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Love Thy Neighbor –
Religion and Prosocial Behavior

Guido Heineck

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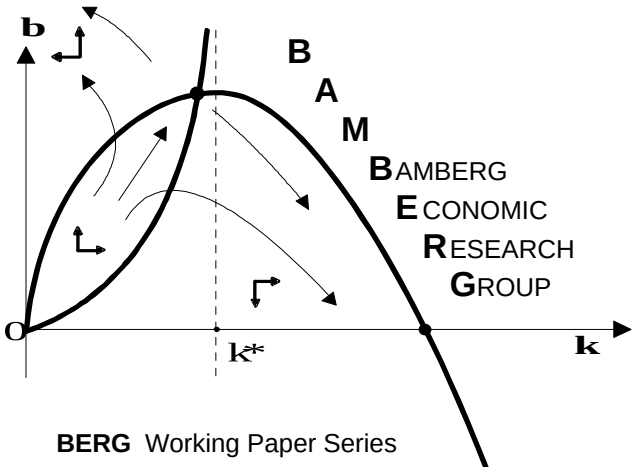

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Love Thy Neighbor – Religion and Prosocial Behavior

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Abstract

There is a long tradition in psychology, the social sciences and, more recently though, economics to hypothesize that religion enhances prosocial behavior. Evidence from both survey and experimental data however yield mixed results and there is barely any evidence for Germany. This study adds to this literature by exploring data from the German Socio-Economic Panel (SOEP), which provides both attitudinal (importance of helping others, of being socially active) and behavioral components of prosociality (volunteering, charitable giving and blood donations). Results from analyses that avoid issues of reverse causality suggest mainly for moderate, positive effects of individuals' religious involvement as measured by church affiliation and church attendance. Despite the historic divide in religion, results in West and East Germany do not differ substantially

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"How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it except the pleasure of seeing it."
(Smith, 1759, The Theory of Moral Sentiments, Part I, Sect. I, Chap. 1).

1. Introduction

Are people simply compassionate, as the opening quote by Adam Smith (1759) implies?[1] Or are there other motives that explain why we behave prosocially? Numerous studies from psychology, the social sciences and, more recently, economics, attempt to answer this and other, similar questions which refer to other-regarding attitudes and behavior. Except for economics,[2] individuals' religion has always had a prominent role in this research area. This is unsurprising given that versions of the Golden Rule, "*Do unto others as you would have others do unto you*," can be found in all major religions. It is therefore a straightforward and plausible assumption that religious individuals should be more inclined to behave in a prosocial way. Yet, across all the disciplines interested in this question, there is a wider and diverse range of theoretical approaches to explain the underlying mechanisms. This covers, among others, the Freudian perspective of religion as a means "to control the natural destructiveness of humans caused by their narcissism and sexual impulses" (Saroglou et al., 2005), but also rational choice theory (Iannaccone, 1995), from which it could be hypothesized that nonmaterial and humanistic rewards to religious rituals could maintain prosocial behavior that is beneficial for groups, communities or the society at a whole, but is costly for the individual (Paciotti et al., 2011).

This study adds to the literature (1) by examining data on Germany, for which there is barely any evidence in this research area and (2) by looking at a set of partly under-researched outcomes that reflect both individuals' prosocial disposition and their behavior. The German case is interesting because of its historical divide that also led to substantial and enduring differences between West and East Germany in individuals' religious affiliation and participation. Figure 1 depicts the long run trend in religious affiliation for the whole country,

[1] As is well known, Adam Smith, however, also prepared the ground for the today still more dominant perspective in both the scientific community and the public of the individual as a fully rational and self-interested being. The presumably even better known quote from Smith than the opening one is: "*It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest." (Smith, 1776, The Wealth of Nations, Book I, Chap. 2)*

[2] For example, the "Handbook of the Economics of Giving, Altruism and Reciprocity" (Kolm and Mercier Ythier, 2006) with its comprehensive treatises of the economic approach to this research, does not even include "religion" as an entry in the subject index.

clearly indicating a secular trend. Whereas roughly half of the (West-)German population was either Catholic or Protestant between the 1950s and 1970s, the share of people with no religious affiliation has increased ever since. With a share of about a third of the population, the nonreligious group has recently grown bigger than each of the two major Christian affiliations.

– Figure 1 about here –

Yet, there is a substantial divide in religious affiliation between West and East Germany: In West Germany, there is a more or less equal split in population shares between Catholics, Protestants, and others, including people with no religious affiliation. By contrast, only some five percent of East Germans are Catholic, less than 20 percent are Protestants, and about three-fourths of the East German population has any other or, dominantly, no religious affiliation (EKD, 2011). So, if there would be a connection to prosociality, the split in religious involvement between West and East Germany should also be observable in data on prosocial disposition and behavior.

The empirical analysis in this paper is based on survey data from the German Socio-Economic Panel (SOEP), which allows analyzing both attitudinal and behavioral components. Moreover, the longitudinal structure of the data allows exploring the association between individuals' religion and their prosocial behavior in a way that avoids simultaneity bias or reverse causality. As mentioned, and rather than looking at only one outcome, the analysis comprises several attitudinal and behavioral outcomes. The proxies for prosocial behavior used in this paper are *volunteering*, *charitable giving*, and *blood donations*. The attitudinal perspective is addressed by looking at *hypothetical money donations* and by the *self-reported importance* of *helping others* or of *being socially or politically active*.

While the latter might only indirectly reflect individuals' interest in social cohesion, volunteering, charitable giving and blood donations are highly relevant factors[3] and both governmental and non-profit organizations invest substantial resources in campaigning or other strategies to foster each of the mentioned aspects. It is therefore not only of interest, but also of (economic) relevance, whether religion as one of the once major social forces still plays a role in individuals' prosocial behavior.

The results imply a moderate, positive association between individuals' religiosity as measured by religious affiliation and religious participation and their prosocial attitudes and

[3] There, for example, was a critical shortage in blood donations in the US in summer 2013 that among other issues led to cancellations of elective surgeries in larger cities, including Los Angeles, Philadelphia and Atlanta (abcNEWS, 2013).

behavior, with some heterogeneity depending on the respective outcome. Differences between religious affiliations are not as pronounced and, although there again is some heterogeneity, differences between West and East Germany are not as strong.

2. Background and Prior Research

There are several theoretical approaches to describe and explain possible links between individuals' religion and their prosocial behavior, including rational choice theory. Although the underlying mechanism – weighing costs against benefits – is essentially an economic approach, religion has not been and still is not high on economists' research agendas.[4] Yet, a recent contribution by Levy and Razin (2012) provides an interesting game-theoretical approach to analyze the relation between religious belief, religious practice and social cooperation. The authors suggest that religious organizations, or rather their theologies, are able to instill certain beliefs about rewards and punishments to different behaviors in the social sphere. This is accomplished by religious rituals, or participation, which activates a set of beliefs in religious individuals about the effects of either defecting or cooperating (in the Prisoner's Dilemma game, Levy and Razin (2012) use as underlying framework) and the utility shocks that occur as a consequence of the respective choice. Beliefs are not activated for secular individuals, and they do therefore not expect utility shocks as response to their actions taken, so that defecting is the optimal strategy.

While the model comprises further aspects, including, for example, the evolvement and dynamics of religious organizations, it implies a positive relation between the religious belief of individuals and cooperative behavior. However, the authors also suggest that religious individuals are more cooperative towards fellow religious members than they are towards individuals who do not participate in the particular religion. Such in-group solidarity, and possibly also out-group hostility, is in line with the work of Iannaccone (1992) who also posits that religions function as social clubs whose "perfectly rational members may benefit from stigma, self-sacrifice and bizarre behavioral restrictions" (ibid, p. 271).

While this latter holds true for more sect-like churches, the distinction between whom to cooperate with and whom not may be one reason, why prior evidence is rather ambiguous. First, a general finding from survey based empirical studies is that religious people tend to be

[4] Altruistic and cooperative behavior in general, however, has regained interest in 20th century economics starting with Becker (1974). More recent theoretical contributions are Andreoni´s "impure altruism" (Andreoni, 1989) and the inequality aversion motive as introduced by Fehr and Schmidt (1999). See also the contributions included in Kolm and Mercier Ythier (2006).

prosocial and helpful (Batson et al., 1993). Yet, Saroglou et al. (2005) point out that it might be an overly positive self-perception of religious individuals which drives this pattern. This is, because evidence from (quasi-)experimental studies (Saroglou et al., 2005; Tan, 2006; Ruffle and Sosis, 2006), often suggests for no effect of individuals' religiosity on social preferences in general. If effects occur, they, however, are more in line with the mentioned in-group-out-group bias.

As noted above, there is a vast literature on the relationship between religion and prosociality across a broad range of disciplines, most prominent in anthropology, sociology and psychology. There is, however, far less evidence in economics and among this, the focus is more on social trust rather than other dimensions of prosocial behavior. This research can be roughly divided in three groups: i) cross-country studies, ii) individual-level studies based on survey data, and iii) individual-level studies based on experiments. Again, the overall picture from this research is mixed inasmuch as some studies suggest for positive associations of religion and religiosity on trust (Fehr et al., 2002; Guiso et al., 2003; Brañas-Garza et al., 2009; Tan and Vogel, 2008), while other studies imply no relationship (Alesina and La Ferrara, 2002; Tan, 2006; Paciotti et al., 2008) or even a negative one (Berggren and Bjørnskov, 2011). This heterogeneity is driven by differences in the datasets and in the samples used, by differences in the indicators for individuals' religion or religiosity, and by the different methods employed.

This study complements prior research by examining further dimensions of prosocial attitudes and behavior: volunteering, (hypothetical) charitable giving, blood donations, the importance of helping others or of being socially or politically active. Most of these issues have already been addressed in the economic and social science literature before. With a focus on the research on behavioral outcomes, the literature first shows an on average positive relation between religion and volunteering (for recent evidence, see, e.g., Lim and MacGregor, 2012; Sønderskov, 2011; Taniguchi and Thomas, 2011). There is furthermore a large literature that indicates a positive association between religion and charitable giving. In an extensive summary of this research, Bekkers and Wiepking (2011), however, note that this "may be called tautological as membership, attendance and giving are all indicators of religious involvement" (ibid, p. 342). The relation between religion and "secular giving", i.e. giving to organizations other than the church, however, is less clear-cut. While the average finding also suggests for a positive link, some studies find no or even a negative relation between religion and secular giving (for references, see again Bekkers and Wiepking (2011)).

The question whether religion enhances individuals' propensity to donate blood is even more complex: some religious groups, such as Jehova's Witnesses, are against blood transfusions; in Islam, there are ongoing theological controversies about whether blood donations are unlawful and thus forbidden ("haram"). But even if blood donation is supported by some Islamic scholars, there are strict regulations for giving blood to be allowed. Irrespective of these notions, there is only a small research that examines or, more often, merely controls for religion in studies on blood donation (Bekkers, 2006), or indirectly accounts for the religious background of blood collecting institutions (Healy, 2000). In a recent study, Gillum and Masters (2010) find no association between religion and blood donation once they include socio-economic control variables.

Given the mixed evidence on the association between religion and prosocial behavior, it is difficult to derive consistent testable hypotheses from the literature. The theoretical arguments introduced above in general suggest a positive relation between religious belief and cooperative behavior (Levy and Razin, 2012). While this can be empirically examined with the data used in this study, the stronger in-group solidarity cannot be analyzed because the data do not allow differentiating the target groups of individuals' prosocial behavior. This is somewhat limiting, because it has to be assumed that respondents' answers to survey items refer not only to their own religious peers but to a broader group, if not the whole population. The exception, however, is individuals' blood donation propensity for which it is plausible, or rather certain, to assume that individuals' prosociality is targeted at people other than their own peers.

3. Data and Methods

The data are drawn from the German Socio-Economic Panel (SOEP). This is a representative longitudinal survey, first implemented in 1984 and extended to the eastern part of Germany in 1990, shortly before re-unification. In 2010, more than 22,000 individuals in were surveyed, providing a wide range of socio-demographic and -economic information (Wagner et al., 2007). Religious affiliation, behavior, and belief is however not part of the regular yearly program but included less frequent. The sample used here is a merged sample that combines data from the 2007 wave, which provides information on religious affiliation and religious participation, and data from the 2008 and 2010 waves that allow exploring both prosocial attitudes and behavior.

In particular, the 2007 question on religious affiliation captures whether individuals are "*Roman Catholic*", (mainline) "*Protestant*", have "*other Christian affiliation*", are "*Muslim*", or have "*no religious affiliation*".[5] Religious participation is surveyed by individuals' *church attendance* frequency: "*every week*", "*every month*", "*less frequently*", and "*never*".

As for prosociality, the SOEP data provides the opportunity to examine both attitudinal and behavioral components. This is useful as measures of individuals' attitudes are usually suspected to not necessarily translate into behavior. It, however, is behavior, that is interesting and relevant for policy implications. It may on the other hand also be argued, that attitudes are shaping individuals' behavior, and that policy driven behavioral changes might not be stable, if this will not be accompanied with changes in the underlying beliefs, values, or attitudes. Having data for both attitudes and behavior therefore allows being more confident in the results of the empirical analyses. Items for both dimensions are drawn from the 2008 and 2010 waves.

The attitudinal aspects from the 2008 wave are drawn from a wider range of items on the self-reported importance of different life areas. This includes material aspects such as the importance of success at work or of owning a house, but also captures two prosocial or other-regarding items: the importance of "*helping others*" and "*to be socially and politically active*". Both items are measured with a four-point ordinal scale, ranging from "very important" to "very unimportant". Another item from the 2010 wave aims at measuring individuals' willingness to share a windfall gain. The question included is: "*Imagine that you unexpectedly received a gift of 10,000 euros. How would you use this money? How much would you save, how much would you give away, and how much would you spend?*", and respondents could either split up the money into these three categories or indicate to use the entire sum for one purpose.

The behavioral dimensions of respondents' prosociality are also drawn from the 2008 and 2010 waves. The 2008 wave provides information on the frequency of "*volunteering*" (daily, at least once a week,[6] at least once a month, less frequently, never).[7] The behavioral components from the 2010 data, by contrast, are more general: first, the questionnaire surveys

[5] There is a further category "*other religious affiliation*", which however has been dropped from the sample because of the too small sample size.

[6] As only about one percent of respondents are volunteering on a daily basis, the response options „daily" and „at least once a week" are collapsed in one category "at least once a week or more".

[7] The 2008 wave also provides individuals' propensity of "*lending belongings to friends*" and "*lending money to friends*" (five-point scale from "very often" to "never"). As the two items are directed at individuals' behavior towards their friends, responses would not easily allow a general interpretation. Additional analyses, however, yield patterns that are not qualitatively different to the results for the other items. To save space, these analyses are therefore not presented, but are available from the author.

whether respondents were donating "*money for social, church, cultural, community, and charitable aims, without receiving any direct compensation in return*" in the year prior to the interview, and if they did, how much they were giving. The second item covers whether respondents "*have […] donated blood in the last 10 years*" prior to the interview, and conditional on a positive response, whether they did so in the "*last year, that is, in 2009*". If respondents were denying the first question, they were asked whether they cannot give blood because of medical reasons. Such observations are dropped from the empirical analysis of blood donations, because individuals, who would in general be willing to donate blood, would be jointly examined with individuals, who are not willing to do so because of other than medical reasons.

The empirical analyses below furthermore account for a wide range of covariates in order to capture observable individual heterogeneity. The vector includes: gender, age, also squared, marital status, foreign citizenship, educational attainment, vocational qualification, labor market status, monthly net household income, number of dependent children, smoker status, body height, disability status, and size of the community. To account for the substantial differences in religious affiliation particularly between but also within West and East Germany, the regressions are run separately for West and East, yet account for the federal state the respondent lives in.

The analyses are based on assuming a linear, parametric relationship between the respective outcome and the set of explanatory variables:

$$y_{i,08|10} = x'_{i,08|10}\beta + \gamma \cdot Religion_{i,07} + \varepsilon_i \,, \qquad (1)$$

where $y_{i,08|10}$ are the dependent variables, i.e. the attitudinal and behavioral items outlined above, x'_i is the vector of control variables, $Religion_{i,07}$ is a vector that comprises religious affiliation and participation, and ε_i is an error term that is assumed to be identically and independently distributed.

The analyses are, in general, cross-sectional. As indicated by the time index, the data on individuals' religious affiliation and participation are, however, taken from waves one year or three years prior to the interview. This is an advantage in terms of accounting for reverse causality, but one has to assume that it is the past religious affiliation and participation that triggers the outcomes, and not any further changes in unobservables in between the measurements. On another plus side is that if individuals' religious involvement would cease

between 2007 and the later waves, any association that will be observable would be a lower bound for the true underlying relation.

In order to give a compact overview, the following list summarizes once more the central variables and the years they were surveyed.

- Religion:
  - Religious affiliation; surveyed in 2007
  - Religious participation; surveyed in 2007
- Prosocial attitudes:
  - Importance of helping others; surveyed in 2008
  - Importance of being socially/politically active; surveyed in 2008
  - Hypothetical charitable giving from a 10.000 Euro windfall gain; surveyed in 2010
- Prosocial behavior:
  - Volunteering; surveyed in 2008
  - Charitable giving (yes/no, and amount given); surveyed in 2010, referring to 2009
  - Blood donation; surveyed in 2010, referring to ten years prior to the interview, and referring to 2009

The methods employed are as follows: for the binary dependent variables (donating blood or money), the probit estimator is used and average marginal effects are calculated; the ordered probit estimator is used for the ordinal dependent variables (volunteering, self-reported importance of helping others or of being socially or politically active), and average marginal effects are calculated for the probability of observing the "highest" outcome, i.e. P(y = " at least once a week or more" | $x_i', Religion_{i,07}$) for volunteering, and P(y = "very important" | $x_i', Religion_{i,07}$) for the importance of helping others or being socially or politically active. OLS is employed for the two continuous dependent variables, i.e. the amount of money donated in 2009, and the hypothetical share of the windfall gain of 10,000 Euro, the respondent would be willing to give away, with both variables in log values to allow interpretation as relative change.

The analyses comprise two model specifications that include either religious affiliation or participation. However, as the frequency of religious participation may depend on the norms of the particular affiliation, a further specification of the model includes interaction terms (religious affiliation × religious participation), where religious participation is collapsed into a category "*attendance*", if the individual attends religious services at least once a month, and "*no attendance*" otherwise.

4. Results

4.1 Descriptive patterns

A first – and, rather than going through all outcomes, selective – impression of prosocial behavior by religious affiliation and participation is given in Table 1 which provides descriptive statistics on the incidence of blood donation and charitable giving as well as the amount (in Euro) individuals have given to charity or report to be willing to give away in case of a windfall gain of 10,000 Euro, by religious affiliation and participation. First, for both the ten-year and last-year time spans, there are no substantial differences in the average blood donation propensities between Catholics, Protestants, and individuals with no religious affiliation (Table 1, columns 1 and 2). Yet, other Christians and Islamic people are less inclined to donate blood. This is unsurprising, given that blood (or organ) donations might be against the religious belief of some groups or denominations within the two clusters of groups. There furthermore are no distinct blood donation patterns by religious participation, which, however, is likely confounded because of age, education or other influences that are not accounted for in this bivariate analysis.

– Table 1 about here –

The incidence patterns for charitable giving (Table 1, column 3) are more in line with the general expectation of a positive link between religion and prosocial behavior. In 2010, almost 50 percent of Catholics and Protestants in the sample had given money to charitable organizations the year prior to the interview, i.e. in 2009. Still more than 40 percent of other Christians had done so too. Complementing this finding, Table 1 further shows that only a third of people with no religious affiliation had given to charity (ibid., column 3). The descriptive finding that only about a quarter of Islamic people had given to charity, however, is somewhat unexpected. Again, since these numbers do not account for confounding factors – and income might be a candidate in this context – multivariate analyses will have to be employed. A more monotonic pattern occurs for the link to attendance: on average, almost 70 percent of people who attend church or other religious events gave to charity which is more than twice as much compared to donations among people who never attend church.

There are, next, similar patterns for the amount of money that people gave to charity, i.e. there is no clear relation across religious affiliation, but a monotonic link to participation. Again, there is an unexpected finding, now for the average sum, other Christians had given to charity in 2009 (Table 1, column 4): with almost 830 Euro, this sum is more than three times

the average donation of Catholics Protestants.[8] Yet, the huge standard deviation also indicates that one or more outlier drive the average. Comparing this finding to the hypothetical giving puts this into perspective: being asked, what share they would give away, if they unexpectedly receive 10,000 Euro, other Christians would give less than a fifth of this amount (Table 1, column 5). Again, Catholics and Protestants do not differ substantially here, followed by people with no religious affiliation, other Christians, and Islamic people. Yet another monotonic pattern is observable for religious participation: People, who attend church once a week or more would give about 30 percent of a hypothetical windfall gain of 10,000 Euro, whereas people who never attend church, would give only 20 percent.

As mentioned, the bivariate patterns shown in Table 1 might be confounded; yet, the results from the multiple regression analyses account for such potentially confounding factors. There will first be a discussion of the relationship between individuals' religion and their prosocial attitudes (Table 2), followed by the results for the behavioral dimension (Tables 3 and 4), and completed by providing the findings for the amount of money, people actually gave or would give (Table 5).

4.2 Prosocial attitudes

The results provided in Table 2, panel I, first indicate a somewhat mixed picture for religious affiliation. Similar to the descriptive results given in Table 1, but now conditional a large set of control variables, the average marginal effects first indicate that compared to individuals with no religious affiliation, being Catholic or Protestant yields an increase of less than one percentage point in the predicted probabilities of responding that being socially or politically active is "very important" (Table 2, columns 1 and 2). Since this is found for both parts of Germany, and since being a Muslim is not associated to the item, it is fair to say that religious affiliation per se does not play a major role for the dominant parts of the population. The results for other Christians, next, are worth mentioning because of a, first, small, but weakly statistically significant negative relation to the predicted probability that being socially or politically active is "very important". This is in contrast to the main expectation, but may to some extent be driven by some of the smaller, and possibly more sect-like Christian denominations within this heterogeneous cluster that have a stronger focus on within-group solidarity, rather than an overall societal interest. This is to some extent, complemented by the

[8] The median equivalence scale adjusted household income was at 1.311 Euro per month in 2009 (Goebel et al., 2010). The average donation of about 250 Euro per year therefore corresponds to about 1.5 percent of the yearly income.

results for "helping others" (Table 2, columns 3 and 4): in West and particularly East Germany, having any "other Christian" affiliation is associated with an increase of more than 20 percent in the predicted probability that helping others is very important. However, without having more information on the "target person" it is difficult to tell whether this reflects a within-group orientation of other Christians. Even more so, because the average marginal effect of West German other Christians, indicating a 6 percentage points increase, is similar to the results for all other religious groups, i.e. Catholics, Protestants, and Muslims. Put differently, and ignoring the somewhat puzzling result for other Christians, having a religious affiliation seems to matter for the type of altruism behind this interview item.

In contrast to affiliation, the patterns for religious participation then are straightforward inasmuch as they indicate a monotonic relation to both outcomes which is also increasing in strength with increasing church attendance frequency (Table 2, panel II). Again, the overall finding suggests for a rather weak link to the importance of being socially or politically active, but changes of between 3 to 11 percentage points for helping others.

– Table 2 about here –

Still going a step further, the results from a third specification that includes interaction terms[9] on "affiliation × attendance" shows further heterogeneity (Table 2, panel III): First, and again in comparison to individuals without religious affiliation, differences in church attendance plays a role for the importance of being socially or politically active only for Catholics for Protestants in West Germany, with the average marginal effects indicating an increase of roughly one percentage point for individuals who regularly attend religious services. In addition, West German other Christians and Muslims, who do not attend religious services, have a lower propensity to support the importance of social or political activities. This by itself may seem unsurprising and to be in line with expectations, but it contrasts with the positive and statistically significant coefficient for "other Christian × no attendance" for the East German sample (Table 2, column 2), which indicates an almost four percentage point increase, i.e. a relatively strong and positive relation to responding that being active is very important. Unfortunately, without further and in-depth analyses, which are beyond the possibilities of the data used here, there are no straightforward explanations for these differences, so that this remains an open question. Catholics in East Germany are again somewhat more likely to report that being active is very important, but there is no further

[9] The interpretation of interaction terms in nonlinear models has to be done with care (Ai and Norton, 2003). However, there are no substantial changes of sign and size of the coefficients when estimating linear probability models implying that the presented results should not be affected much.

difference for those who attend or do not attend church. This, however, can be seen for East German Protestants, with an increase in the predicted probabilities of about one percentage point only for those who regularly attend church.

The results for "helping others" is again more in line with prior expectations: for West Germany, regular attendance is mostly associated with larger predicted probabilities across all religious groups in comparison to their within-group counterparts and indicating some 8 to 12 percentage point differentials compared to individuals without religious affiliation (Table 2, column 3). This is complemented by the results for East Germans, which imply that attendance is moderately and strongly related to the importance of helping others for Protestants and other Christians, respectively. Repeating the finding of panel I, other Christians who regularly attend religious services have a more than 20 percentage points higher propensity of supporting the surveyed item, possibly driven by within-group solidarity.

4.3 Prosocial behavior

Turning to individuals' behavior, Table 3 provides results for individuals' propensity to volunteer and to charitable giving. The patterns are less heterogeneous than those found for the importance items above: with only very few exceptions for the specification that includes interaction terms, the results imply that religious affiliation and, separately, religious participation is associated to volunteering and charitable giving (Table 3, panel I). For example, the predicted probability of volunteering increases by about four to almost 12 percentage points for Christians (Catholic, Protestant, or other) in either part of Germany and by three percentage points for West German Muslims, for both regions compared to individuals with no religious affiliation (Table 3, colum 1). Even larger marginal effects are found for charitable giving in both West and, particularly, East Germany (Table 3, columns 3 and 4) and for the attendance patterns as presented in panel II of Table 3. Yet, note again, that this overall finding may be triggered by the coexistence of membership, attendance and giving as expression of individuals' religious involvement (Bekkers and Wiepking, 2011). The findings from the models with interaction terms do not indicate substantial variation across attendance and affiliations in the positive association between individuals' religion and volunteering and charitable giving (Table 3, panel III). There are only few exceptions and only for individuals who do not regularly participate in religious activities: among those, the results for East German Catholics or other Christians and for Muslims in West Germany are not statistically different from their non-religious counterparts in their volunteering

propensity; the same holds for the volunteering as well as charitable giving propensities of non-attending other Christians in both West and East Germany.

– Table 3 about here –

The patterns for individuals' blood donation propensity are again somewhat more complex which may have to do with the physiological dimension of this specific prosocial behavior as well as with the theological concerns of some religious groups. The latter shows for Muslims in West Germany (Table 4, panel I, column 1), and, interestingly though, particularly for those who do not regularly attend religious services (Table 4, panel III), inasmuch as their blood donation propensity in the decade before the interview is statistically lower compared to non-religious individuals. In contrast, Muslims who do attend religious services do not statistically differ from individuals without religious affiliation.

The results for the other affiliations show no particular convincing evidence. Apart from the Muslim case, as just mentioned, the estimates imply that Catholics and Protestants in West Germany are somewhat more likely to have donated blood the year prior to the interview. In East Germany, religious affiliation on its own, however, plays no role for blood donation.

– Table 4 about here –

The evidence for religious participation is again more in line with the baseline expectation. In West Germany, each attendance category is associated with higher blood donation probabilities, with a range of three to about eight percentage points increases. In East Germany, it is only for the "weekly or more" category, that individuals' blood donation propensities are larger, and the average marginal effects in these cases imply increases of some 16 percent (last 10 years) and more than 10 percent (last year) (Table 4, panel II, columns 2 and 4).

The specifications in panel III again show heterogeneous patterns for the interaction between affiliation and participation. West German Protestants, who regularly attend religious services, are more inclined to give blood. For their East German counterparts, this holds only for the 10 year time-span, but not the year prior to the interview. This latter is, however, found for regularly church-attending Catholics in West Germany, for whom there is a small increase in the predicted blood donation probability. Complementing the finding for Muslims, the results further indicate that other Christians, who do not regularly participate in religious activities, are in both German areas less likely to donate blood. Again, this may be driven by some denominations with theological concerns about the human body, such as Jehova's Witnesses. It, yet, is to some extent puzzling, that the lower blood donation propensities are found for individuals who do not attend church. With the data at hand, it is unfortunately not

possible to tell whether for example individuals' possibly privately held (theological) concerns about donating blood are reconciled with teachings or discussions they are exposed to in religious events, which might help explain why the results for other Christians and Muslims who attend church or visit the mosque on a regular basis do not statistically differ from the results for non-religious individuals.

4.4 Observed and hypothetical charitable giving

Finally, shortly turning to observed and hypothetical charitable giving, the results in Table 5 provide a complementary picture. Not only is individuals' religious involvement associated with a higher likelihood of giving as discussed above for the results in Table 3, but they are also more likely to give more money. This is evident both from the findings for observable behavior (Table 5, columns 1 and 2), and also for the hypothetical case (Table 5, columns 3 and 4). Another interesting finding is that East Germans give or would give way more money than their West German counterparts, as indicated by the relative changes and compared to the respective reference groups. This seems to particularly apparent for the observed behavior (Table 2, column 2), yet this can be explained by the substantially lower amount, East Germans had on average given to charity in 2009.[10] The results for hypothetical giving still indicate a willingness of East Germans to donate more money than West Germans, although the differences are not as strong as for the observed behavior. And, again, it is attendance at religious events, by itself and across denominations that is associated with larger shares, individuals would be willing to give to charity after an unexpected windfall gain.

– Table 5 about here –

5. Conclusions

Prosocial behavior of individuals is one of the more critical components for societies and their cohesion. Knowing about the determinants of individuals' prosocial norms, attitudes and behavior is therefore not only interesting from a research perspective, but, essentially, also relevant for evidence based policy implications. Religion has for long been one of the determinants that was of interest in a huge and still growing literature across a range of academic disciplines, including the social sciences and, more recently, economics. This study adds to this literature by providing evidence on the German case, for which there is barely any

[10] Conditional on giving, and compared to the overall average of almost 250 Euro (Table 1), individuals in West Germany donated slightly more (272.60 Euro), and East Germans gave substantially less to charity (144.76 Euro).

research on this topic, by examining representative data that allows looking at both individuals' attitudes and behavior, and by addressing questions of which some are under-researched, such as individuals' blood donation propensity.

The data used in the analyses are drawn from the German Socio-Economic Panel (SOEP), and the longitudinal structure of it furthermore allows examining the association between individuals' religious involvement in 2007 and outcomes that are measured in later waves of the SOEP, i.e. 2008 and 2010. This approach avoids issues of reverse causality and would even represent a lower bound of the underlying relation if individuals' religious involvement would cease between the first and the later data waves.

The main results indicate moderate, positive associations between individuals' religious affiliation and participation and volunteering, charitable giving, and blood donations as behavioral components, and hypothetical charitable giving and importance of helping others and of being socially or politically active as attitudinal dimensions. Depending on the particular outcome, there is some heterogeneity in the findings. Yet, it is religious participation rather than affiliation that is relevant for all dependent variables in this study. With a few exceptions, there furthermore are no substantial differences in the bottom-line results when comparing West and East Germany, which is interesting because of the historical divide and, resulting from that, the enduring differences in individuals' religious involvement.

There are no straightforward policy implications from this study – and this was not the aim of it in the first place anyway. However, if the secular trends continue, a lesson from this study is that prosocial behavior, inasmuch as it is driven and maintained by religious affiliation and participation, might be on the retreat in the future, and this should then be of increasing concern for policy makers.

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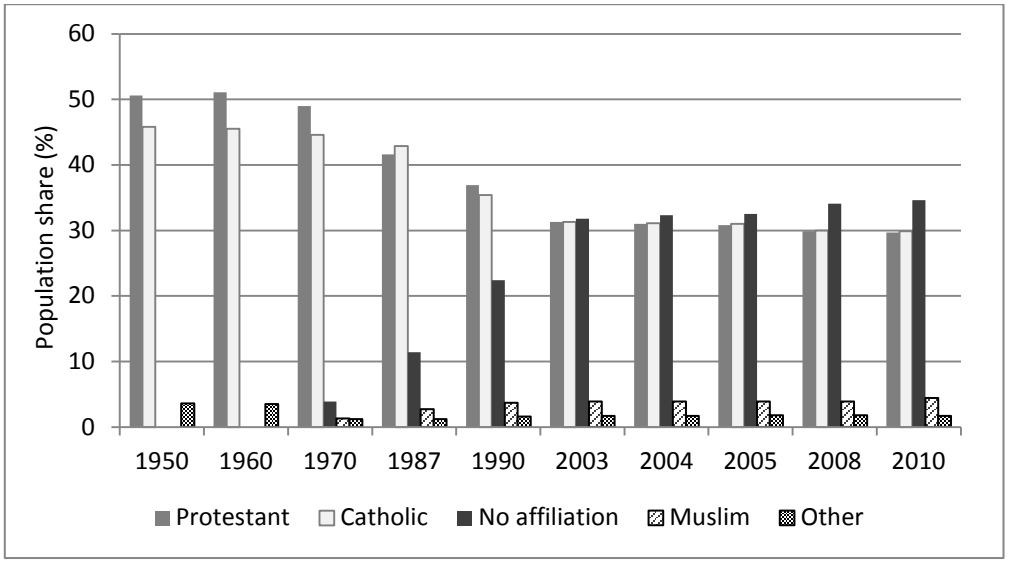

Figure 1: Religious Affiliation in Germany, 1950-2010

Notes: West-Germany up to 1990.

Source: fowid, 2012.

Table 1: Descriptive statistics - Religion, blood donation, and charitable giving

	Blood donation (last ten years)	Blood donation (last year, 2009)	Charitable giving (last year, 2009)			Gift of 10,000 €, how much would you give away?	
	(1)	(2)	(3)	(4)		(5)	
	Incidence	Incidence	Incidence	Sum given	(Std.dev.)	Hypothe-tical giving	(Std.dev.)
Catholic	0.128	0.066	0.498	250.42	(652.23)	2,249.99	(2,613.87)
Protestant	0.140	0.073	0.489	247.08	(585.36)	2,402.40	(2,610.20)
Other Christian	0.095	0.038	0.429	828.42	(1,540.2)	1,975.75	(2,212.41)
Muslim	0.055	0.029	0.272	178.43	(220.32)	1,666.96	(2,125.59)
No rel. affiliation	0.145	0.074	0.333	198.17	(719.51)	2,013.55	(2,321.62)
Att.: every week	0.116	0.060	0.685	524.16	(1,120.5)	3,085.70	(2,867.04)
Att.: every month	0.151	0.088	0.634	263.43	(696.48)	2,530.15	(2,581.81)
Att.: less frequent	0.143	0.077	0.508	204.14	(650.40)	2,126.86	(2,398.20)
Att.: never	0.130	0.064	0.321	191.74	(439.63)	2,040.73	(2,458.12)
Overall	0.135	0.069	0.436	248.48	(679.05)	2,211.93	(2,512.52)

Source: SOEP, 2007-2010, V28.

Table 2: Religion and self-reported importance (I) of being socially or politically active, (II) of helping others

	(I) Being socially/politically active		(II) Helping others	
	(1)	(2)	(3)	(4)
	West	East	West	East
I.				
Catholic	0.009***	0.008***	0.058***	0.007
	(0.001)	(0.003)	(0.009)	(0.025)
Protestant	0.006***	0.004**	0.061***	0.019
	(0.001)	(0.002)	(0.009)	(0.013)
Other Christian	-0.006*	0.003	0.064***	0.204***
	(0.003)	(0.008)	(0.020)	(0.064)
Muslim	-0.003	--	0.062***	--
	(0.003)		(0.020)	
Pseudo-R^2	0.0520	0.0526	0.0395	0.0395
II.				
Attendance: every week	0.021***	0.014***	0.106***	0.110***
	(0.002)	(0.004)	(0.011)	(0.029)
Attendance: every month	0.016***	0.011***	0.079***	0.048**
	(0.002)	(0.003)	(0.011)	(0.024)
Attendance: less frequent	0.013***	0.006***	0.041***	0.030**
	(0.001)	(0.002)	(0.007)	(0.015)
Pseudo-R^2	0.0586	0.0553	0.0422	0.0406
III.				
Catholic × attendance	0.016***	0.008*	0.106***	0.022
	(0.002)	(0.004)	(0.012)	(0.037)
Catholic × no attendance	0.006***	0.008**	0.039***	-0.003
	(0.001)	(0.004)	(0.010)	(0.032)
Protestant × attendance	0.020***	0.014***	0.116***	0.081***
	(0.002)	(0.003)	(0.015)	(0.024)
Protestant × no attendance	0.004***	0.001	0.053***	0.002
	(0.001)	(0.002)	(0.009)	(0.014)
Christian × attendance	0.000	-0.004	0.113***	0.212***
	(0.004)	(0.009)	(0.028)	(0.070)
Christian × no attendance	-0.012***	0.036*	0.020	0.167
	(0.004)	(0.019)	(0.027)	(0.156)
Muslim × attendance	0.003	--	0.083***	--
	(0.005)		(0.031)	
Muslim × no attendance	-0.008**	--	0.045*	--
	(0.003)		(0.023)	
Pseudo-R^2	0.0556	0.0552	0.0420	0.0410
N	13,931	4,138	13,931	4,138

Notes: Probit estimation; average marginal effects for P(y="very important"). Estimations include the vectors of control variables as outlined in the text. Panel III.: "*attendance*" in the interaction terms equals one, if the individual attends religious services once a month or more; and "*no attendance*" otherwise. The reference category is "*no affiliation*", irrespective of attendance, as less than one percent of people without affiliation attends religious events. "--": results miss because of limited sample size. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1 Source: SOEP, 2007-2010, V28.

Table 3: Religion, volunteering and charitable giving propensity

	Volunteering		Charitable giving	
	(1) West	(2) East	(3) West	(4) East
I.				
Catholic	0.071***	0.032***	0.127***	0.229***
	(0.006)	(0.012)	(0.013)	(0.033)
Protestant	0.058***	0.038***	0.101***	0.208***
	(0.006)	(0.006)	(0.012)	(0.016)
Other Christian	0.073***	0.116***	0.117***	0.470***
	(0.013)	(0.027)	(0.028)	(0.103)
Muslim	0.031**	--	0.150***	--
	(0.015)		(0.030)	
Pseudo-R^2	0.0440	0.0501	0.109	0.149
II.				
Attendance: every week	0.159***	0.093***	0.273***	0.450***
	(0.007)	(0.013)	(0.015)	(0.041)
Attendance: every month	0.121***	0.084***	0.208***	0.355***
	(0.006)	(0.011)	(0.015)	(0.031)
Attendance: less frequent	0.067***	0.032***	0.126***	0.197***
	(0.004)	(0.007)	(0.009)	(0.018)
Pseudo-R^2	0.0683	0.0588	0.130	0.172
III.				
Catholic × attendance	0.131***	0.058***	0.239***	0.384***
	(0.007)	(0.016)	(0.016)	(0.053)
Catholic × no attendance	0.040***	0.006	0.079***	0.122***
	(0.006)	(0.016)	(0.013)	(0.042)
Protestant × attendance	0.152***	0.093***	0.268***	0.403***
	(0.009)	(0.011)	(0.020)	(0.031)
Protestant × no attendance	0.038***	0.018**	0.074***	0.154***
	(0.006)	(0.007)	(0.012)	(0.018)
Christian × attendance	0.129***	0.121***	0.223***	0.542***
	(0.016)	(0.029)	(0.037)	(0.119)
Christian × no attendance	-0.008	0.093	-0.009	0.188
	(0.020)	(0.064)	(0.041)	(0.223)
Muslim × attendance	0.090***	--	0.184***	--
	(0.020)		(0.049)	
Muslim × no attendance	-0.017	--	0.113***	--
	(0.017)		(0.034)	
Pseudo-R^2	0.0617	0.0576	0.123	0.165
N	13,931	4,138	11,728	3,539

Notes: Probit estimation; average marginal effects. Estimations include the vectors of control variables as outlined in the text. Panel III.: "*attendance*" in the interaction terms equals one, if the individual attends religious services once a month or more; and "*no attendance*" otherwise. The reference category is "*no affiliation*", irrespective of attendance, as less than one percent of people without affiliation attends religious events. "--": results miss because of limited sample size.

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Source: SOEP, 2007-2010, V28.

Table 4: Religiosity and blood donation propensity

	Blood donation (last 10 yrs.)		Blood donation (last year)	
	(1)	(2)	(3)	(4)
	West	East	West	East
I.				
Catholic	0.004	0.027	0.012*	0.007
	(0.011)	(0.041)	(0.007)	(0.028)
Protestant	0.011	0.028	0.015**	0.003
	(0.010)	(0.020)	(0.007)	(0.013)
Other Christian	-0.020	0.021	-0.012	-0.027
	(0.023)	(0.110)	(0.016)	(0.064)
Muslim	-0.052**	--	-0.011	--
	(0.022)		(0.018)	
Pseudo-R^2	0.0717	0.103	0.0787	0.0994
II.				
Attendance: every week	0.054***	0.159***	0.039***	0.105**
	(0.017)	(0.060)	(0.013)	(0.049)
Attendance: every month	0.076***	0.036	0.073***	-0.003
	(0.016)	(0.039)	(0.013)	(0.025)
Attendance: less frequent	0.035***	0.000	0.031***	-0.006
	(0.009)	(0.021)	(0.006)	(0.014)
Pseudo-R^2	0.0753	0.106	0.0880	0.103
III.				
Catholic × attendance	0.021	0.115	0.025**	0.068
	(0.016)	(0.071)	(0.012)	(0.055)
Catholic × no attendance	-0.001	-0.029	0.009	-0.030
	(0.011)	(0.046)	(0.008)	(0.027)
Protestant × attendance	0.096***	0.089**	0.092***	0.033
	(0.023)	(0.042)	(0.020)	(0.029)
Protestant × no attendance	-0.001	0.012	0.004	-0.004
	(0.010)	(0.021)	(0.007)	(0.014)
Christian × attendance	0.019	0.137	0.003	0.017
	(0.033)	(0.156)	(0.022)	(0.106)
Christian × no attendance	-0.068***	--	-0.033*	--
	(0.026)		(0.019)	
Muslim × attendance	0.034	--	0.044	--
	(0.051)		(0.045)	
Muslim × no attendance	-0.083***	--	-0.029*	--
	(0.019)		(0.015)	
Pseudo-R^2	0.0765	0.106	0.0865	0.102
N	9,301	2,587	9,301	2,587

Notes: Probit estimation; average marginal effects. Estimations include the vectors of control variables as outlined in the text. Panel III.: "*attendance*" in the interaction terms equals one, if the individual attends religious services once a month or more; and "*no attendance*" otherwise. The reference category is "*no affiliation*", irrespective of attendance, as less than one percent of people without affiliation attends religious events. "--": results miss because of limited sample size.

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Source: SOEP, 2007-2010, V28.

Table 5: Religiosity, charitable giving and hypothetical donations after a windfall gain

	Charitable giving		Hypothetical donations	
	(1)	(2)	(3)	(4)
	West	East	West	East
I.				
Catholic	0.574***	1.264***	0.416***	0.793***
	(0.062)	(0.148)	(0.102)	(0.295)
Protestant	0.439***	1.038***	0.334***	0.242
	(0.059)	(0.074)	(0.098)	(0.148)
Other Christian	0.863***	3.444***	1.095***	1.819**
	(0.135)	(0.396)	(0.223)	(0.790)
Muslim	0.937***	--	0.617***	--
	(0.141)		(0.233)	
Adj. R^2	0.197	0.215	0.104	0.140
II.				
Attendance: every week	1.636***	2.887***	0.931***	1.464***
	(0.073)	(0.166)	(0.123)	(0.341)
Attendance: every month	1.045***	2.001***	0.825***	0.882***
	(0.072)	(0.135)	(0.121)	(0.278)
Attendance: less frequent	0.520***	0.918***	0.392***	0.377**
	(0.047)	(0.081)	(0.078)	(0.167)
Adj. R^2	0.229	0.262	0.108	0.144
III.				
Catholic × attendance	1.258***	2.190***	0.676***	0.933**
	(0.080)	(0.217)	(0.134)	(0.442)
Catholic × no attendance	0.302***	0.600***	0.317***	0.698*
	(0.065)	(0.186)	(0.108)	(0.381)
Protestant × attendance	1.457***	2.310***	1.027***	1.019***
	(0.096)	(0.131)	(0.161)	(0.268)
Protestant × no attendance	0.279***	0.671***	0.219**	0.016
	(0.060)	(0.079)	(0.100)	(0.161)
Christian × attendance	1.609***	3.894***	1.757***	2.042**
	(0.176)	(0.427)	(0.294)	(0.872)
Christian × no attendance	0.080	1.670*	0.401	0.911
	(0.183)	(0.897)	(0.306)	(1.831)
Muslim × attendance	1.080***	--	0.965**	--
	(0.230)		(0.385)	
Muslim × no attendance	0.731***	--	0.385	--
	(0.155)		(0.258)	
Adj. R^2	0.221	0.251	0.108	0.142
N	11,728	3,539	11,728	3,539

Notes: OLS; dependent variables in log values. Estimations include the vectors of control variables as outlined in the text. Panel III.: "*attendance*" in the interaction terms equals one, if the individual attends religious services once a month or more; and "*no attendance*" otherwise. The reference category is "*no affiliation*", irrespective of attendance, as less than one percent of people without affiliation attends religious events. "--": results miss because of limited sample size.

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Source: SOEP, 2007-2010, V28.

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