

**You can't always get what you want –  
East and West Germans' attitudes and preferences regarding the welfare  
state\***

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**Abstract**

More than twenty years after the fall of the iron curtain, do citizens from former Communist countries still exhibit attitudes and preferences with regard to the welfare state and income redistribution that differ from those in the West? This paper seeks to answer this question for Germany after reunification using not only survey data on attitudes but also evidence on preferences from a discrete choice experiment, both based on a representative sample. In a first step, we revisit the empirical evidence, compare our results to those of Alesina and Fuchs-Schündeln (2007) and test whether convergence of attitudes has yet been achieved. In a second step, we apply an advanced method to investigate preferences for redistribution in terms of willingness to pay. This framework is more in line with standard public choice theory as individuals are forced to overcome trade-offs and are exposed to take their inherent budget constraint into account when voicing their opinion on redistribution. The results are quite mixed. While East Germans seem to desire a higher amount of redistribution than West Germans, they are not willing to contribute more through taxation. This finding has important implications for social policy in reunified Germany.

**Keywords:** Income redistribution, preferences, willingness to pay

**JEL:** C93, D63, H23, P26

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# 1 Introduction

Twenty years after the fall of the iron curtain, ideological differences between the two formerly separated parts of Europe may continue to prevail. Socialist countries were characterized by proclaimed equality of all citizens and government responsibility for their well-being combined with control. Even those who did not identify with this ideology are likely to have attitudes towards the welfare state and income redistribution shaped by socialization. German reunification constitutes a case of particular interest for two reasons. First, reunification exposed individuals from (former Communist) Eastern Germany much more directly and deeply to Western values than citizens of other Eastern European countries. Therefore, one might also expect a gradual convergence of their attitudes and preferences with regard to the welfare state and its correlate, income redistribution. Second, failing convergence German social policy would face the specific problem of having to deal with preference heterogeneity not only between rich and poor, the active and retired, but also between its Eastern and Western part of the country. To answer this question we use a unique representative dataset from 2012 based on survey data complemented with data from a discrete choice experiment. Thereby we focus on redistribution as one particular dimension of the welfare state.

Differences in attitudes towards the welfare state between countries are well documented (see for example Alesina and Glaeser 2004 or Alesina et al. 2001). For instance, Europeans are found to show more support of the welfare state than U.S. citizens; however their attitudes are heterogeneous. According to recent literature, attitudes vary between former socialist countries and western market economies (see Luttmer and Singhal 2011). In this context, the determinants of these differences such as ideology, culture and the effect of institutions on individuals' attitudes are critically discussed.

From a theoretical perspective Benabou and Tirole (2006) as well as Alesina and Angeletos (2005) suggest that the relationship between collective beliefs – i.e. views about fairness and an acceptable degree of inequality – and public welfare can lead to multiple equilibria. Alesina et al. (2012) model individuals' perceptions of inequality and justice within the framework of a probabilistic voting model. Their results indicate strong and long-lasting effects of these perceptions on individuals' attitudes and voting behavior.

Ockenfels and Weimann (1999) conducted an experiment in 1995 involving participants from both the former (Communist) German Democratic Republic (GDR) and the (western) Federal Republic of Germany. They find East Germans more inclined towards cooperation and solidarity than their Western compatriots.<sup>5</sup> They relate this difference to differences in their cultural background.

The evidence presented so far suggests a strong effect of collective beliefs, norms, and culture on individuals' attitudes. There are also several empirical studies, analyzing the role of these factors. Using three waves of the European Social Survey (ESS) covering 32 countries, Luttmer and Singhal (2011) investigate whether immigrants take their attitudes from their

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<sup>5</sup> To improve the readability of the article, people living in the area of the former German Democratic Republic are identified as East Germans, people living in the area of the cold-war Federal Republic of Germany are identified as West Germans.

country of origin with them. By focusing on immigrants, the authors are able to disentangle the (long-term) impact of culture from influences emanating from current economic and institutional influences.<sup>6</sup> According to them, attitudes towards income redistribution are mainly affected by the cultural component. Moreover, the results indicate – in line with the theoretical literature – that this cultural component is long lasting and persistent even 20 years after immigration.

Corneo and Grüner (2002), using the International Social Survey Program (ISSP) for 1992, compare attitudes towards redistribution in 12 countries. Separating former socialist and non-socialist countries the authors can rule out that socialism has no effect on individuals' attitudes. In the contrary, they find striking differences. They find that individuals from countries with a socialist history exhibit stronger support for an active role of the state in reducing income differences, as does Suhrcke (2001) based on ISSP data for 1999 as well as Guillaud (2012) based on the 2006 edition of ISSP. Thus, citizens from former socialist countries consistently show a comparatively strong desire for redistribution even more than one and a half decades since the fall of the iron curtain.

However, Olivera (2012) contradicts this finding, using data from the ESS covering the years 2002 to 2010 and 33 European countries. He finds *negative* effects of a socialist past on individuals' attitudes towards redistribution, leading him to conclude that attitudes instilled by Communist regimes have faded. Future studies will have to resolve this contradiction.

One limitation of the studies cited up to this point is the use of cross country data which categorize very heterogeneous countries as *east* or *west*, respectively. But the former socialist countries have taken very different routes, some of them adapting to western principles and life-styles much faster than others. This aspect is taken into account e.g. by Corneo (2001) who focuses on the so-called *east-west-dichotomy* in only two countries, i.e. the differences in attitudes between U.S. citizens on the one hand and East and West Germans on the other. His results, based on ISSP data for 1992 again, indicate a marked inequality aversion of East Germans compared to West Germans and U.S. citizens, leading to a stronger desire for an active role of the state in reducing differences in income.

More authors take advantage of the situation in Germany. German reunification provides an unique opportunity for testing the influence of ideology on attitudes. According to Alesina and Fuchs-Schündeln (2007), German reunification can be treated as an exogenous shock. After World War II and the formation of the two German states in 1949, the separation of East and West Germany was increasingly enforced, culminating in the construction of the Berlin Wall in 1961. Up to 1989/90, East Germans could not cross the border and relocate, no matter what their preferences were. Especially in East Germany, the choice of the political and economic system was to a large extent no case of free will but of imposition. Hence, the residents of the two German states made entirely different experiences. East Germans had to live under a socialist regime that was characterized by Marxist and Leninist indoctrination of comprehensive equality and governmental responsibility for individuals' well-being combined with extensive control. Even individuals who did not identify with socialist ideology were subject to socialization shaping their attitudes towards the welfare state and its correlate,

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<sup>6</sup> Luttmer and Singhal (2011) also provide a broad literature review on the effects of culture on individuals' attitudes.

income redistribution. In contrast, West Germans were under the influence of a market economy and capitalism. This makes West Germans a perfect control group for East Germans.

The first to benefit from this circumstance was Corneo (2004), who used German ISSP data for 1992 and 1999. He confirms earlier studies, finding that socialist ideology does have an impact on attitudes, with partial convergence between East and West during the period of observation, however. In their comprehensive analysis of citizens' attitudes towards the welfare state and their determinants, Alesina and Fuchs-Schündeln (2007) rely on the German Socio-Economic Panel (GSOEP) covering the years 1997 and 2002 and ask whether there is a *feedback effect* of the political regime in East Germany on citizens' attitudes. The authors concentrate on the question whether living under a socialist regime for 45 years leads to the belief that the type of government is essential for citizens' well-being.<sup>7</sup>

Having found evidence to this effect, the authors move on to examine determinants. An obvious one is political indoctrination; however, they also consider an economic one. Comparing income levels, East Germany was relatively poor in contrast to West Germany at the point of reunification. Thus, Eastern Germans are predicted to be in favor of redistribution in their own interest. However, even when controlling for individuals' income, the effect of socialism still prevails, making East Germans more inclined to agree with the view that the political system is responsible for individual success while poverty is the fault of society. However, Alesina and Fuchs-Schündeln (2007) continue their investigation on a more detailed level. First, they check whether individuals from East Germany who had lived there also in times of the former GDR show stronger support for government intervention than West Germans. Indeed, they find that the probability of favoring intervention increases significantly if the individual has experienced the Communist regime. However, this effect diminishes between 1997 and 2002, resulting in convergence between 2009 and 2029, i.e. 20 to 40 years after reunification. Second, the authors test for a relationship between the effect of Communism and the individual's age. Overall, older age is associated with more entrenched attitudes, as one would expect, except that the second oldest cohort exhibits the strongest support for government intervention. Finally, individuals from East Germany who have migrated to the West have attitudes more in line with *native* West Germans than with the East Germans who stayed. These statements prove robust, leading the authors to conclude that the influence of Communist ideology does not depend of socio-demographic characteristics, among them also the federal state of residence. Using the same databases, Rainer and Siedler (2008) as well as Stichnoth (2012) find supporting evidence.

Finally, Kuhn (2013) uses a slightly different framing which is close to this paper. Respondents to the ISSP of the years 1987, 1992 and 1999 were asked to estimate wages earned in

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<sup>7</sup> The question Alesina and Fuchs-Schündeln (2007) refer to reads: "*At present, a multitude of social services are provided not only by the state but also by private free market enterprises, organizations, associations, or private citizens. What is your opinion on this? Who should be responsible for the following areas? [...]*" "*financial security in case of unemployment,*" "*financial security in case of illness,*" "*financial security of families,*" "*financial security for old-age,*" and "*financial security for persons needing care.*" The respondents were forced to state their opinion on a five point scale with the orthogonal poles being "*only the state*" and "*only private forces*". The authors define the case in which the respondents choose "*only the state*" as having a strong preference for redistribution. The framing of the statement carries only a rather general notion of redistribution and probably captures perceptions about the general role of the state. Thus, it is not possible to disentangle views about the responsibility of the state from attitudes for redistribution.

several professions and to state how much people working in these professions should earn. Using the difference between these two values as a proxy for respondents' demand for redistribution, he finds this demand to be much stronger among East than West Germans. Moreover, the results underline previous findings of Alesina and Fuchs-Schündeln (2007) regarding differences in attitudes across birth cohorts, although not all effects turn out to be significant. Thus, Kuhn (2013) provides evidence that one reason for these differences are different inequality perceptions of East and West Germans.

To sum up the empirical literature, ideology seems to be a crucial determinant of individuals' attitudes towards the welfare state and income redistribution, explaining much of the difference not only between former socialist countries and market economies but also between East and West Germany. Moreover, the results indicate a long-lasting effect of ideology on individuals' attitudes. However, the cross country study by Olivera with data from 2010 suggests that there may be at least some convergence. The latest available data for Germany applied in a study are from the year 2005 (see Rainer and Siedler 2008). Since then, attitudes of East and West Germans may have converged, as Alesina and Fuchs-Schündeln (2007) predict on the basis of data from 1997 and 2002. They mention the year 2009 as a lower bound for convergence. But at this point of time, this hypothesis has not been tested, as no up-to-date data has been available so far. We aim at closing this gap, providing evidence on the basis of data for Germany of 2012.

In addition, this study addresses an important methodological weakness of the existing literature. They measure attitudes by drawing on a question such as, "*To what extent do you agree or disagree with the statement, 'It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes'?*" (for example Alesina and La Ferrara 2005 or Corneo and Grüner 2000). Responses to questions of this type are typically interpreted as *preference* for redistribution. But from a microeconomic perspective, it seems questionable that this agreement reflects true *preferences* rather than pure *attitudes*. In the context of this article and in line with the micro-economic theory we define that an *attitude* refers to the optimum point, i.e. the optimum combination of different characteristics, whereas *preferences* refer to the slope of the indifference curve in a given situation, i.e. the marginal rate of substitution between the characteristics that enter the utility function. We will discuss the technical aspects of this not purely terminological question in more detail in section two when the concept of discrete choice experiments (DCEs) is introduced and in section four when we interpret the results.

At this point we just want to stress that *attitudes* and *preferences* do not have to be the same as individuals' might desire a higher level of redistribution while at the same time not being willing to equally participate in the financing. Another common problem of methods that rely on respondents' agreement with certain statements is that they are prone to bias. For example, social desirability may likely result in excessive generosity when no budget constraint is imposed ('yeah-saying'). Summarizing, as long as respondents are not exposed to a budget constraint and therefore are not forced to face trade-offs when voicing their opinion about the level of redistribution the outcome should not be interpreted in terms of a *preference*. They have therefore limited relevance for predicting actual decision making. Distortions of this type may cause policy makers to come up with proposals that fail the market test in the political arena. Rational voters will consider the price they have to pay and the benefit they stand to

receive, respectively, depending on their position in the income distribution. Reforms of the welfare state need to be aligned with citizens' *preferences* which ultimately are expressed in willingness-to-pay values.

Studies going beyond survey-based measures of attitudes towards redistribution are extremely rare. Although redistribution is modeled as the result of a voting mechanism in standard public choice theory, empirical analyses at the micro level fail to account for this. Accordingly, the typical framing of questions is inadequate for eliciting respondents' *preferences* for redistribution (see e.g. Fong 2006).<sup>8</sup>

With the exception of Neustadt and Zweifel (2010a; 2010b), Neustadt (2011) and Pfarr (2012; 2013), there are no studies estimating the *preferences* for redistribution using a DCE. Pfarr finds that the average German citizen is willing to contribute about 12 € per month for an increase in the redistribution budget by one percentage point of GDP. The present contribution aims at testing the hypothesis, derived from the literature cited, that this WTP value is higher among East Germans than West Germans.

Hence, the contribution of this study is twofold. First, more than 22 years after the German reunification, it addresses differences in attitudes towards the welfare state and income redistribution between East and West Germans, contributing to the research on the effects of culture and ideology and distinguishing between individuals' attitudes and preferences. Using the same methodology but data from a representative survey of 2012, estimated attitudes and their persistence can be compared to those found by Alesina and Fuchs-Schündeln (2007). Second, the paper aims at measuring, for the first time, *preferences* for redistribution in East and West Germany using a DCE, involving 1,538 representatively selected German citizens in 2012. This permits to see whether attitudes towards the welfare state and *preferences* in terms of willing-to-pay values coincide. The insights obtained may help policy makers in unified Germany to take into account preference heterogeneity between the Eastern and Western parts of the country when proposing reforms of the German welfare state.

The remainder of the paper is structured as follows. In the next section, the underlying conceptual framework is expounded. Section 3 provides descriptive statistics of the data used and introduces the econometric models. The empirical analysis is presented and discussed in Section 4. Section 5 concludes.

## 2 Methods

### 2.1 Conceptual framework

For experimentally measuring *preferences* in the economic sense, we apply a DCE. The experimental approach can be justified in view of the fact that redistribution of income is a non-marketable good, the preferences for which are hardly ever revealed by citizens. In most democracies, all they can do is vote for or against a party that promises to increase the amount

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<sup>8</sup> Boeri et al. (2001; 2002) stands out, as they try to overcome these problems using the Contingent Valuation Method (CVM). Their analyses focus on the attitudes towards redistribution with regard to pension schemes and unemployment insurance. Their approach does impose a trade-off between social insurance coverage and income net of contributions. However, CVM holds all attributes of the product "pension reform" constant, only varying its price. In contrast, all attributes are varied in a DCE, resulting in trade-offs between all of them.

of redistribution. In a situation where preferences are not revealed, *stated preferences* (SP) may serve as second best. If measured correctly, they can predict individuals' decision making by revealing existing but not articulated preferences (see Louviere and Street 2000, pp. 22–25). The DCE method, developed by Louviere and Woodworth (1983) as well as Louviere and Hensher (1982) is rooted in decision theory and microeconomic utility theory in the version of Lancaster (1966).<sup>9</sup> Individuals derive their utility not from the good per se but from the characteristics (the so called attributes) offered by the product.<sup>10</sup> Utility maximization implies that respondents taking part in the experiment can opt for only one of the goods or options presented instead of maximizing utility over a bundle of goods. In the classical version of a DCE, participants are asked to repeatedly choose between a fixed status quo and a hypothetical alternative. These alternatives exhibit the same attributes but vary regarding the attribute levels. In our case, the individuals are exposed to a number of pairwise decision situations in which the status quo is confronted with varying alternatives. We define the whole redistributive system as one good with specific attributes (the attributes will be described in detail below).

In general terms, an individual  $i$  chooses alternative  $l$  rather than  $j$  if the utility derived from alternative  $l$  is higher than the utility derived from any other alternative  $j$  (see Ben-Akiva and Lermann 1985, p. 57; Louviere and Street 2000, p. 62), i.e. if

$$[2.1] \quad U_{il} > U_{ij} = u_i(x_l; b_l) > u_i(x_j; b_j).$$

Equation [2.1] consists of the attributes vector  $b_j$  and  $b_l$  as well as the indicator for the attribute levels  $x_j$  and  $x_l$  of the respective alternative  $j$  and  $l$  (Lancaster 1971, pp. 21–24). Together with the conditional demand functions  $x_j(\cdot)$  and  $x_l(\cdot)$  one obtains the indirect utility function

$$[2.2] \quad V_{il} > V_{ij} \Leftrightarrow v_l(p_l, b_l, y_i, s_i) > v_j(p_j, b_j, y_i, s_i) \quad \forall j \neq l.$$

Besides the price of the respective alternative  $p_l$  ( $p_j$ ), the attributes  $b_l$  ( $b_j$ ) and the individual's income  $y_i$ , also the socio-demographic characteristics  $s_i$  of individual  $i$  enter the indirect utility function. By including the price attribute, the individual budget constraint is imposed.

The data obtained from a DCE allow to analyze the effect of individual attributes on the decision making process of the respondents.

An important parameter reflecting the structure of preferences is the marginal rate of substitution (*MRS*). However, as indicated by microeconomic theory, the *MRS* depends on where it is evaluated along an indifference curve. For this reason, many DCEs fix a status quo as the baseline alternative, ensuring that comparisons of utilities refer to the same reference point. Otherwise the calculated welfare measures might be biased. Accordingly, a rational utility maximizing individual chooses a proposed alternative  $B$  if this alternative offers a higher utility than the status quo  $S$ . If at the same time the individual chooses status quo  $S$  rather than alternative  $A$ , the individual's indifference curve must be located between  $A$  and  $B$  (see Pfarr

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<sup>9</sup> DCEs were first applied in marketing research, environment and transportation economics and since the middle of the 1990s also in health economics (see for example Bekker-Grob et al. 2012).

<sup>10</sup> This is the striking differences between traditional neoclassic utility theory and the demand theory of Lancaster (1966). The Lancasterian approach is in line with the neoclassical view of utility with respect to the form and shape of the utility function. Furthermore, the axioms of transitivity, completeness, continuity and concavity also hold Lancaster 1971.

2013, p. 112; Vroomen and Zweifel 2011, p. 89). Hence, repeated choices of this type permit to estimate the slope of the indifference curve, i.e.  $MRS_{n,m}$  between attributes  $m$  and  $n$  (see Lancsar et al. 2007, p. 1741). By partially differentiating the indirect utility function<sup>11</sup> the MRS is given by,

$$[2.3] \quad MRS_{b_n}^{b_m} = -\frac{\partial v_i(p_l, b_l, y_i, s_i) / \partial b_m}{\partial v_i(p_l, b_l, y_i, s_i) / \partial b_n} = -\frac{\hat{\delta}_{b_m}}{\hat{\delta}_{b_n}}.$$

If  $b_n$  is specified as the price attribute, the  $MRS$  can be interpreted as marginal willingness to pay (MWTP).<sup>12</sup> That is the MWTP of individual  $i$  for an additional unit of  $b_n$  expressed in units of the individual's income. This measure of preferences will be applied in the empirical analysis.

Individuals' utility has to be treated as a latent construct that cannot be directly observed. Building on the Random Utility Theory (see McFadden 1974; 1981 and Manski 1977) an error term  $\varepsilon_{il}$  is added to the indirect utility function as not all attributes and motives can be observed or ex ante anticipated by the researcher. Splitting the utility function into a deterministic observable  $w_l(\cdot)$  and the stochastic component  $\varepsilon_{il}$ , one obtains:

$$[2.4] \quad V_{il} > V_{ij} \Leftrightarrow w_l(p_l, b_l, y_i, s_i) + \varepsilon_{il} > w_j(p_j, b_j, y_i, s_i) + \varepsilon_{ij} \quad \forall j \neq l.$$

Consequently, only the probability  $P_{il}$  of individual  $i$  choosing alternative  $l$  rather than  $j$  can be estimated (see Louviere and Street 2000, p. 53). This probability indicates individuals' decision making and is in line to their preference for a given redistributive system expressed by choosing one of the proposed options. The options, i.e. status quo and one alternative, constitute the possible supply of redistribution. Accordingly, by means of this experiment, the voting mechanism is captured through the DCE. Furthermore, with the incorporation of the price attribute  $p_l$  which represents the personal contribution for a given redistributive system, the budget constraint is imposed. Thus, the experimental framework is able to cover the underlying voting mechanism and to overcome the aforementioned shortcomings.

## 2.2 Implementation and survey design

Because of the hypothetical nature of the DCE its design requires special attention. Following Bateman et al. (2002, p. 258), the process included intensive literature reviews, expert interviews, and group discussions involving a total of 629 students as well as three independently conducted pretests with about 40 participants each.<sup>13</sup> Ten attributes were found to affect individuals' utility in the context of a redistribution system. These attributes are: personal tax and social insurance contributions<sup>14</sup>, the amount of redistribution as a percentage of the GDP, the socio-demographic status of beneficiaries (sick persons and persons in need of care, families

<sup>11</sup> In this case a linear utility function is assumed. If a nonlinear utility function is considered, the calculation is analog.

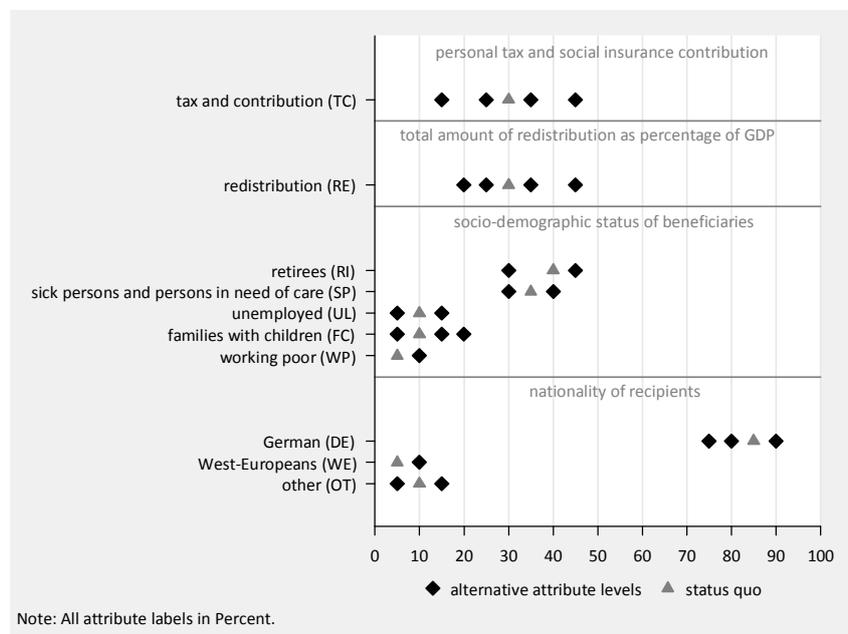
<sup>12</sup> Using Roy's Identity the price parameter can be interpreted as the marginal utility of income. For the formal proof see Hanemann (1983, p. 544) or Telser (2002, p. 56).

<sup>13</sup> For a detailed discussion and presentation of the experimental design please refer to Pfarr (2013).

<sup>14</sup> To simplify, averages for the personal income tax are chosen. The progressivity of the German income tax cannot be covered. If personal income tax would be individual specific – e.g. with respect to the progression – the econometrically required independency of attributes and individuals would fail. As this is a critical assumption we test for this, e.g. by adjusting for income levels.

with children, retirees, unemployed, working poor) as well as the nationality of recipients (German, West-European, other).

Moreover, the attributes need to be assigned meaningful attribute levels. On the one hand, they should cover a relevant and realistic range. On the other hand, they need to be sufficiently spaced to make respondents “jump” between the status quo and an alternative redistributive system. Without sufficient number of decisions in favor of alternatives, the shape of the indifference curve cannot be estimated with any precision. Furthermore, pitting an increase in the level of one attribute against a decrease of another attribute forces respondents to face trade-offs (cf. Bateman et al. 2002, p. 260; Telser 2002, p. 39). To give a succinct summary of the constructed redistributive systems, the attributes are grouped together and visualized in four diagrams which underline the substitutive character and the inherent trade-offs between the attributes (see appendix). Figure 1 presents the chosen attributes and their respective levels categorized by their substitutive relationships. Note that the spread in the price attribute (TC) is particularly marked; this is appropriate in view of the fact that an estimate of the coefficient pertaining to the price attribute is needed for the calculation of all MWTP values.



**Figure 1: Attributes, Labels and Levels**

Since the number of possible combinations would put an excessive burden on participants, it needs to be reduced. By using the software *gosset* to apply a D-optimal design (see Kanninen 2002, Kuhfeld et al. 1994, Kuhfeld 2006)<sup>15</sup>, we were able to restrict the number of alternatives to 49. We split these into seven groups<sup>16</sup> and randomly assigned each respondent to one of them. For checking consistency of choices, we included one alternative twice meaning that at the end of the whole process the tasks per respondent dropped to eight.

<sup>15</sup> While the D-optimality was developed essentially for linear estimation models, Carson et al. (1994) suggest that the application for non-linear models such as probit or logit is also possible.

<sup>16</sup> Bech et al. (2011) shows that the cognitive burden increases in the number of choice sets. Nevertheless, Bech et al. (2011) shows that exposing respondents up to 17 choice-sets is manageable and respondents can handle even such large numbers.

Finally, to obtain unbiased estimates it is compulsory to ensure that all respondents have similar knowledge about the status quo. Consequently, respondents were provided with a comprehensive description of the current amount and structure of income redistribution in Germany, the choice process in the experiment, and the attributes and their possible realizations.<sup>17</sup> In contrast to laboratory experiments, it is uncommon to use financial payoffs in DCEs that are administered in the field. This entails the risk of respondents overstating their *true* willingness to pay because they do not have to actually contribute to redistribution. However, recent literature indicates that willingness-to-pay estimates do not depend of whether or not payoffs are involved (see Mørkbak et al. 2012; Broadbent 2012).

### 3 Empirical strategy

#### 3.1 Data

The data was collected in February 2012 and is representative for the resident German population eligible to vote. Since preferences of respondents from the former GDR were expected to differ systematically from those in the West, the GDR was oversampled to ensure sufficiently large numbers; accordingly, descriptive statistics discussed below are weighted. In total, 1,538 individuals completed the DCE as well as the complementing questionnaire in computer-assisted interviews.

With eight decision tasks, the full dataset comprises 12,304 observations.<sup>18</sup> The consistency check reveals that 13 percent of respondents failed to choose identically in two identical scenarios. This is a fairly low number compared to other DCE studies (cf. Phillips et al. 2002), suggesting that the DCE was well explained to participants. Often, these individuals are excluded from the analysis on the grounds that they behaved in an inconsistent way. However, by retaining them, one is prevented from overestimating the accuracy of results and hence from excessive confidence in forecasting actual decisions. Moreover, results prove robust against the inclusion of inconsistent responses (see Pfarr 2013). In addition, Lancsar and Louviere (2006) argue that random utility theory is designed to accommodate errors in decision making.

Of the 1,538 respondents, 86 were not yet born in 1989, the year of reunification, while 42 were living outside Germany. This leaves 1,410 individuals, of whom 428 (identified by the indicator variable *East German* =1) have lived in the GDR under Communism and of whom 982 have lived in West Germany prior to 1989.<sup>19</sup> In addition, 30 individuals (some 7 percent of the GDR subsample) have migrated to the West between 1989 and 2012. Using weights to adjust for the oversampling this indicates that by 2012 about 11 percent of the former citizens of the GDR have moved to the territory of West Germany. This is an increase of about 4 percentage points compared to the 7 % Alesina and Fuchs-Schündeln (2007) report for the period between 1989 and 2002. Migration from the west to the east has also happened, but only on a much smaller scale: less than 3 percent of the West Germans have moved to the former GDR. While this is almost five times the number observed in 2002, this is still on a very low level.

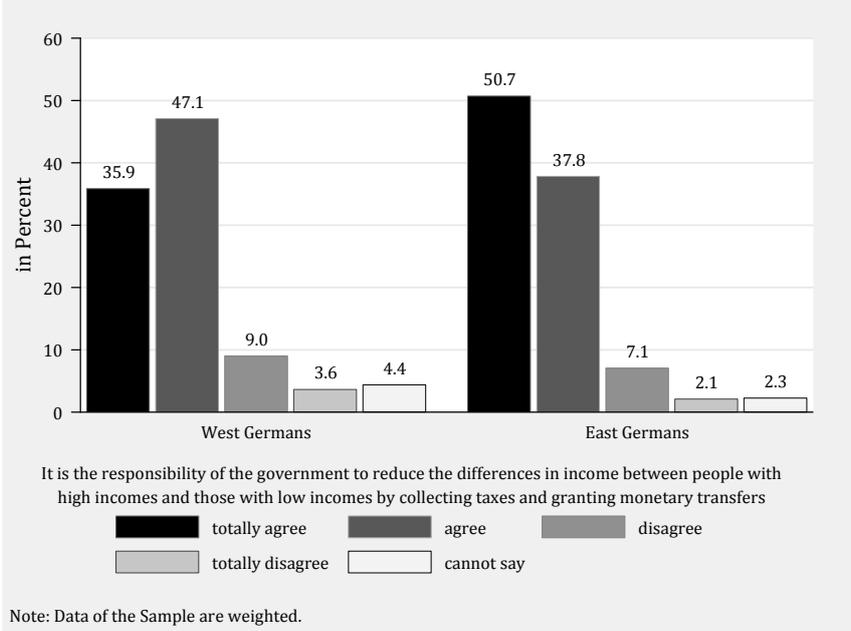
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<sup>17</sup> More information is available upon request.

<sup>18</sup> This results in the panel structure with eight periods as described above.

<sup>19</sup> The weighted proportion of East Germans in our sample is about 22 % which is reasonably close to the numbers of the Federal Statistical Office which states a proportion of 20 % (Statistisches Bundesamt 2012).

The variable *inequality reduction* captures answers to the statement, ‘It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes by collecting taxes and granting money transfers’ in the complementary questionnaire. The scale ranged from 1= ‘totally agree’, 2= ‘agree’ and 3= ‘disagree’ on to 4= ‘totally disagree’, with ‘cannot say’ also admissible. As shown in table 1, East Germans exhibit a significantly higher degree of agreement, but differences in mean values are small. Yet mean values hide considerable heterogeneity within the two subsamples, as evidenced by figure 2. While only 36 percent of West Germans totally agree, this share is 51 percent among East Germans. Thus, while both groups share the conviction that government has the responsibility to reduce income differences, their attitudes differ substantially in detail.



**Figure 2: Attitudes towards the welfare state for East and West Germans**

The indicator variable *choice* is the dependent variable in the analysis of the DCE; it equals one if the respondent opted for the alternative instead of staying with the status quo. A mean value *choice* = 0.35 is high compared to other DCEs (see Neustadt 2011; Becker 2006), giving rise to the expectation that the *MRS* and *WTP* values of interest can be estimated with sufficient precision. Only about 8 percent of respondents never chose the alternative, whereas the modal number of moving away from the status quo is three, with no difference between East and West Germans.

This is slightly different when it comes to the age structure of the sample. While the categories *age1*, *age3* and *age4* do not exhibit significant differences, young people (*age5*) are more strongly represented among the East Germans and the senior age group (*age2*), among the West Germans. This carries over to a significantly higher average *age* in the West German subsample. Significant differences show also in the case of marital status, divorce, education level, and employment and are in accordance with official statistics. Most notably, incomes are significantly higher in the West than in the East amounting to a difference of almost 360 Euro in monthly household income on average.

**Table 1: Descriptive statistics**

	<i>West Germans</i>		<i>East Germans</i>	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
<i>Dependent Variables</i>				
Inequality reduction	1.80	0.72	1.60	0.72
Choice	0.35	0.48	0.35	0.48
<i>Basis variables</i>				
Age1 (< 1935)	0.04	0.19	0.03	0.16
Age2 (1935 – 1949)	0.25	0.44	0.22	0.42
Age3 (1950 – 1964)	0.31	0.46	0.33	0.47
Age4 (1965 – 1979)	0.26	0.44	0.33	0.47
Age5 (> 1980)	0.14	0.35	0.17	0.38
<i>Socioeconomic controls</i>				
Female	0.51	0.50	0.54	0.50
Age	52.11	15.28	50.08	15.36
Age_sq/100	29.48	16.14	27.43	15.64
Married	0.59	0.49	0.52	0.50
Widowed	0.07	0.26	0.07	0.25
Divorced	0.12	0.33	0.16	0.36
Number of children	1.32	1.12	1.29	1.10
Secondary school	0.27	0.44	0.39	0.49
Vocational training	0.21	0.40	0.22	0.42
A level graduation	0.11	0.32	0.10	0.30
University diploma	0.15	0.36	0.16	0.37
Fulltime employed	0.43	0.50	0.46	0.50
Log (net monthly equivalent household income)	7.39	0.54	7.14	0.53
<i>N</i>	982		428	

Note: Data are weighted.

### 3.2 Estimation strategy

The first part of the empirical investigation – following Alesina and Fuchs-Schündeln (2007) and others – focuses on *attitudes* towards the welfare state. A simple ordered probit model is specified with the aim to analyze the effects of Communism on individuals' attitudes. The variable *inequality reduction* is a four-point categorical variable. According to the latent variable approach Boes and Winkelmann (2006), the econometric equation for the ordered response models reads:

$$[3.1] \quad \textit{inequality reduction} = \beta_1 \textit{communism}_i + \beta_2 \textit{controls}_i + \varepsilon_i.$$

In the ordered probit models it is common to assume a constant unitary variance of one, since the mean of the latent variable *inequality reduction* is not identified (see Long 1997). Thus, for the purpose of identification the constant has to be set to zero. Moreover, the error term  $\varepsilon_i$  is assumed to have variance of one as well Boes and Winkelmann 2006). The variable *com-*

*communism* is proxied by two indicators, both indicating East German origin that will be discussed in the results section.

In the second part the objective is to capture *preferences* using a DCE to estimate respondents' WTP for redistribution. As their utility is a latent construct, only the probability  $P_{il}$  of individual  $i$  choosing alternative  $l$  rather than  $j$  can be estimated,

$$\begin{aligned}
 [3.2] \quad P_{il}(l|C_m) &= \Pr[\varepsilon_{ij} - \varepsilon_{il} < w_l(\bullet) - w_j(\bullet)] \quad \forall l, j \in C_m; \forall j \neq l \\
 &= \int_{\varphi_{il}} [\varepsilon_{ij} - \varepsilon_{il} \leq w_l(p_l, b_l, y_i, s_i) - w_j(p_j, b_j, y_i, s_i)] \phi(\varphi_{il}) d\varphi_{il}
 \end{aligned}$$

with  $\varphi_{il} = \varepsilon_{ij} - \varepsilon_{il}$  and  $\phi(\cdot)$  denoting the *pdf*.

This probability thus equals the probability that the differences between the error terms ( $\varepsilon_{ij} - \varepsilon_{il}$ ) are dominated by the differences in the deterministic component ( $w_l(\cdot) - w_j(\cdot)$ ) (see Louviere and Street 2000, p. 40; Train 2009, p. 15). Assuming the error terms of eq. [3.2] to be normally distributed with a mean vector of zero and covariance matrix  $\Omega$  (Cameron and Trivedi 2008, pp. 947–951; Train 2009, p. 97), leads to the binary probit model with a two-way random effects specification reflecting the fact that the same respondents make repeated choices. To overcome the restrictive assumptions of a constant marginal utility associated with an additive linear specification of the indirect utility function (see Pekelman and Sen 1979; Gegax and Stanley 1997), we use a quadratic specification.<sup>20</sup> The estimation equation [3.3] below includes such quadratic terms for the attributes *tax and contribution (TC)*, *redistribution (RE)* and *other nationalities (OT)* to allow for a non-constant MRS.<sup>21</sup> For the econometric specification we have to bear in mind that each of the two groups of beneficiaries add up to 100 %. The attributes *sick persons and persons in need of care* and *Germans* are the omitted reference category to avoid perfect collinearity.

With respect to eq. [3.2], individual's decision making is only determined by the utility differences in the deterministic component. Consequently, socio-demographic characteristics will drop out of the calculation of the marginal willingness to pay as they are constant between the several decisions. Thus the variable *communism* enters the estimation equation in the guise of an interaction with  $\Delta TC$ ,  $\Delta TC^2$ ,  $\Delta RE$ , and  $\Delta RE^2$  to allow for a difference of MRS between respondents with and without a communist background (see Boxall and Adamowicz 2002, p. 421; Johnson and Desvousges 1997, p. 83),

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<sup>21</sup> We run several specification tests and procedures (e.g. Forward-Selection and Backward-Elimination procedure; Ramsey RESET test, Likelihood Ratio test). At the end, our tests pointed to the presented model to be the best with respect to goodness of fit. More information is available from the authors upon request.

$$\begin{aligned}
\Delta V_{ij} = & \Pr_i[\text{choice}_{il} = 1 | C_m] = \alpha_0 + \\
& \delta_p \Delta TC + \delta_{pc} (\Delta TC * \text{communism}_i) + \delta_{pp} \Delta TC^2 + \delta_{ppc} (\Delta TC^2 * \text{communism}_i) + \\
[3.3] \quad & \delta_r \Delta RE + \delta_{rc} (\Delta RE * \text{communism}_i) + \delta_{rr} \Delta RE^2 + \delta_{rrc} (\Delta RE^2 * \text{communism}_i) + \\
& \sum_{k=1}^K [\delta_k \Delta b_k] + \delta_s \text{controls}_i + \varphi_{il}
\end{aligned}$$

with  $\alpha_0 = \alpha_{0l} - \alpha_{0j}$  and the  $\delta$ s representing parameters to be estimated.

## 4 Results

### 4.1 Attitudes towards the welfare state

Table 2 presents the results for the ordered probit models designed to analyze attitudes towards the welfare state for East and West Germans, with *inequality reduction* the dependent variable. Estimates (1) and (2) show the effect of being an *East German* versus being a *West German* (reference category).

**Table 2: Results of ordered probit models for inequality reduction**

	inequality reduction							
	(1)		(2)		(3)		(4)	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
East German	-0.298	(0.068) ***	-0.227	(0.076) ***				
East living in East					-0.320	(0.071) ***	-0.245	(0.080) ***
East living in West					-0.034	(0.200)	-0.012	(0.197)
<i>Socioeconomic controls</i>			yes				yes	
AIC	2,843.55		2,416.04		2,843.75		2,416.96	
BIC	2,864.40		2,502.13		2,869.82		2,508.11	
<i>N</i>		1,358		1,169		1,358		1,169

\* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$

In line with the literature discussed in Section 1, East Germans are more inclined to strongly agree with the statement that it is the responsibility of the government to reduce income differences (recall that the value 1 means ‘strongly agree’). This difference is highly significant, suggesting that almost 22 years after reunification the two groups still differ in their perception of the role of the state when it comes to income redistribution, thereby confirming the previous results of Alesina and Fuchs-Schündeln (2007), Corneo and Grüner (2002) and Kuhn (2013). However, this finding also contradicts the predictions of Alesina and Fuchs-Schündeln (2007), who hypothesize that attitudes are converging, forecasting the year 2009 as a lower bound for convergence. Possibly, their prediction is not borne out because it is based on an extrapolation of only two time periods. Summarizing, estimates (1) and (2) point to *attitudes* being a long lasting characteristic, confirming previous findings.

Estimates (3) and (4) of table 2 deal with the effect of migration. Having moved to a West German neighborhood since reunification could have fostered convergence compared to the

ones who stayed in the East; however, individuals who migrated to the West could constitute a self-selected group with attitudes closer to those of the West Germans from the outset. This is also discussed by Alesina and Fuchs-Schündeln (2007) offering an explanation for the diverging convergence paths of these two East German groups. Most of the convergence between East Germans and West Germans between 1997 and 2002 seems to be driven by the East Germans who stayed in the East. So the migrants either were different from the outset or had already achieved their final level of convergence in 1997. By pitting *East living in West* against *East living in East*, one can control for this type of selection effect.<sup>22</sup> The first variable being defined as individuals who have migrated to the West since reunification and the second variable being defined as East Germans who have stayed on the territory of the former GDR after reunification. West Germans continue to constitute the reference group. The descriptive statistics for the subsamples are presented in table A.1 in the appendix. Both estimates point to a persisting effect of Communism since East Germans who stayed in the East exhibit a stronger agreement with governmental interventions and therefore a higher attitude towards redistribution. Coefficients in estimates (3) and (4) are somewhat higher than those pertaining to *East Germans* in estimates (1) and (2) of table 2. Thus, when both groups are summarized as *East Germans*, the effect of East Germans still living in the East is diluted by East Germans living in the West.

The influence of living conditions is epitomized by *East living in West*, whose coefficient fails to reach statistical significance. Attitudes of those from the East who moved to the West do not seem to differ from their West German neighbors anymore, indicating complete convergence. This finding again contradicts Alesina and Fuchs-Schündeln (2007), who conclude that movers exhibit stronger attitudes for redistribution than West Germans. Moreover the results do not change when we include individual control variables for example for education or income. Due to these results, the following analysis will rely on *East living in East* as a proxy for Communism using *West Germans* as reference category.

The persistence of the effects from living under a Communist regime can be analyzed further by introducing *age* as an intervening variable. This variable reflects the amount of time spent under this regime. One would hypothesize that the longer somebody has been exposed to the Communist ideology – i.e. the older an individual is – the longer lasting are the effects of Communism on his attitudes. We define five age cohorts using the youngest individuals (*age5*) as the reference category. As can be seen from table 3, the effect of having remained in the East remains prevalent and significant, no matter whether socio-demographic controls are included [estimate (2)] or not [estimate (1)].

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<sup>22</sup> To achieve comparability with the results presented by Alesina and Fuchs-Schündeln (2007), West Germans and West Germans who have moved to the former GDR have been merged. In another estimate, West Germans who migrated to the East were excluded, without any relevant differences. Results are available from the authors upon request.

**Table 3: Results of ordered probit models for inequality reduction, by age cohorts**

	inequality reduction			
	(1)		(2)	
	Coeff.	SE	Coeff.	SE
East living in East	-0.425	(0.186) **	-0.388	(0,203) **
Age1 * East living in East (highest age)	-0.273	(0.415)	-0.279	(0,434)
Age2 * East living in East	-0.096	(0.239)	-0.033	(0,257)
Age3 * East living in East	0.258	(0.223)	0.377	(0,243)
Age4 * East living in East	0.184	(0.228)	0.162	(0,247)
Age1 (highest age)	0.229	(0.227)	0.291	(0,250)
Age2	-0.070	(0.113)	-0.136	(0,148)
Age3	-0.034	(0.108)	-0.177	(0,130)
Age4	-0.015	(0.114)	-0.057	(0,130)
<i>Socioeconomic controls</i>			yes	
AIC	2,848.66		2,416.66	
BIC	2,911.23		2,533.13	
<i>N</i>		1,358		1,169

\* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$

However, neither for *East Germans living in the East* nor the benchmark group (West Germans) we find any significant age effects, once more contradicting Alesina and Fuchs-Schündeln (2007). They find that West Germans are less inclined to emphasize the responsibility of the government the older they are, opposite to the East Germans. Their evidence suggests a strong relationship between the amount of time spent under Communist rule and the attitude towards redistribution. However, using a cross-country panel, Olivera (2012) does identify an age effect, i.e. older age cohorts exhibiting stronger support for redistribution than younger ones, independently of whether the country has a Communist past or not. The study by Kuhn (2013) concludes that across all age cohorts, East Germans exhibit a higher inclination towards redistribution. But the differences between the age cohorts are small and no levels of significance are given. Thus our results contribute yet another flavor to a very heterogeneous literature. One could argue that the by now relatively long time period since the end of the Communist regime overshadows the effects that were still visible in 1997 and 2002 – pointing again towards potential convergence.

Summarizing, we do find relevant differences between East Germans who stayed in the East and those who migrated to the West. While the latter group has completely converged with West Germans, we still find significant differences of considerable extent between East Germans who stayed in the East and West Germans. However, as we still find the mentioned differences this seems to be a very slow process, underlining the long persistence of attitudes shaped under Communism. But special circumstances – e.g. having migrated and thus being strongly exposed to West German influences – accelerate convergence. This proves that convergence does happen and that its speed depends on the prevalent circumstances. Finally, we can disregard the explanation that the group of East Germans who have migrated has developed differently compared to the rest only due to self-selection.

## 4.2 Willingness to pay for redistribution

As argued above, measured attitudes are prone to misinterpretation because they do not take into account trade-offs imposed by a budget constraint. Therefore, citizens' willingness to pay for redistribution is the preferred measure for informing policy. The DCE solves these shortcomings and expresses preferences in terms of willingness to pay. MWTP values are calculated by first estimating equation [3.3] applying a random effects specification.

This permits calculation of the partial derivatives with respect to the attributes  $\Delta RE$  and  $\Delta TC$  according to equation [2.3], evaluating them at the status quo values, i.e.  $\Delta RE = \Delta TC = 0$ , which also causes the quadratic terms to drop out of the equation. Neglecting socio-economic control variables at this point, the equation [2.4] can be applied immediately, yielding

$$[4.1] \quad MWTP_{TC}^{RE} = -\frac{\partial \Delta V_{ij}(\bullet) / \partial \Delta RE}{\partial \Delta V_{ij}(\bullet) / \partial \Delta TC} \Bigg|_{\Delta TC=0; \Delta RE=0} = -\frac{\delta_r}{\delta_p} = -\frac{0.0321}{-0.0569} = 0.564$$

The overall result for the whole German population is presented as estimate (1) in table 4. Thus German citizens are willing to pay an extra 0.564 percentage point of their monthly gross income for an additional percentage point of GDP devoted to redistribution in excess of the status quo. Hence, German citizens exhibit a strong preference for redistribution even when they are made aware of the fact that they have to sacrifice some of their own income in order to finance it.

For the analysis of the effects of Communism, the proxy *East living in East* has to be interacted with the linear and quadratic terms of the two attributes of interest, i.e. TC (tax and contributions) and RE (redistribution). Thus, the calculation of the MWTP has to be extended to also include the partial derivatives pertaining to the interaction terms, evaluated at *communism* = 1 and *communism* = 0,

$$[4.2] \quad MWTP_{TC}^{RE} = -\frac{\partial \Delta V_{ij}(\bullet) / \partial \Delta RE}{\partial \Delta V_{ij}(\bullet) / \partial \Delta TC} \Bigg|_{\Delta TC=0; \Delta RE=0} = -\frac{\delta_r + \delta_{rc}}{\delta_p + \delta_{pc}} = -\frac{0,0311+0,0034}{-0,0554-0,0033} = 0.587$$

Therefore, East Germans living in the East exhibit a MWTP of 0.587 percentage points of their monthly gross income for an increase of redistribution by one percentage point of GDP; however, the standard errors are too large to make the difference with the German average value of 0.564 statistically significant.<sup>23</sup> As for the reference category *West German*, the calculation of the MWTP reduces to  $\delta_r / \delta_p = 0.561$ , which is lower than that of the East Germans but again not significantly so. This result is surprising at first sight as attitudes for redistribution strongly differ between the two groups; however, this will be discussed in section 4.3. While *attitudes* for redistribution are significantly stronger for East Germans living in the East, *preferences* for redistribution seem to be equal.

<sup>23</sup> Standard errors are estimated using the delta method (Hole 2007).

**Table 4: Marginal willingness to pay for redistribution**

	choice							
	(1)		(2)		(3)		(4)	
	MWTP	SE	MWTP	SE	MWTP	SE	MWTP	SE
Germans	0.565	(0.034)	***					
East living in East			0.587	(0.063)	***	0.558	(0.066)	***
West Germans			0.561	(0.043)	***	0.602	(0.047)	***
Age1 * East							0.587	(0.285) **
Age1 * West							0.638	(0.296) **
Age2 * East							1.048	(0.121) ***
Age2 * West							1.120	(0.110) ***
Age3 * East							0.550	(0.080) ***
Age3 * West							0.581	(0.068) ***
Age4 * East							0.405	(0.084) ***
Age4 * West							0.429	(0.073) ***
Age5 * East							0.317	(0.098) ***
Age5 * West							0.337	(0.092) ***
<i>Socioeconomic controls</i>					yes		yes	
<i>N</i>	12,304		11,280		9,616		9,616	
<i>LL</i>	-7,078		-6,866		-5,822		-5,441	

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.001$ . Standard errors were calculated using the delta method.

Estimate (3) incorporates the full list of control variables including income. Since incomes in the East continue to be lower than in the West, this might explain equality of MWTP values in the face of strongly divergent attitudes. However, even when accounting for income East and West Germans fail to exhibit a statistically significant difference in their MWTP for redistribution in excess of the status quo, at least in the year 2012. There may have been an effect some years ago, but obviously *attitudes* towards redistribution and *preferences* for redistribution are not the same.

Finally, estimate (4) controls for age effects, in analogy to section 4.1. Interestingly, there are no significant differences between the MWTPs of East and West Germans within a given age group. However, age cohorts do differ with respect to their MWTP in both groups. For example, across the country, the oldest (*age1*) have a significantly lower MWTP for redistribution than age group 2 but do not differ significantly from the others.

While in this paper a sharp distinction has been made between attitudes and preferences in the economic sense, this does not imply that attitudes are void of information for explaining preferences. Therefore, the observed variable *inequality reduction* from Section 4.1 is now added to equation [3.3], with the two categories *disagree* and *totally disagree* (which were rarely chosen by respondents, see figure 2) merged into the variable *disagree*. This reflects a first hypothesis, stating that attitudes, while not equivalent to MWTP values, do matter in predicting them. In addition, the remaining three categories (*totally agree*, *agree*, and *disagree*) are interacted with *East living in East*, reflecting a second hypothesis, according to which attitudes favoring government intervention should result in an even higher MWTP for redistribution among East Germans (who were exposed to communist ideology) than among West Germans.

This first hypothesis is borne out in table 5, in that MWTP is lowest among those (regardless of where they live) who are against the government intervening with the aim to reduce income inequality. The difference between their MWTP value and of those respondents (strongly) in favor of government intervention is statistically significant. However, the second hypothesis is not confirmed. East Germans who support or strongly support this type of government intervention fail to exhibit higher MWTP values than West Germans of the same conviction. Therefore, while *attitudes* towards redistribution are connected with *preferences* for redistribution, they do not boost MWTP in Eastern Germany, the part of the country where measured attitudes are particularly pro-redistribution.

**Table 5: Marginal willingness to pay for redistribution, by attitudes**

	<i>MWTP SE</i>
East: Strongly agree with inequality reduction	0.659 (0.077) ***
West: Strongly agree with inequality reduction	0.757 (0.071) ***
East: Agree with inequality reduction	0.514 (0.079) ***
West: Agree with inequality reduction	0.596 (0.061) ***
East: Disagree with inequality reduction	0.199 (0.128)
West: Disagree with inequality reduction	0.258 (0.121) **
<i>Socioeconomic controls</i>	<i>yes</i>
<i>N</i>	9,352
<i>LL</i>	-5,318

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.001$ . Standard errors were calculated using the delta method.

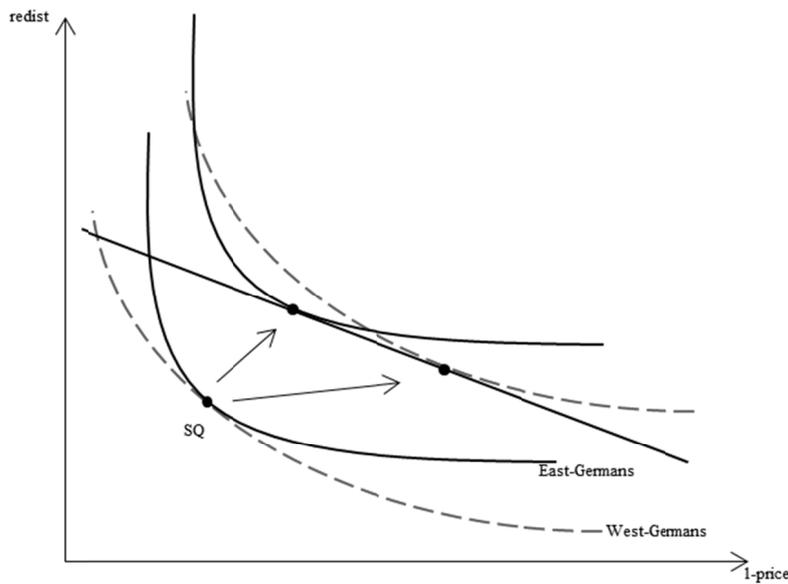
In sum, no statistically significant differences between East and West Germans can be found in MWTP values for income redistribution, regardless of whether attitudes and socioeconomic characteristics are controlled for or not. This contradicts previous findings that East German attitudes are more in favor of redistribution than their Western counterparts.

#### 4.3 Discussion and limitations

As stated in the Introduction section, the aim of this study is twofold. First, it seeks to test whether attitudes towards the welfare state continue to differ between West and East Germans, who were exposed to communist culture and ideology until 1989. We do so by applying established survey questions and find that differences still persist, implying a lower rate of convergence than suggested in previous research.

The second objective is to go beyond *attitudes* by measuring actual *preferences* for redistribution in the economic sense. Up to now basically all of the mentioned studies that rely on data obtained from voiced agreement on certain statements use the term *preferences* to describe what their results represent. We argue that this is a simplification that creates ambiguity: This approach allows to draw conclusions about what we call *attitudes*, but not about *preferences*. Figure 3 helps to illustrate the difference. To allow for a two-dimensional graph we use a simplified setting of a redistributive scenario that is characterized by only two attributes, i.e. the total volume of redistribution and the price attribute. For a meaningful interpretation, the latter is depicted as the difference between the individual's income and the price attribute. The status quo SQ is defined by a certain amount of redistribution and a defined price that is realized by tax and social insurance contributions. According to microeconomic theory, individuals will always choose a product that maximizes their utility. This means, the characteristics

of the utility maximizing product describe the point in which the budget constraint is a tangent to the individual's indifference curve.



**Figure 3:** East and West Germans preferences for redistribution

Our data suggest that East Germans have a much stronger attitude towards redistribution than West Germans. This means that given an identical<sup>24</sup> budget constraint both groups must have differently shaped indifference curves resulting in different tangential points. As both groups are living in the same country and are thus confronted with the identical status quo, their respective attitudes derived from such agreement questions reflect the difference between the volume of redistribution in the status quo and their respective optimal levels of redistribution. In the depicted example, East Germans desire a higher level of redistribution than West Germans which would reflect our empirical results. Furthermore, as no budget constraint is imposed in agreement questions, the desired level of redistribution is likely to be exaggerated.

Turning now to the *preferences*, we have already stressed the relevance of trade-offs and the budget constraint which allow an interpretation of the marginal willingness to pay as preference. In our case, the willingness to pay is estimated at the status quo. This is the only plausible scenario, as all reforms of the welfare state necessarily have to work from the status quo. Our results suggest that at the status quo East and West Germans have an identical MWTP. This implies that in this point their indifference curves are tangential. Although the two groups desire different levels of redistribution they exhibit the identical willingness to contribute for this goal.

From our point of view *attitudes* and *preferences* describe to different aspects of the same situation. Thus the analysis presented in table 5 which implicitly assumes a causal relationship between attitudes and preferences should be treated with caution.

<sup>24</sup> Although the average income is quite different in East and West Germany we are confident that the assumption of an identical budget constraint is robust. First, the experiment itself encourages respondents to abstract from their individual income level which was supported by exhaustive introduction to the experiment. Second, we tested and controlled for different income levels and did not find significant effects. Furthermore, our interpretation would even be robust to differing budget constraints, as long as the optimum level of redistribution for the East Germans is still higher than the one of the West Germans.

To be able to derive policy recommendations, the MWTP estimates still have to be confronted with overall budget constraints. We can test whether the MWTP of the employees – i.e. those who constitute the major group of tax payers – is sufficient to achieve a balanced household budget. Given the current redistribution budget of 760 billion euros in Germany, an additional percentage point of GDP devoted to redistribution translates (*ceteris paribus*) into 7.6 billion euros that need to be financed (see BMAS 2011). The findings presented above imply that German citizens<sup>25</sup> are willing to give up 0.565 percentage points of their gross income or (evaluated at the mean of the monthly gross income of the employees in Germany) 12.27 euros per month in return for an additional percentage point of redistribution. Multiplying this figure with 36 million, the number of workers (see Statistisches Bundesamt 2011), and with 12 for an annual amount, one obtains an aggregate WTP of 5.3 billion euros. To this, add the contributions of retirees (who also account, as these pay social insurance contributions and income taxes). Evaluated at their average gross pension, this is another 1.6 billion euros.<sup>26</sup> Altogether, the German electorate is estimated to be prepared to voluntarily contribute about 6.9 billion euros to finance an increase of income redistribution by one percentage point of GDP. This leaves a gap of 0.7 billion euros per year, suggesting that while German citizens' exhibit a marked willingness to pay for redistribution, it is not sufficient to finance a further increase beyond the status quo, unless alternative funding sources are utilized.

At this point, it is important to stress that the desired level of redistribution does not necessarily imply that this increase should be undertaken. For instance, it is doubtful that respondents to the DCE took into account the negative side effects emanating from higher taxes and contributions in terms of e.g. incentives to work and save. Still, the results of this DCE contain important information for German policy makers. When proposing additional income redistribution, they can be sure to be applauded by citizens across the country, but even more by the East Germans, as this is in line with the *attitudes* of the population. Politicians who present the costs of such reforms will still find support, but only within the limits of citizens' *preferences*, depicted by their MWTP. But as soon as the cost of such reform falling on taxpayers and contributors to social insurance goes beyond their willingness to contribute, politicians are likely to be penalized in elections. From a more optimistic perspective, telling citizens the truth about costs to be borne in future may help to avoid failure by dampening expectations.

These statements are subject to several limitations. First, the hypothetical nature of the experiment might produce biased results since respondents do not have to actually have to bear the financial consequences of their choices, making them overestimate their true MWTP for income redistribution. Yet, there are several studies suggesting that the results derived from an experiment providing financial incentives do not differ significantly from those derived from an experiment without such incentives (see for example Mørkbak et al. 2012; Broadbent 2012). Moreover, neither the comparable study by Neustadt (2011) for Switzerland nor validity checks performed in the context of the present study are able to identify significant distortions (for more detail see Pfarr 2013). Second, an experiment always captures the sentiment at

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<sup>25</sup> As the MWTP does not differ between East and West Germans we do not need to calculate these values separately.

<sup>26</sup> With a total of 16.5 million retirees in Germany (see Deutsche Rentenversicherung 2012). More information regarding the calculation is available in Pfarr (2013).

a specific point of time. In this study, respondents might have been influenced by the European debt crisis, which still dominated the public debate in February 2012. Finally, only the effects of Communism were investigated as determinants of the MWTP for redistribution in this paper. Of course, other determinants such as behavioral factors (risk aversion, altruism, fairness) or economic self-interest (insurance motivation, Meltzer-Richard model, POUM hypothesis) have been argued to influence the demand for income redistribution. While there is some evidence regarding the role of economic factors in Germany (Pfarr 2012), behavioral influences warrant further research.

## 5 Concluding remarks

To sum up, this study aims at contributing to the existing literature in two points. First, more than 22 years after the German reunification, the paper investigates the effects of Communism on individuals' attitudes and preferences towards redistribution in Germany. Second, by applying a discrete choice experiment the paper aims at mitigating methodological shortcomings of standard studies that attempt to capture preferences. By doing so, we are able to measure *true* preferences rather than pure attitudes for redistribution. In the first part of the empirical analysis, we use data from a representative survey of the year 2012 using the standard econometric models to relate our results to those of the existing literature regarding attitudes towards redistribution. In the second part, we base our analyses on the same representative sample complemented by data from a DCE. We are able to calculate marginal willingness to pay for redistribution and to test whether *attitudes* towards the welfare state and *preferences* in terms of willingness to pay coincide.

We find strong effects of Communism on individuals' attitudes towards redistribution. Accordingly, East Germans – regardless of the classification – still tend to be more inclined towards governmental interventions and show stronger support for redistribution. The effects of Communism on attitudes still persist and convergence has not yet been achieved. However, especially the East Germans who have migrated to the West provide support for the hypothesis that convergence takes place. The results of the DCE find no significant differences between East and West Germans with respect to their willingness to pay for redistribution, even if other factors such as age or income effects are taken into account, thereby contradicting previous evidence.

Summarizing, these findings underline that *attitudes* and *preferences* do not necessarily coincide and should not be confused. Micro-economic theory, the empirical results and intuition support this standpoint. While citizens may voice interest in very high levels of redistribution, at some point – especially when taking trade-offs and budget constraints into account – we all have to realize that you can't always get what you want.

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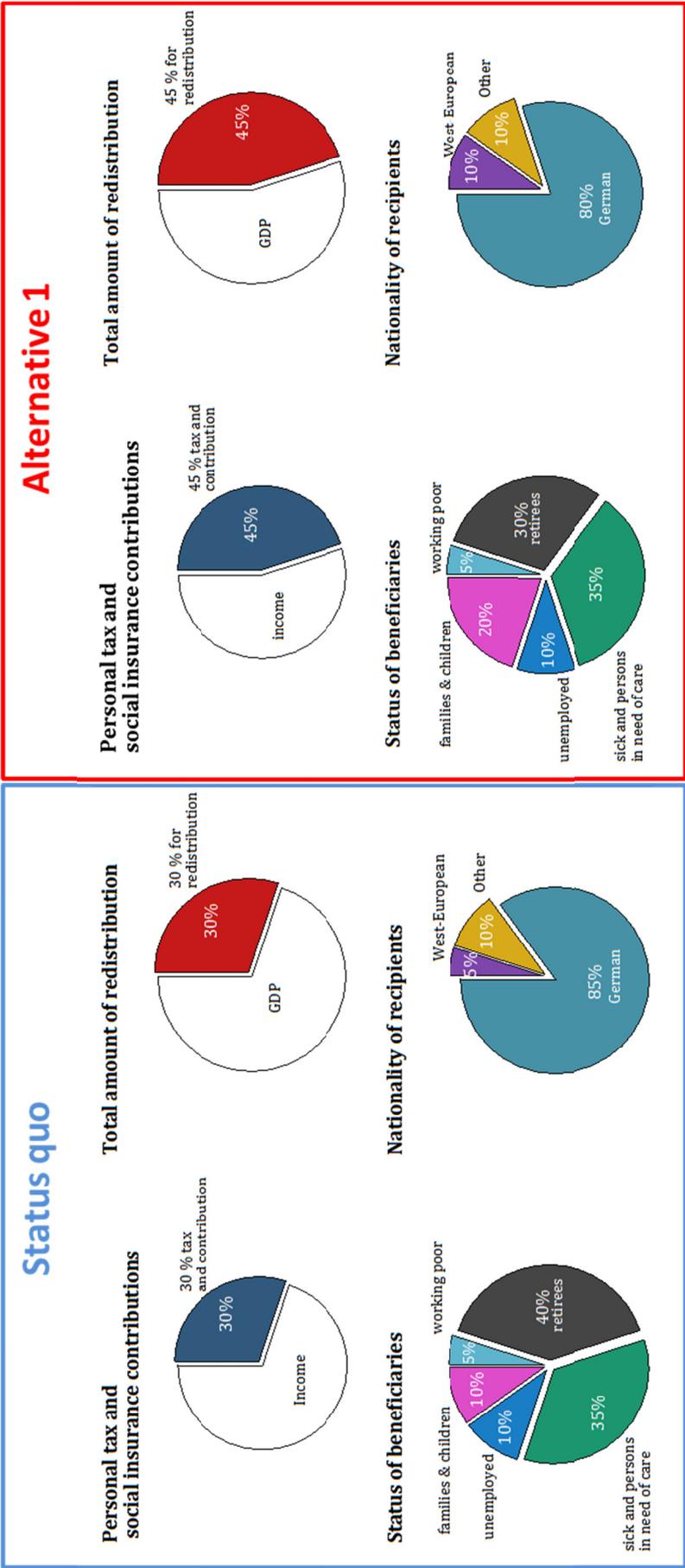
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# Appendix

Figure A.1: Example of a choice situation



**Table A.1: Descriptive statistics**

	<i>West Germans &amp; East living in West</i>		<i>East Germans living in East</i>	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
<i>Dependent Variables</i>				
Inequality reduction	1.79	0.76	1.58	0.72
Choice	0.34	0.47	0.35	0.48
<i>Basis variables</i>				
Age1 (< 1935)	0.04	0.18	0.03	0.16
Age2 (1935 – 1949)	0.25	0.43	0.23	0.42
Age3 (1950 – 1964)	0.31	0.46	0.32	0.47
Age4 (1965 – 1979)	0.31	0.46	0.32	0.47
Age5 (> 1980)	0.14	0.35	0.17	0.38
<i>Socioeconomic controls</i>				
Female	0.52	0.50	0.51	0.50
Age	52.01	15.23	50.23	15.59
Age_sq/100	29.36	16.07	27.64	15.91
Married	0.59	0.49	0.52	0.50
Widowed	0.07	0.26	0.06	0.25
Divorced	0.13	0.34	0.14	0.35
Number of children	1.32	1.12	1.26	1.09
Secondary school	0.27	0.45	0.38	0.49
Vocational training	0.21	0.41	0.22	0.41
A level graduation	0.11	0.31	0.11	0.31
University diploma	0.15	0.36	0.16	0.37
Fulltime employed	0.44	0.50	0.45	0.50
Log (net monthly equivalent household income)	7.39	0.54	7.12	0.53
<i>N</i>	1012		398	

Note: Data are weighted.

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