CHILDREN	411	.0292	.1686	0	1
GOV_T	412	.284	.4515	0	1
INFORM	412	.0777	.268	0	1
FAIR_DIF	412	.3859	.4874	0	1
LIFE_SAT	412	.5121	.5005	0	1
CH_ACTIV	412	.0194	.1382	0	1
RISK	412	.2354	.4248	0	1