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Meltzer-Richard and social mobility hypothesis: revisiting the income-redistribution nexus using German choice data^{*}

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Abstract

Whereas the supply of redistribution is relatively easy to measure, the determinants of the demand for redistribution are controversially discussed in international literature. Economic theory typically models redistribution as the result of a voting mechanism; this is only inadequately reflected by the existing empirical studies. In general, these studies use survey data and are therefore not able to predict individuals' decision making under the restriction of a budget constraint. This study aims at eliciting preferences for redistribution in Germany with the help of a Discrete Choice Experiment (DCE), based on a representative sample of 1,538 individuals. A DCE solves the aforementioned problems by forcing individuals to overcome trade-offs. The results show a strong preference for redistribution that overshoots the current level. Considering socio-demographic characteristics, the results contradict the Meltzer-Richard-Model and the POUM hypothesis, while Piketty's learning model is strongly supported by the data.

Keywords: redistributive preferences, social mobility, median voter.

JEL: C93, D31, D63, H23.

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1. Motivation

In Germany, as in most industrialized countries, income inequality has steadily increased (see OECD 2011a, 2011b). The government tries to affect the pre-tax income distribution by collecting taxes and granting monetary transfers. By doing so, income inequality between pre-tax and net incomes is reduced by about 40 % on average in Germany as measured by the *Gini*-coefficient (see Pfarr 2013, p. 3, SVR 2011, p. 338). This strong governmental involvement calls for a detailed analysis of redistributive policies. Whereas the supply of redistribution is relatively easy to measure, the determinants of the demand for redistribution are controversially discussed in international literature. According to Alesina and Glaeser (2004), most studies cover economic, institutional or behavioral factors. This study concentrates on the economic factors encompassing the traditional Meltzer-Richard hypothesis and the social mobility hypothesis.

In economic theory, redistribution is usually interpreted as the result of a voting mechanism. Individuals express their *demand* for redistribution in line with their preferences, and political parties act as the *supplier* thereof. Most of the existing literature concentrating on the determinants for individuals' redistributive preferences is not able to differentiate between these two sides. Moreover, as these studies use survey data, they cannot predict individuals' decision making under the restrictions of their budget constraint.

The contribution of this study is twofold. First, the paper aims at eliciting preferences for redistribution in Germany with the help of a Discrete Choice Experiment (DCE), based on a representative sample of 1,538 individuals. Second, the Meltzer-Richard and the social mobility hypotheses are revisited. The unique dataset allows to solve the problems mentioned above as the respondents were forced to overcome trade-offs.³

The remainder of this paper is structured as follows. The following paragraphs give a brief overview of the German redistributive system. Section 2 discusses the related theoretical and empirical literature and underlines the significance of the contribution. The following section focuses on the methodology applied with a short description of the implemented choice experiment. The empirical analysis is presented in section 4. Finally, section 5 concludes and derives policy implications.

The redistributive system in Germany can be roughly classified in redistribution on the benefit side and on the funding side. Social benefits are granted with means testing (e.g. social

³ More information on the background of this research project as well as selected results (Pfarr 2012) can be found elsewhere.

welfare or housing subsidy), without means testing (e.g. child benefit) or as insurance benefit (e.g. unemployment insurance or health insurance) (see Pimpertz et al. 2009). These social benefits can be either direct monetary transfers or indirect monetary transfers, i.e. tax expenditures. On the funding side, the progressive income tax implies an interpersonal redistribution and goes along with earnings-related social security contributions. Taken together, the average personal tax and social contribution deduction is 30 % of the personal gross income (see Pfarr 2013, p. 140). A proxy for the extent of redistribution is the sum of social benefits in relation to the GDP. In Germany, this amounts to about 30 % in 2010, i.e. circa 760 billion euros (see BMAS 2011). This budget is financed by the contributions of employers and employees to the various social security schemes as well as tax subsidies. These subsidies amount to about 36 % of the total budget available for redistribution in 2010 (see BMAS 2011 and Pfarr 2013, p. 27). Looking at the different groups of beneficiaries, 40 % of the social benefits are allotted to retirees and 35 % to the sick and to people in need of long-term care. The unemployed and families with children each account for about 10 %. Finally, about 5 % are dedicated to the working poor (see BMAS 2011 and Pfarr 2013, p. 23).

Summarizing, redistribution in Germany is very high and motivated by the political agenda, i.e. reforms of the unemployment insurance, the statutory health insurance or the statutory pension insurance scheme (for example Boeckh et al. 2011). Over the past decades an abundance of political interventions in the social security system which in part have serious consequences for the nature and extent of redistribution. This raises the question of whether the current redistributive system is at all desired in this form. To be successful, political reforms of the welfare state have to be aligned with citizens' preferences. Conversely, without a majority of supporters, reforms cannot be implemented. Thus, this paper could help to indicate where and how to achieve majorities.

2. Related Literature

2.1 The Meltzer-Richard and social mobility-hypothesis

The best known economic model to describe individuals' preferences for redistribution is the standard Meltzer-Richard-Model (MRM; Meltzer and Richard 1981) originally established by Romer (1975) and Roberts (1977). The MRM is based upon the intuitive idea that the current income position of an individual is decisive when voting for a future redistributive taxation. In the simplified framework of Persson and Tabellini (2000, pp. 118–121) utility maximizing individuals only differ with respect to their personal income and overall governmental activity

is limited to redistribution. Individuals are both economic agents and at the same time voters that have to vote on a redistributive proportional taxation and a lump-sum transfer.⁴ Given the model in Persson and Tabellini (2000, p. 120), the optimal tax rate of individual i (τ^i) is given by

$$(2.1) \quad \tau^i = (\alpha^i - \mu) / L_\tau(\tau^i),$$

with an individual's personal pre-tax income α^i and the mean income of the society μ . $L_\tau(\tau^i)$ represents the marginal costs of a higher tax rate and is always negative because of the negative consequences of a higher tax rate for the average labor supply $L_\tau(\tau)$. The interpretation of (2.1) is straightforward: the lower the pre-tax income of individual i in relation to the average income, the higher is the preferred level of taxation and redistribution respectively. This result is intuitive as individuals with an income below the average income gain from an extended redistribution, i.e. they are net beneficiaries. Following Corneo and Grüner 2002 this voting behavior is called *homo-oeconomicus-effect*.⁵ As the focus is on individuals' preferences, the following first hypothesis is derived from the MRM:

HYPOTHESIS 1: The lower the personal pre-tax income, the higher is the preferred tax rate and redistribution respectively.

One relevant drawback of the MRM is its assumption that elections are held continuously and individuals can thus react immediately to a changing income position.⁶ In reality, elections follow a predefined cycle which forces individuals not only to consider their current but also their future income position. This fact is reflected by the *Prospects of Upward Mobility* (POUM) hypothesis originally developed by Hirschman and Rothschild (1973) and formalized by Benabou and Ok (2001). Alesina and Angeletos (2005, p. 900) propose a simplified two period nonlinear tax-benefit-system in which individuals are either tax payers or beneficiaries dependent on a specific income threshold.⁷ A rational individual thus tries to maximize intertemporal net income which is determined by two factors: pre-tax income (y_g^{i1}) as well as either a payable tax deduction (ψ^{i1}) or a granted benefit (v^{i1}) in period one and expected fu-

⁴ Moreover, individuals have quasi-linear preferences and the real wages as well as the price are normalized to one for the sake of simplicity.

⁵ If it is assumed that median income is lower than the average income and that the median-voter is decisive, the inequality in the distribution of pre-tax incomes determines the amount of governmental redistribution.

⁶ Clearly there exist further restrictions to the MRM such as the one-person-one-vote assumption. However these points refer to the macroeconomic perspective of the MRM and are not directly relevant for the analysis of individuals' preferences for redistribution. For more information please refer to Borck and Rainald (2007), Breyer and Ursprung (1998) and Harms and Zink (2003).

⁷ This model is based on the assumption that expected future income is an increasing function of current income (i.e. concave) and that individuals are bounded risk averse. In addition, the structure of the tax-benefit-system once decided by elections cannot be revised permanently.

ture pre-tax income ($E(y_g^{i2})$) as well as either an expected payable tax deduction ($E(\psi^{i2})$) or an expected granted benefit ($E(v^{i2})$) in period two. An individual will only opt for a redistributive tax-benefit-system if he expects to derive a positive utility from this system over both periods.⁸ As future is affected by uncertainty, individuals minimize the probability of being a tax payer. Thus, from the payout functions one obtains (see Alesina and Angeletos 2005, p. 902):

$$(2.2) \quad p^i < \left[\psi^{i1} - v^{i1} + E(\psi^{i2}) \right] / \left[E(v^{i2}) + E(\psi^{i2}) \right]$$

leading to the conclusion that individuals oppose redistribution if they expect to move upwards sufficiently in income and are currently poor. Taking both periods into account they will be net losers of this redistributive system. This leads to the second hypothesis:

HYPOTHESIS 2: If an individual expects a higher future income, this individual demands less redistribution.

In contrast to the POUM hypothesis, which treats expectations about the *future* income position as relevant factor for individuals' preferences, Piketty (1995) adopts the original idea of the *tunnel effect* formulated by Hirschman and Rothschild (1973) and develops a rational learning model. This model describes how individuals assess their future opportunities. That is, varying attitudes towards redistribution can be attributed to diverging experiences in the *past*. Individuals who have experienced social upward mobility are convinced that personal effort will be rewarded and oppose extensive redistribution. According to this, expectations $E(\bullet)$ in equation (2.2) are dependent on the experiences in the past.

HYPOTHESIS 3: Individuals who have experienced upward mobility demand less redistribution.

2.2 Empirical Literature

There is growing empirical literature regarding the determinants of individuals' preferences for redistribution. Most of this literature uses survey data – such as the General Social Survey or the International Social Survey Program – to analyze individuals' determinants for their preferences for redistribution. To uncover preferences for redistribution these studies usually draw on a question such as “*It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes. To what extent do you agree or disagree?*” (for example Alesina and La Ferrara 2005 or Corneo and Grüner 2000). In line with the theoretical section, the literature review is divided into two parts: em-

⁸ This implies that a negative utility in one period can be compensated by a positive utility in another period.

pirical evidence regarding the MRM hypothesis (H 1) and regarding the social mobility hypotheses (H 2, H 3).

First, referring to the MRM⁹, the proxies applied for an individual's income position vary from personal gross or net income to household net income, education or personal self-positioning on a social distance scale. A detailed overview of studies within this field can be found in table A.3 in the appendix. In the following a selection of some landmark articles is presented. A first and representative study is from Alesina and La Ferrara (2005) who use GSS-data for the US for the period 1978 to 1999. The authors provide supportive evidence regarding the MRM, i.e. with an increasing household net income or a higher education level the demand for redistribution is decreasing. Corneo and Grüner (2000; 2002) and Corneo (2001) refer to the ISSP of the year 1992 for several countries. Summarizing, individuals expecting to gain from redistribution tend to oppose an extensive welfare state. In addition, the difference between personal income and mean income of society strongly supports the underlying theory except for Germany for which no significance can be found. In contrast to the previous literature Guillaud (2012) chooses an alternative way to proxy individuals' income position. With the help of data from the ISSP for the year 2006 he provides evidence that individuals who rate themselves in a higher social class show a considerably lower preference for redistribution than others.

With respect to the social mobility hypotheses a distinction should be made between the POUM hypothesis (H 2) and Piketty's learning model (H 3). Most of the existing studies do not differentiate between these two theories despite their different implications. Generally this can be explained by insufficient data containing either information about mobility expectations or mobility experiences. Whereas the POUM hypothesis is often modeled using an individual's expectation about his *future* income (social) position, proxies relating to Piketty's learning model frequently use the individual's *past* income (social) position.¹⁰ Table A.4 in the appendix provides detailed information on various studies covering the effects of social mobility, some of which are now presented in more detail.

Starting with the POUM hypothesis, Rainer and Siedler (2008) find evidence – using data from the German SOEP for the year 2005 – that the expectation to receive a pay rise within

⁹ In contrast to studies with a microeconomic focus, contributions concentrating on the MRM on the macroeconomic level aim at explaining the level of redistribution by economic inequality. Support for the MRM hypothesis on the macro level can be found in Meltzer and Richard (1983), Kenworthy and McCall (2008) or Milanovic (2000) whereas Rodriguez (1999), Mello and Tiongson (2006) or Karabarounis (2011) provide no evidence for the validity of this hypothesis. Thus the empirical literature is quite mixed.

¹⁰ Furthermore, a comparison with regard to education, occupational prestige or standard of living between an individual and his father is often applied.

the next two years has a strong negative effect on the demand for redistribution. Another study of Fong (2006) using 1998 data of the Gallup Social Poll Audit for the US provides significant results that individuals expecting to move upwards in society exhibit less demand for redistribution.

Guillaud (2012) uses individuals' rating on a social distance scale but in contrast to Fong, oriented to the past to empirically test the implications of Piketty's learning model. With data from the ISSP from the year 1999 he suggests that individuals who have experienced upward mobility tend to oppose redistribution whereas individuals who have moved downwards are in favor of an extensive welfare state. Kuhn (2012) applies data from the ISSP for the years 1987, 1992 and 1999 to estimate the demand for redistribution in Germany. Respondents were first asked to estimate the wage earned in different professions and second to suggest what people working in these professions should earn. The difference between these two values was used to construct a measure for the demand for redistribution. According to Kuhn's findings, German individuals prefer a more equal distribution of occupational wages than the perceived distribution if they have experienced upward mobility with respect to their social status.

Summarizing the empirical literature reveals two main shortcomings. First, the lack of evidence for Germany. Only few studies concentrating on Germans' preferences for redistribution can be found. These studies use data from the year 2005 (see Rainer and Siedler 2008) or data from the year 1999 (see Corneo 2004 or Kuhn 2012). Since this data collection, the German welfare state has been repeatedly reformed by far reaching political interventions such as the agenda 2010 (see BMAS 2009). This raises the question of whether the current redistributive system is in line with individuals' preferences.

The second shortcoming is methodological. In general, studies going beyond purely survey based measures of attitudes towards redistribution are extremely rare. Although redistribution is modeled as the result of a voting mechanism in economic theory, empirical analyses at the micro level do not account for this interaction. The adequacy of the questions used to elicit individuals' preferences for redistribution typically applied in microeconomic studies is questioned (Fong 2006) as they are not able to predict individuals' decision making under the restriction of their budget constraint. In addition they fail as they do not impose trade-offs.

Thus, the prediction of the demand for redistribution is distorted because individuals do not take into account the consequences of their decisions with respect to their own income.¹¹

With the exception of the studies of Neustadt and Zweifel (2010a; 2010b) and Neustadt (2011), no study measuring the preferences for redistribution using a DCE exists. The authors underline the applicability of a DCE to elicit citizens' preferences. They find – among other results which will be discussed in detail in section 4 – that the average Swiss citizen has a preference for the current level of redistribution. In addition, their results are robust, highly significant and theoretically valid.

The contribution of this study is twofold. First, the paper aims at mitigating the aforementioned shortcomings by applying an advanced method and putting Germany in the spotlight. Preferences for redistribution in Germany are elicited for the first time with the help of a DCE, based on a representative sample of 1,538 individuals. This method allows individuals to be forced to overcome trade-offs as well as to account for the underlying voting mechanism. Second, the Meltzer-Richard and social mobility hypotheses are revisited in line with the hypotheses developed in section 2.1 using this unique dataset. The results will contribute to the literature by giving new insights regarding preference heterogeneity with respect to economic self-interest and mobility.

3. Methods

3.1 Conceptual Framework

To analyze preferences for redistribution data are needed which allow the analysis of preferences for goods that are not traded in real economic markets. The data must reflect decisions between alternative, hypothetical redistribution systems. This can be achieved by using *stated preference* (SP) data. SP data are especially suited for forecasting individuals' decision making by revealing existing but not articulated preferences (see Louviere and Street 2000, pp. 22–25). This concept is derived from traditional welfare economics and treats preferences as an attitude that can be made visible through choice experiments. A DCE is such a form of multi attribute valuation technique (see Bateman et al. 2002, p. 30). Louviere and Woodworth (1983) as well as Louviere and Hensher (1982) developed the DCE in its current form that is based on decision theory and in line with the microeconomic utility theory. DCEs were first

¹¹ Boeri et al. ((2001); (2002)) stands out, as they try to overcome these problems using Contingent Valuation Method (CVM). Their analyses focus on the attitudes towards redistribution with regard to pension and unemployment schemes. Their approach allows the explicit inclusion of trade-offs between income and social insurance coverage. One shortcoming of this approach is that it holds all attributes of the product “pension reform” constant, only varying its price. In contrast, a DCE is able to reflect trade-offs between all attributes.

applied in environment and transportation economics and since the middle of the 1990s also in health economics (see for example Bekker-Grob et al. 2012).

A DCE is based upon a characteristics approach which has its theoretical underpinning in the new demand theory of Lancaster (1966). Lancaster suggests that individuals' utility is not derived from goods per se. Instead, the new consumer approach assumes that individuals benefit from the characteristics (or attributes) which goods have.¹² In its special form, individuals taking part in a DCE take a discrete decision and choose only one option or good respectively. Each good is characterized through the relevant attributes as well as the desired attribute levels that affect individuals' utility (see Louviere and Street 2000, p. 2). Thus, an individual i maximizes his utility over a combination of attributes z . As one good j can consist of various characteristics, the combination of the characteristics vector b_j and the quantity indicator x_j (attribute levels) results in z_j , i.e. the bundle of characteristics of good j (Lancaster 1971, pp. 21–24).

$$(3.1) \quad U_i = u_i(z) = u_i(b, x) \quad \text{with } z_j = b_j x_j; \quad j=1, \dots, n.$$

Moreover, the attributes differ with respect to their levels. By combining the attributes with their different levels one obtains new real or hypothetical alternatives. These alternatives containing a set of distinct attribute levels are presented to each respondent within a choice experiment. A utility maximizing individual will always choose the alternative with the highest utility. Thus, an individual will only choose alternative l if the utility derived from alternative l exceeds the utility derived from any other alternative j (see Ben-Akiva and Lermann 1985, p. 57; Louviere and Street 2000, p. 62). The utility function contingent upon this decision is:

$$(3.2) \quad U_{ij} = u_i(x_j; b_j) \rightarrow \max!$$

From the maximization of this utility function one obtains the conditional demand function x_j of alternative j :

$$(3.3) \quad x_j(p_j; b_j; y_i; s_i).$$

¹² The Lancasterian consumer approach is conform to neoclassic utility theory regarding the form and shape of the utility function. Thus, the axioms of transitivity, completeness, continuity and concavity also hold. The only difference to traditional neoclassic utility theory is its focus on characteristics rather than goods in general (Lancaster 1971, p. 20).

Together with eq. (3.2) this leads to the indirect (conditional) utility function of individual i , v_i .

$$(3.4) \quad V_{il} > V_{ij} \Leftrightarrow v_l(p_l, b_l, y_i, s_i) > v_j(p_j, b_j, y_i, s_i) \quad \forall j \neq l,$$

The utility function consists of the price of the respective alternative p_l , the attributes b_l , individuals' income y_i and his socio-demographic characteristics s_i . Individuals' choices are the result of a sequential decision making process while making binary comparisons between different alternatives and dealing with trade-offs (see Amaya-Amaya et al. 2008, p. 13). Figure 1 illustrates this choice behavior in the case of two attributes m and n .

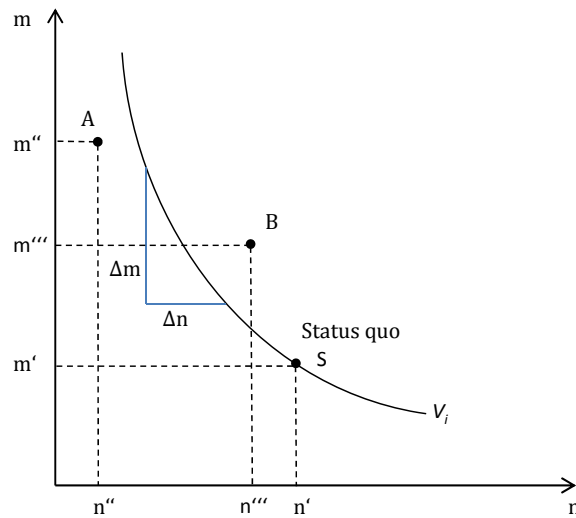


Figure 1: Choice situation and approximation of the indifference curve

Source: Vroomen and Zweifel (2011, p. 89), own visualization.

If a baseline alternative is included – i.e. typically the status quo S – a rational individual will only choose a proposed alternative B if this alternative offers a higher utility than the status quo. If at the same time the individual chooses status quo S rather than alternative A , the individuals' indifference curve must be located between A and B (see Pfarr 2013, p. 112; Vroomen and Zweifel 2011, p. 89). In the course of the experiment, each respondent has to make repeated choices with varying alternatives, which allows the estimation of the individual indifference curve. In this context, it is very important that the individual is driven to “jump back and forth” between the different alternatives indicating a higher or lower utility level (see Zweifel et al. 2010, p. 4). As the slope of the indifference curve is $-\Delta m / \Delta n$, the marginal rate of substitution $MRS_{n,m}$ between these two attributes can be easily computed. As the esti-

mated parameters of the indirect utility function reflect the marginal utilities of the respective attributes, the $MRS_{b_n, m}$ is given by (see Lancsar et al. 2007, p. 1741):¹³

$$(3.5) \quad MRS_{b_n}^{b_m} = -\frac{\partial v_i(p_l, b_l, y_i, s_i) / \partial b_m}{\partial v_i(p_l, b_l, y_i, s_i) / \partial b_n} = -\frac{\hat{\delta}_{b_m}}{\hat{\delta}_{b_n}}.$$

Furthermore, if ∂b_n is substituted by the price attribute ∂p_l the MRS can be interpreted as marginal willingness-to-pay (MWTP).¹⁴

That is the MWTP of individual i for an additional unit of b_n expressed in units of individuals' income. This measure of preferences will be applied in section 4.

As individuals' utility cannot be directly observed, utility is a latent construct. Thus, an error term ε_{il} is added to the indirect utility function of individual i , which is due to the fact that there are attributes or motives that cannot be observed but are nevertheless important for individuals' decision making. According to the Random Utility Theory (see McFadden (1974; 1981) and Manski (1977)) the utility function is stochastic and additively split in a deterministic observable part $w_l(\cdot)$ and a stochastic component ε_{il} :

$$(3.6) \quad V_{il} > V_{ij} \Leftrightarrow w_l(p_l, b_l, y_i, s_i) + \varepsilon_{il} > w_j(p_j, b_j, y_i, s_i) + \varepsilon_{ij} \quad \forall j \neq l.$$

Therefore, 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 estimated probability indicates individuals' decision making and corresponds to their demand for a given redistributive system expressed by choosing one of the proposed options. These options, i.e. status quo and one alternative, reflect the possible supply of redistribution. Thus, by means of this experiment, the voting mechanism is captured through the DCE. Furthermore, with the incorporation of the price attribute p_l which should indicate the personal contribution for a given redistributive system, the budget constraint is imposed. In this way, the experimental setting is able to reflect the underlying voting mechanism and to overcome the previously mentioned shortcomings.

3.2 Implementation and Survey Design

A DCE measures preferences over attributes in hypothetical decision situations. Therefore, an experimental design is required which incorporates the relevant attributes affecting individuals' utility. The underlying experimental design was developed according to the procedure

¹³ In this case a linear utility function is assumed. If a nonlinear utility function is considered, the calculation is straightforward.

¹⁴ The price parameter can be interpreted as the marginal utility of income with the help of Roy's Identity. For formal proof see Hanemann (1983, p. 544) or Telser (2002, p. 56).

presented in Bateman et al. (2002, p. 258). The whole identification process included intensive literature reviews, expert interviews, and a focus group analysis covering a total of 629 students as well as three independently conducted pretests involving about 40 persons each.¹⁵ At the end ten attributes are singled out. These are: personal tax and social contribution deductions¹⁶, 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 with children, retirees, unemployed, working poor) as well as the nationality of recipients (German, West-European, Other) as relevant attributes. For visualization, these attributes are grouped together in four diagrams that make the substitutive character and the inherent trade-offs explicit.¹⁷

Attribute	Lable	Level	Status quo		
<i>Personal tax and social contribution deduction</i>					
tax and contribution	TC	15 % 25 %	30 %	35 %	45 %
<i>total amount of redistribution as percentage of GDP</i>					
redistribution	RE	20 % 25 %	30 %	35 %	45 %
<i>socio-demographic status of beneficiaries</i>					
retirees	RI	30 %	40 %	45 %	
sick persons and persons in need of care	SP	30 %	35 %	40 %	
unemployed	UL	5 %	10 %	15 %	
families with children	FC	5 %	10 %	15 %	20 %
working poor	WP		5 %	10 %	
<i>Nationality of recipients</i>					
German	DE	75 % 80 %	85 %	90 %	
West-European	WE		5 %	10 %	
Other	OT	5 %	10 %	15 %	

Table 1: Attributes, Labels and Levels

Source: Own calculation.

In a second step, the levels of the attributes were defined. They should be sufficiently wide to make respondents indeed “jump” between the status quo and an alternative redistributive scheme. Also, it should be possible to contrast an increase in the level of one attribute by a decline in the level of another attribute. That is, respondents should be forced to overcome trade-offs (cf. Bateman et al. 2002, p. 260; Telser 2002, p. 39). First, the levels of the status quo were defined. Following this, possible alternative levels for each attribute were assigned. To obtain meaningful results the attribute levels not only have to be plausible and realistic but

¹⁵ For a detailed discussion and presentation of the experimental design please refer to Pfarr (2012).

¹⁶ To simplify, averages for the personal tax deductions are chosen. Furthermore, the progressivity of the German income tax cannot be covered. That is, if personal income deductions would be individual specific – with respect to progression or amount of money – the econometric independency of attributes and individuals would fail.

¹⁷ An example is provided in the appendix.

also have to reflect the broad range of individuals' preferences. Regarding the complexity, the number of chosen attribute levels should be limited. Table 1 represents the attributes and their respective levels.

In the next steps, the design and the visual presentation of the DCE had to be considered. The complete factorial design – containing all possible combinations of attributes and their levels – results in a total of 129,600 combinations (alternatives) that cannot be realized in an experiment. By using the program *gosset* to apply a D-optimal design (see Kanninen 2002, Kuhfeld et al. 1994, Kuhfeld 2006)¹⁸, the number of alternatives could be restricted to 49 and were split into seven groups.¹⁹ Each respondent is confronted with one of these groups (see figure 2). To control for errors in decision making, one alternative was included twice in each of the seven groups, resulting in 8 binary choices per respondent.

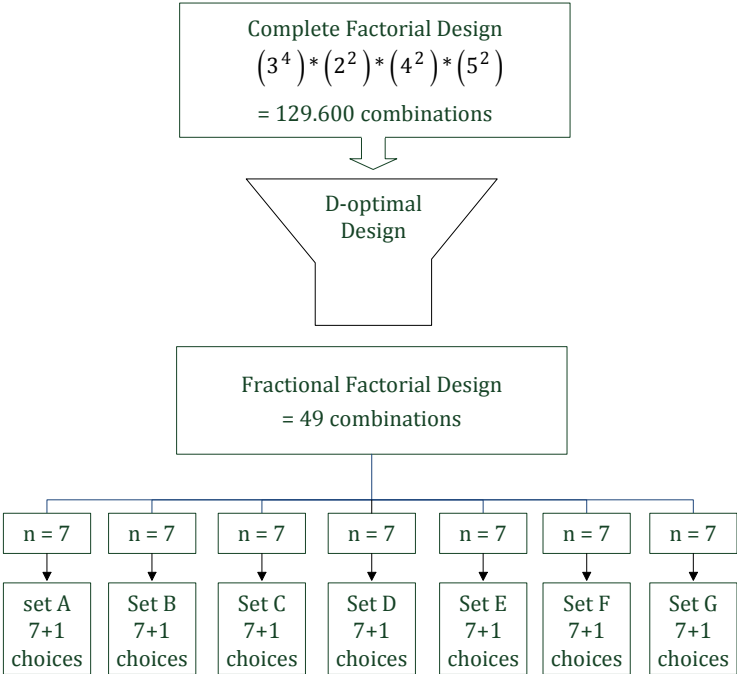


Figure 2: Optimization procedure

Source: own calculation.

Further, for unbiased estimates it is necessary to ensure that all individuals have similar knowledge about the current status quo and that they have a clear understanding of the true state. Therefore, respondents are provided with detailed instructions and a description of the choice process as well as the attributes and their possible realizations.²⁰ Finally, the choice

¹⁸ 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.

¹⁹ Bech et al. (2011) shows that the cognitive burden increases in the number of choice sets. Nevertheless, exposing respondents up to 17 choice-sets is manageable and respondents can handle it without problems.

²⁰ More information is available upon request.

experiment is complemented by a socio-demographic questionnaire covering the relevant individual characteristics to test the hypotheses developed in section 2.

The choice experiment as well as the survey was conducted by computer assisted personal interviews in February 2012 with a total of 1,538 representatively selected individuals in Germany.

3.3 Econometric specification

During the course of the underlying choice experiment each respondent chooses between the status quo and an alternative redistributive scheme by maximizing his utility according to equation (3.6). In this context, only the probability P_{il} of individual i choosing alternative l rather than j can be estimated.

$$(3.7) \quad \begin{aligned} P_{il}(l|C_m) &= \Pr[\varepsilon_{ij} - \varepsilon_{il} < w_l(\bullet) - w_j(\bullet)] \quad \forall l, j \in C_m; \forall j \neq l \\ &= \int_{\varphi_{il}} [\varepsilon_{ij} - \varepsilon_{il} \leq w_l(p_l, b_l, y_i, s_i) - w_j(p_j, b_j, y_i, s_i)] \phi(\varphi_{il}) d\varphi_{il} \end{aligned}$$

with $\varphi_{il} = \varepsilon_{ij} - \varepsilon_{il}$.

This probability is equal to the probability that differences between the error terms ($\varepsilon_{ij} - \varepsilon_{il}$) are dominated by differences in the deterministic component ($w_l(\bullet) - w_j(\bullet)$) (see Louviere and Street 2000, p. 40; Train 2009, p. 15). In line with the central limit theorem it can be assumed, that the error terms of eq. (3.7) are normally distributed with a mean vector of zero and covariance matrix Ω (Cameron and Trivedi 2008, pp. 947–951; Train 2009, p. 97). Under these assumptions $\phi(\cdot)$ denotes the pdf of a standard normal distribution, i.e. a binary probit model. Since each respondent makes 8 decisions, panel techniques should be applied. This results in a random effects probit model with its traditional assumptions regarding the mean, variance and correlation of the random effect and the conventional error term.

The deterministic component of the utility function is typically modeled as an additive-linear specification (see Ben-Akiva and Lermann 1985, p. 63; Johnson and Desvousges 1997, p. 83), albeit its very restrictive implications of a constant marginal utility. Pekelman and Sen (1979) as well as Gegax and Stanley (1997) present evidence that a quadratic specification exceeds a linear form of the utility function with regard to the predictive power. Several specification tests and procedures (e.g. a Forward-Selection and Backward-Elimination procedure; Ramsey RESET test, Likelihood Ratio test) have pointed to the following model to be the best with respect to goodness of fit. As the two categories covering the types of beneficiaries add up to 100 %, the attributes *sick persons and persons in need of care* and *Germans* were omitted to avoid perfect collinearity. The estimation equation includes a quadratic term for the attributes

tax and contribution, redistribution, and other nationality therefore leading to a nonlinear indirect utility function.

According to eq. (3.7), only utility differences in the deterministic component are relevant for an individual's decision making. Therefore, individuals' socio-demographic characteristics will drop out as they do not vary between the several decisions. To incorporate these factors and to allow testing of the hypothesis described in section 2, interactions of individuals invariant characteristics with the varying attributes are needed (see Boxall and Adamowicz 2002, p. 421; Johnson and Desvousges 1997, p. 83). Thus, the estimation equation is as follows:

$$(3.8) \quad \Delta V_{ij} = \Pr_i[\text{decision}_{il} = 1 | C_m] = \alpha_0 + \delta_p \Delta p + \delta_{pp} \Delta p^2 + \sum_{k=1}^K [\delta_k \Delta b_k + \delta_{\vartheta} (\Delta b_k * s_i)] + \sum_{k=1}^K [\delta_{kk} \Delta b_k^2 + \delta_{\vartheta\vartheta} (\Delta b_k^2 * s_i)] + \varphi_{il}$$

with $\varphi_{il} = \varepsilon_{ij} - \varepsilon_{il}$; $\alpha_0 = \alpha_{0l} - \alpha_{0j}$.

In this equation, the δ 's reflect the parameters to be estimated, p stands for the price attribute, i.e. *tax and contribution* and b_k is a vector of the remaining attributes. Individuals' characteristics are covered by the vector s_i . This vector will change dependent on the hypothesis and proxies applied.

4. Empirical Analysis

4.1 Data

In February 2012, the survey was conducted by a market research institute with a total of 1,538 respondents. The sample representatively reflects the German population that is eligible to vote regarding the criteria age, gender, family status, education and income position. Each respondent had to choose 8 times between the status quo and an alternative, resulting in a total of $1,538 * 8 = 12,304$ decisions. Table 2 reflects the total number as well as the percentage of choices at the top of the table. According to this, about 34 % of the decisions were made in favor of an alternative. Obviously, the chosen attribute levels have caused the respondents to switch. A higher number of decisions for an alternative allow the approximation of the indifference curve more accurately. Looking at the control questions, the test revealed that about 13 % of the respondents were inconsistent in decision making. While the inconsistency is somewhat higher in a comparable DCE for Switzerland (14 %, Neustadt and Zweifel 2010a), the presented ratio is next to the lower limit of other studies, stating percentages from 9 % to 39 % (Phillips et al. 2002). With a more detailed look at the number of chosen alternatives, only around 8 % of the individuals never chose an alternative (see the bottom of table 2).

choices	N	in %
for status quo	8,084	65.70
for alternative	4,220	34.30
Total	12,304	100.00

chosen alternatives	# respondents	in percent
0	138	8.97
1	234	15.21
2	313	20.35
3	382	24.84
4	247	16.06
5	142	9.23
6	67	4.30
7	6	0.39
8	9	0.59
Total	1,538	100.00

Table 2 Choices and chosen alternatives per respondent

Source: own calculation.

An accumulation can be found for two (and three) chosen alternatives per respondent. That is, about 20 % (24 %) of the respondents were caused to leave the status quo two (three) times since from their point of view the respective alternatives offered a higher utility than the status quo.

For the empirical testing of the MRM (H 1), the existing literature uses various proxies (see section 2). As the aim is to analyze the MRM in its original form, individuals' monthly gross income is used (GI). Moreover, as income is typically prone to missing values, a variable covering individuals' self-positioning on a social distance scale (SC) is additionally tested.²¹ In the sample, a proportion of about 11 % of individuals' gross income is missing which is relatively small compared to similar national surveys (see Essig and Winter 2009). Table 3 describes in detail how the variables are constructed.

²¹ In addition to these two variables, the effect of household net income as well as of individuals' education is also controlled for. The results support the findings presented in the following section. These results are available upon request.

Variable	Description	N	Mean	SD
Gross Income (GI)				
GI I	< 50 % of average gross income (1 – 1,050 €)	1,373	0.226	0.393
GI II	50 – 75 % of average gross income (1,051 – 1,570 €)	1,373	0.223	0.391
GI III	75 – 100 % of average gross income (1,571 – 2,100 €)	1,373	0.179	0.358
GI IV	100 – 125 % of average gross income (2,101 – 2,605 €)	1,373	0.113	0.294
GI V	125 – 150 % of average gross income (2,606 – 3,150 €)	1,373	0.101	0.279
GI VI	150 – 200 % of average gross income (3,151 – 4,200 €)	1,373	0.091	0.266
GI VII	> 200 % of average gross income (> 4,201 €)	1,373	0.067	0.232
Social Class (SC)				
SC I	Social class 1 (lowest class); categories 1-3	1,538	0.111	0.314
SC II	Social class 2; category 4	1,538	0.104	0.305
SC III	Social class 3; category 5	1,538	0.128	0.334
SC IV	Social class 4; category 6	1,538	0.254	0.435
SC V	Social class 5; category 7	1,538	0.203	0.403
SC VI	Social class 6; category 8	1,538	0.152	0.359
SC VII	Social class 7 (highest class); category 9,10	1,538	0.047	0.212

Data are weighted.

Original question regarding SC: “*In our society today there are groups which tend to be towards the top and groups which tend to be towards the bottom. Where would you put yourself on this scale?*” Respondents had to choose a position on a 10-point scale.

Table 3: Variable construction and descriptive statistics

Source: own calculation.

GI is divided into seven binary income categories which represent the relative income position of the individual to the mean (see Statistisches Bundesamt and Wissenschaftszentrum Berlin für Sozialforschung 2011, p. 164). Table 3 shows the descriptive statistics for the seven income categories. As GI I and GI II reflect the bottom of the income distribution, i.e. less than 75 % of mean income, the share of these two categories amounts to 45 %. In contrast, GI VII forms the top of the income distribution with more than 200 % of the mean. Variables GI III and GI IV are the middle categories with 75 % to 100 % and 100 % to 125 % respectively.

Just as the classification of GI, individual’s self-positioning is also clustered into seven categories (see table 3). SC I forms the lowest social class and SC VII represents individuals rating themselves into one of the two top social classes. This table clearly shows that the share of individuals rating themselves in the two bottom categories of social status is lower compared to the income categories. Furthermore, the correlation between GI and SC is very small. This implies that individuals are less likely to rate themselves in a social class according to their income position.

To test the POUM-hypothesis (H 2), two specifications are used. First, an individual’s expectation of his future income position (gross) and second, an individual’s assessment of his fu-

ture social status. If individuals' expected income or social status is higher than their present one, this is interpreted as upward mobility and vice versa. In cases in which the expected status equals the current status, no mobility expectations are assumed. This strategy to cover mobility expectations can also be found in Alesina and La Ferrara (2005) and Fong (2006). Table 4 contains the relevant descriptive statistics. The number of observations is clearly lower compared to GI as about 24 % of the respondents reported neither their current nor their expected gross income. The share of individuals expecting upward income mobility is somewhat higher than those expecting a higher social status. Almost half of the respondents expect neither upward income nor social mobility.

Variable	Description	N	Mean	SD
Expected mobility in personal gross income				
Upward mobility	Differences between expected gross income in 5 years and current gross income is positive	1,167	0.343	0.475
No mobility	Differences between expected gross income in 5 years and current gross income is zero	1,167	0.510	0.500
Downward mobility	Differences between expected gross income in 5 years and current gross income is negative	1,167	0.147	0.354
Expected mobility in social status				
Upward mobility	Differences between expected social status in 10 years and current social status is positive	1,538	0.254	0.435
No mobility	Differences between expected social status in 10 years and current social status is positive	1,538	0.452	0.498
Downward mobility	Differences between expected social status in 10 years and current social status is positive	1,538	0.294	0.456

Data are weighted.

Original question regarding income mobility: "What do you expect: How much will you earn in five years?"

Original question regarding social mobility: "In our society today there are groups which tend to be towards the top and groups which tend to be towards the bottom. Where would you put yourself on this scale? Where would you put yourself in ten years?" Respondents had to choose a position on a 10-point scale.

Table 4: Variable construction and descriptive statistics

Source: own calculation.

The proxies applied to investigate the effects of past mobility experiences (Piketty, H 3) are similar to the ones presented above. Individuals' past income as well as social mobility is also taken into account. Individuals who stated a lower income or social status five (ten) years ago are assumed to have upward mobility experiences and vice versa. The descriptive statistics for these two groups of variables is provided in table 5. About 42 % of the respondents have experienced upward income mobility whereas only about 32 % have experienced that their social status has improved. The majority of German citizens report having experienced neither upward nor downward income mobility or social mobility within the last ten years. Thus, the figure for experienced mobility is about the same as for expected mobility. The proportion of

missing values for experienced mobility in personal income is somewhat lower compared to GI. Obviously, more respondents were able to report their gross income five years ago than their expected gross income.

Variable	Description	N	Mean	SD
Experienced mobility in personal gross income				
Upward mobility	Differences between current gross income and gross income 5 years ago is positive	1,226	0.420	0.494
No mobility	Differences between current gross income and gross income 5 years ago is zero	1,226	0.342	0.475
Downward mobility	Differences between current gross income and gross income 5 years ago is negative	1,226	0.238	0.426
Experienced mobility in social status				
Upward mobility	Differences between current social status and social status 10 years ago is positive	1,538	0.319	0.466
No mobility	Differences between current social status and social status 10 years ago is zero	1,538	0.349	0.477
Downward mobility	Differences between current social status and social status 10 years ago is negative	1,538	0.332	0.471

Data are weighted.

Original question regarding income mobility: “How much did you earn five years ago?”
 Original question regarding social mobility: “In our society today there are groups which tend to be towards the top and groups which tend to be towards the bottom. Where would you put yourself on this scale? Where would you have put yourself ten years ago?” Respondents had to choose a position on a 10-point scale.

Table 5: Variable construction and descriptive statistics

Source: own calculation.

4.2 Meltzer-Richard-Hypothesis

Each dummy variable covering a single income category (GI I to GI VII) has to be interacted with the two attributes of interest, i.e. RE (redistribution) and TC (tax and contribution) as well as with their quadratic terms to define the socio-demographic characteristics alternative specific (as described in section 3.3). Only then, statements about whether individuals within the bottom income category exhibit a higher or lower preference for redistribution than individuals in another category can be made. Representatively for the subsequent procedure, the approach applied for the first income category GI I is discussed.

In a first step, the full model (eq. (3.8)) is estimated as random effects probit model. Second, partial derivatives of the indirect utility function with respect to the attributes RE and TC have to be calculated in order to generate the MWTP. Within the course of the experiment, respondents are confronted with a comparison of the status quo and an alternative redistributive system. To simplify the interpretation, MWTPs are calculated based on the status quo, i.e. for example if the level of RE in the alternative and the level of RE in the status quo are exactly the same ($\Delta RE = 0$). Thus, the quadratic terms of RE and TC drop out of the equation.

$$\begin{aligned}
(3.9) \quad MWTP_{TC}^{RE} &= - \frac{\partial \Delta V_{ij}(\bullet) / \partial \Delta RE}{\partial \Delta V_{ij}(\bullet) / \partial \Delta TC} \Big|_{\Delta TC=0; \Delta RE=0} = - \frac{\hat{\eta}_1 + \hat{\eta}_{GI_I_RE} + \dots + \hat{\eta}_{GI_VII_RE}}{\hat{\lambda}_1 + \hat{\lambda}_{GI_I_TC} + \dots + \hat{\lambda}_{GI_VII_TC}} = \\
&= - \frac{\hat{\eta}_1 + \hat{\eta}_{GI_I_RE}}{\hat{\lambda}_1 + \hat{\lambda}_{GI_I_TC}} = - \frac{0,03453 - 0,00325}{-0,05942 - 0,01289} = 0.672
\end{aligned}$$

For all individuals of the category GI I, all other dummy income variables are zero as each individual can only assign one income category. Finally, the MWTP for an increase in the amount of redistribution for individuals of income category GI I results from the coefficients of RE and TC as well as an income specific correction factor ($\hat{\eta}_{GI_I_RE}; \lambda_{GI_I_TC}$). In the case of GI I, equation (3.9) shows, that both RE and TC are reduced by a negative income specific factor resulting in a MWTP of 0.672 percentage points of individuals' monthly gross income. The interpretation is as follows: Individuals within the lowest income category GI I are willing to pay 0.672 percentage points of their monthly gross income per additional percentage point of redistribution in excess of the status quo. The MWTP values for the other categories are computed in the same way.

The variance for each MWTP is computed with the help of the delta-method (see Hole 2007) as the numerator as well as the denominator is a random variable. Apart from the level of significance of each MWTP it is important that the MWTPs differ significantly from each other, i.e. heterogeneous preferences can be observed. The full estimation results for GI and SC are provided in the appendix. Figure 3 shows only significant differences between MWTP values for both proxies of individuals' income position.

Hypothesis 1 suggests a decreasing preference for redistribution as income increases. This means that the MWTP should decrease the higher the income category. However, as is clear from figure 3 (and table A.1), there is no monotonic trend within the MWTP values. First, MWTP for redistribution is significantly higher for individuals within income category GI I, i.e. individuals with income less than 50 percent of mean income, compared to individuals of category GI III (75 to 100 percent of mean income). That is, preference for governmental redistribution decreases the closer individuals' income is to the mean. In contrast to the theoretical implications, preference for redistribution is increasing rather than decreasing for individuals with income above the mean. Furthermore, the top income category offers the highest MWTP in absolute terms. This result contradicts hypothesis 1.

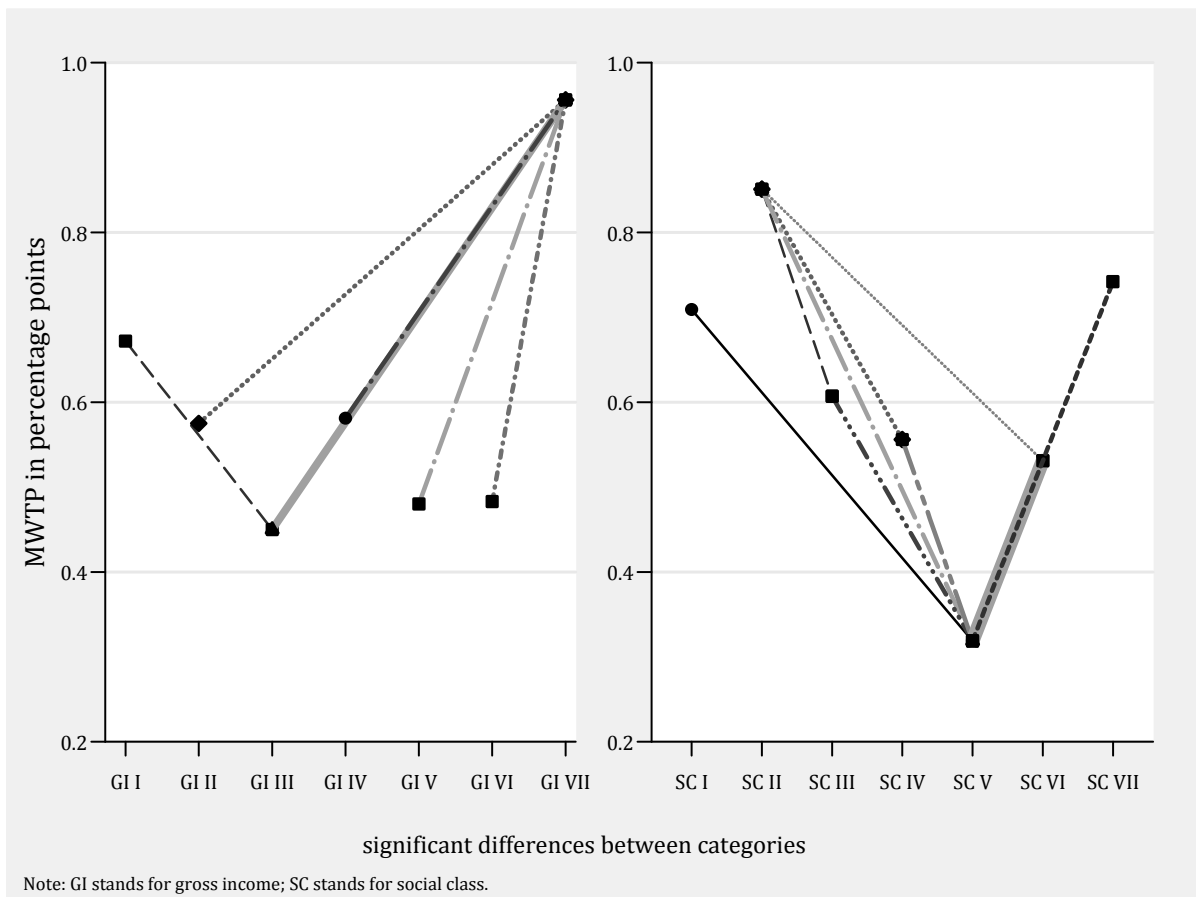


Figure 3: Current income position and preferences for redistribution

Source: own calculations.

A study applying a similar approach for Switzerland questions the validity of the MRM, too. Neustadt and Zweifel (2010a) find that individuals within the lowest income category exhibit the lowest MWTP for redistribution.

The results for the second proxy applied (SC) show a similar pattern. MWTP is first decreasing the closer to the mean and is increasing the more individuals' social status exceeds the mean. Hence, individuals grouping themselves in a lower social category have a higher preference for redistribution than individuals belonging to the middle class. Neustadt and Zweifel (2010a) show that Swiss citizens of the highest social class state the highest MWTP. In this case these findings support the results presented in this paper.²²

Summarizing, the empirical evidence presented in part contradicts the underlying theory. Thus, Hypothesis 1 has to be rejected. Initially, preference for redistribution is decreasing with increasing income as expected. The more individuals' income or social status exceeds the mean, preference for redistribution is once again increasing rather than decreasing. Sub-

²² Among the classification presented in the paper, other specifications of the income or social categories are tested. All of these estimates strongly support the results presented.

quently, the motives that are driving these decisions have to be discussed. The behavior of individuals below the mean is intuitive and as predicted from the economic model. The motives of individuals above the mean cannot be interpreted as economic self-interest. In contrast this points to more behavioral factors such as fairness, reciprocity and a “belief in a just world” (see for example Alesina and Angeletos 2005; Benabou and Tirole 2006 or Fong 2001). Especially in societies that do not offer every member the same chances, a stronger preference for redistribution can be observed. On the other hand, as suggested from the POUM hypothesis, expectations about the future income position may be relevant for individual’s preferences for redistribution.

4.3 Social Mobility

For the following analysis, the assumption that elections are held permanently and individuals can thus react immediately to a changing income position is relaxed. Now, elections follow a predefined cycle which forces individuals not only to consider their current but also their future income position. While the POUM hypothesis concentrates on individuals’ expectations, the implications from Piketty’s learning model point to experiences as relevant factors. First, results regarding the POUM hypothesis (Hypothesis 2) are presented.

The empirical procedure is analogue to the one adopted for the MRM hypothesis. Table 6 shows the result for expected future income mobility. Individuals expecting upward income mobility exhibit significantly lower support for governmental redistribution (MWTP 0.483) than individuals expecting no mobility at all (MWTP 0.618). However, this result is only statistically significant at the 10 % level. No significant differences can be found between individuals with no and downward mobility expectations.

	redistribution MWTP	Test for heterogeneity		
		upward mobility	no mobility	downward mobility
upward mobility	0.483***		*	
no mobility	0.618***	*		
downward mobility	0.539***			
<i>N</i>	9,336			
<i>LL</i>	5,354			

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. Standard errors were calculated with the help of the delta-method.

Table 6: Expected future mobility in income and preferences for redistribution

Source: own calculations.

Expected upward mobility therefore reduces individuals’ preferences for redistribution. This result is in line with Hypothesis 2. Neustadt and Zweifel (2010a) present results in contradiction to the POUM hypothesis. Swiss citizens expecting no future upward or downward mobility in income are the least willing to pay for redistribution.

Referring to expected self-positioning on a social distance scale, table 7 displays highly significant MWTP values. The levels of the MWTP are very similar in absolute terms, but do not differ significantly from each other. Therefore, no clear statements could be made with respect to expected social upward and downward mobility. Neustadt and Zweifel (2010a) present evidence for expected social mobility that corresponds to the findings for expected income mobility.

	redistribution	Test for heterogeneity		
		MWTP	upward mobility	no mobility
upward mobility	0.572***			
no mobility	0.592***			
downward mobility	0.512***			
<i>N</i>	12,304			
<i>LL</i>	7,063			

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. Standard errors were calculated with the help of the delta-method.

Table 7: Expected future mobility in social status and preferences for redistribution

Source: own calculations.

Summarizing, the empirical evidence only weakly supports the POUM hypothesis for Germany. Nevertheless, Hypothesis 2 cannot be rejected. German citizens expecting increasing incomes are supposedly less supportive of the welfare state. This result is in line with the existing literature that confirms a negative effect of expected upward mobility on preferences for redistribution.

In contrast to the POUM hypothesis, Piketty's learning model concentrates on mobility in the past. Hence, experienced upward mobility dampens individuals' support for redistribution. According to the specifications above, two proxies are applied to investigate the effects of Piketty's learning model for German citizens: past mobility in income (table 8) and past mobility in social status (table 9).

	redistribution	Test for heterogeneity		
		MWTP	upward mobility	no mobility
upward mobility	0.463***		**	**
no mobility	0.636***	**		
downward mobility	0.686***	**		
<i>N</i>	9,808			
<i>LL</i>	5,608			

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. Standard errors were calculated with the help of the delta-method.

Table 8: Past mobility in income and preferences for redistribution

Source: own calculations.

The results in table 8 confirm the implications of Piketty. MWTP is significantly lower (0.463) for those whose gross income is currently higher than five years ago, i.e. experienced upward mobility, compared to individuals who experienced no or downward mobility (0.636 and 0.686 respectively). Thus, positive mobility experiences in the past have a negative impact on preferences for redistribution. Neustadt and Zweifel (2010a) reject the learning model hypothesis as Swiss citizens with no income mobility in the past exhibit the lowest MWTP.

Finally, past mobility in social status is considered. Individuals stating upward social mobility in the past have considerably lower preferences for redistribution than individuals who have experienced no or downward mobility. In this respect, these results correspond to the findings for past income mobility implying the validity of Hypothesis 3 for Germany.

	redistribution MWTP	Test for heterogeneity		
		upward mobility	no mobility	downward mobility
upward mobility	0.440***		**	***
no mobility	0.624***	**		
downward mobility	0.638***	***		
<i>N</i>	12,304			
<i>LL</i>	7,063			

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. Standard errors were calculated with the help of the delta-method.

Table 9: Past mobility in social status and preferences for redistribution

Source: own calculations.

The results are in line with the international empirical literature and extend the existing evidence presented for the MRM insofar as individuals do not only take their current income into account if they are voting for redistribution. Instead, experiences are relevant for projections about the future as suggested by the learning model of Piketty. It also seems plausible that positive upward mobility experiences are associated with the attitude that personal efforts are rewarded within a society. According to this, individuals who are not working hard enough might benefit from an extended redistributive system. This interpretation leads directly to more behavioral factors which are closely related to Piketty's learning model. Especially collective beliefs seem to be important for individual's preferences for redistribution and require further research.

5. Concluding Remarks

This study focuses on the determinants of individuals' preferences for redistribution. In detail, traditional economic theory suggests that individuals' income position as well as expected and experienced mobility may be relevant for individuals' decisions concerning the extent of the welfare state. In contrast to the existing literature, this contribution chooses an advanced

methodology which allows the use of individuals' decisions under the restrictions of their budget constraint. Thereby it is possible to predict individuals' preferences and therefore the voting behavior more realistically. As a result, the contribution of this study is twofold. First, the paper aims at eliciting preferences for redistribution in Germany with the help of a DCE, based on a representative sample of 1,538 individuals. Second, the Meltzer-Richard and the social mobility hypotheses are revisited. The unique dataset allows the solving of the problems mentioned above as the respondents were forced to overcome trade-offs. In addition the methodology applied is able to reflect the underlying voting mechanism of redistribution.

The results provided in this paper are quite mixed. The Meltzer-Richard-Model finds no support from the data for Germany. In contrast to the theoretical implications, individuals' preferences for redistribution are increasing rather than decreasing the higher their personal income. This suggests that individuals' attitudes are not purely economic self-interest. Moreover, the empirical evidence substantiates the theoretical predictions of Piketty's learning model. The empirical evidence strongly suggests that individuals who have experienced upward mobility in the past exhibit less supportive preferences for redistribution. Thus, while Hypothesis 1 must be rejected, Hypothesis 2 and Hypothesis 3 cannot be rejected.

The adequacy of the proposed DCE is contingent upon two aspects: First, the extent to which hypothetical decisions are able to approximate real decisions. Second, whether the respondents were able to deal with the decision situation, understand the experiment and finally reveal their true preferences. These aspects must be discussed and analyzed critically. However, the comparable study of Neustadt and Zweifel 2010a as well as continuative analyses of the validity of the underlying DCE strongly suggest that this experiment is free from distortions and is able to reliably measure the preferences of German citizens for redistribution.

Concluding, economic factors might only explain parts of individuals' preferences. Particularly the impact of behavioral factors must be investigated prospectively. The underlying dataset also offers this opportunity.

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Appendix

Table A.1: Empirical Results for GI

	redistribution MWTP	Test for heterogeneity						
		GI I	GI II	GI III	GI IV	GI V	GI VI	GI VII
GI I	0.672***			*				*
GI II	0.575***							**
GI III	0.450***	*						***
GI IV	0.581***							**
GI V	0.480***							***
GI VI	0.483***							***
GI VII	0.956***	*	**	***	**	***	**	
<i>N</i>	10,984							
<i>LL</i>	6,286							

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. Standard errors were calculated with the help of the delta-method.

Table A.2: Empirical Results for SC

	redistribution MWTP	Test for heterogeneity						
		SC I	SC II	SC III	SC IV	SC V	SC VI	SC VII
SC I	0.709***					***		
SC II	0.851***			*	**	***	**	
SC III	0.607***		*			***		
SC IV	0.556***		**			**		
SC V	0.320***	***	***	***	**		**	**
SC VI	0.531***		**			**		
SC VII	0.742***					**		
<i>N</i>	12,304							
<i>LL</i>	7,037							

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. Standard errors were calculated with the help of the delta-method.

Table A.3: A selection of empirical studies regarding the effects of individuals' income

Authors	Data and Sample	Proxy for individuals' income	Effects on preferences for redistribution
Alesina and La Ferrara (2005)	GSS: USA, 1978-1991	1. Logarithm of household net income (real) 2. Years of education	1. negative 2. negative
Alesina and Giuliano (2011)	GSS: USA, 1972-2004; WSS: 20 – 80 countries, 4 waves	GSS: gross household income WVS: income (no more details)	GSS: negative WVS: negative
Clark and D'Angelo (2010)	BHPS: England, 1991-2005	1. social positioning on Hope-Goldthorpe-Scale 2. education	1. negative 2. negative
Corneo and Grüner (2000)	ISSP: USA, 1992	1. individuals' yearly gross income 2. expectation to gain from redistribution	1. negative 2. positive
Corneo (2001)	ISSP: USA, East- and Westgermany, 1992	Homo-oeconomicus I (HOE I): expectation to gain from redistribution Homo-oeconomicus II (HOE II): individuals' gross income	HOE I: For USA, East and Westgermany positive HOE II: For USA negative
Corneo and Grüner (2002)	ISSP: 12 countries, 1992	Homo-oeconomicus I (HOE I): expectation to gain from redistribution Homo-oeconomicus II (HOE II): individuals' gross income	HOE I: positive HOE II: negative

Note: ISSP (International Social Survey Program); ESS (European Social Survey); LIS (Luxemburg Income Study); GSS (General Social Survey); WVS (World Value Survey); BHPS (British Household Panel Survey); SOEP (Sozio-economic Panel), ECPF (Encuesta Continua de Presupuestos Familiares).

Authors	Data and Sample	Proxy for individuals' income	Effects on preferences for redistribution
Corneo (2004)	ISSP: Germany, 1992 and 1999	1. individuals' net income 2. years of education	1. negative 2. negative
García-Valiñas et al. (2008)	WVS: Spain, 1999-2001	1. household net income 2. regional <i>Gini</i> -coefficient	1. in parts negative 2. positive
Guillaud (2012)	ISSP: 33 countries, 2006	1. household net income 2. self-positioning on social distance scale	1. negative 2. in parts negative
Karabarbounis (2011)	WVS: 14 OECD countries, 1981-2004	1. individuals' gross income 2. education	1. negative 2. negative
Kuhn (2010; 2011a; 2011b)	ISSP: Switzerland, Austria, Germany, 1987, 1992, 1999	1. individuals' net income 2. education	1. CH and A negative 2. GER negative
Rainer and Siedler (2008)	SOEP: Germany, 2005	1. household net income 2. education	1. in parts negative 2. in parts negative
Suhrcke (2001)	ISSP: 23 countries, 1999	self-positioning on a social distance scale	negative

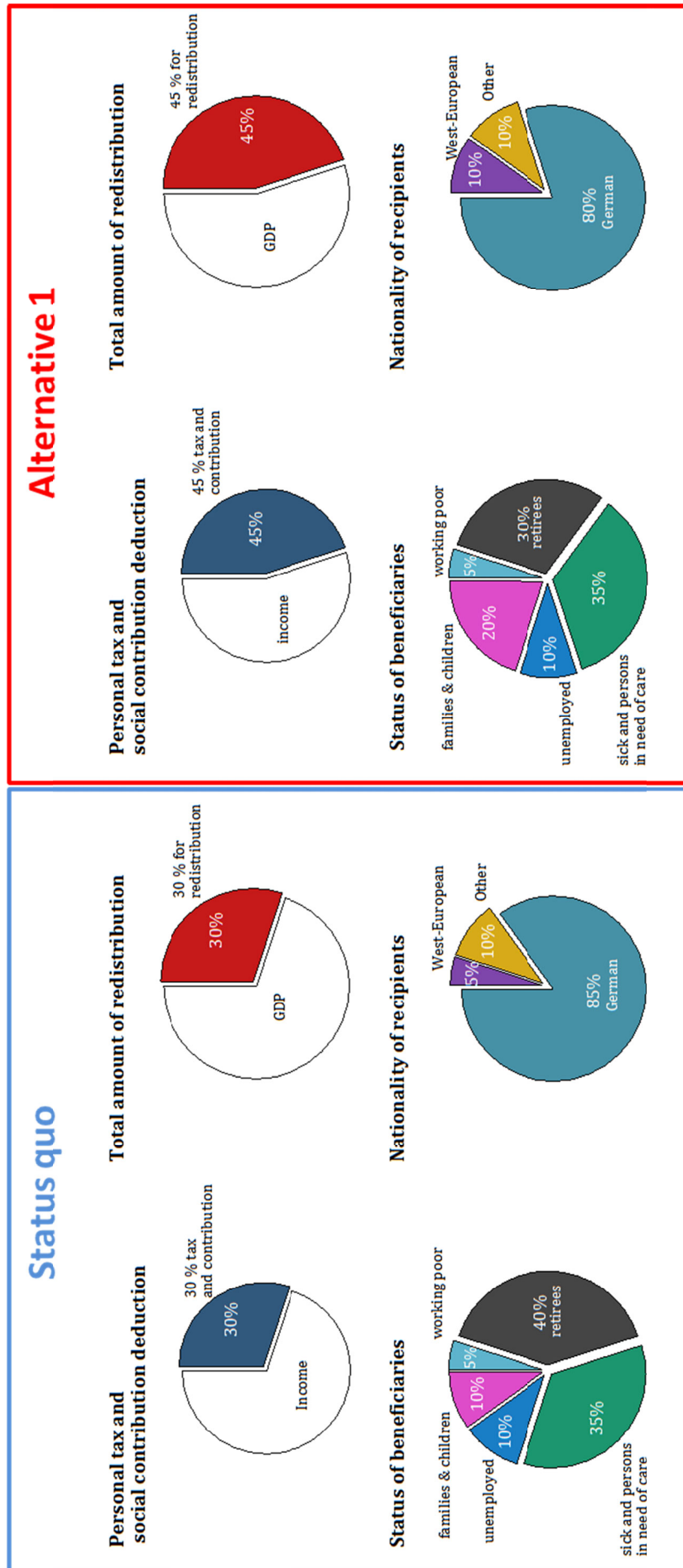
Table A.4: A selection of empirical studies regarding the effects of social mobility

Authors	Data, Sample and Theory	Proxy for social mobility	Effects on preferences for redistribution
Alesina and La Ferrara (2005)	GSS: USA, 1978-1991, <i>POUM + Piketty</i>	1. difference in years of education in relation to father 2. difference in occupational prestige in relation to father 3. expectation to improve standard of living	1. positive 2. negative 3. negative
Alesina and Giuliano (2011)	GSS: USA, 1972-2004, <i>Piketty</i>	1. difference in years of education in relation to father 2. difference in occupational prestige in relation to father	1. -/ 2. negative
Clark and D'Angelo (2010)	BHPS: England, 1991-2005, <i>Piketty</i>	1. difference in occupational prestige in relation to father	1. positive
Corneo (2001)	ISSP: USA, East & West Germany, 1992, <i>Piketty</i>	difference in standard of living and income in relation to father	-/-
Corneo and Grüner (2002)	ISSP: 12 countries, 1992, <i>Piketty</i>	difference in standard of living and income in relation to father	negative

Note: ISSP (International Social Survey Program); GSS (General Social Survey); BHPS (British Household Panel Survey); SOEP (Sozio-economic Panel); Gallup (Gallup Organization Social Audit); RLMS (Russian Longitudinal Monitoring Surveys), ECPF (Encuesta Continua de Presupuestos Familiares).

Authors	Data and Sample	Proxy for individuals' income	Effects on preferences for redistribution
Fong (2006)	Gallup: USA, 1998, <i>POUM</i>	Difference in self-positioning on social distance scale today and in five years	negative if position in five years is higher than today
Guillaud (2012)	ISSP: 33 countries, 2006, <i>Piketty</i>	1. difference in occupational prestige in relation to father 2. Difference in self-positioning on social distance scale today and five years ago	1. -/- 2. upward mobility: negative Downward mobility: positive
Kuhn (2010; 2011a; 2011b)	ISSP: Switzerland, Austria, Germany, 1987, 1992, 1999, <i>Piketty</i>	Difference in self-positioning on social distance scale today and ten years ago	CH and A: -/- GER: weakly negative
Rainer and Siedler (2008)	SOEP: Germany, 2005, <i>POUM</i>	1. likelihood of getting a pay rise 2. likelihood of demotion	1. high probability: negative 2. high probability: positive
Ravallion and Lokshin 2000	RLMS: Russia, 1996, <i>Piketty</i>	1. upward mobility: increase in household consumption 2. downward mobility: decrease in household consumption	1. negative 2. -/-
Suhrcke (2001)	ISSP: 23 countries, 1999 <i>Piketty</i>	Difference in self-positioning on social distance scale today and ten years ago	Upward mobility: negative Downward mobility: positive

Figure A.1: Example of a choice situation



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