

## WHY DOES INCOME REDISTRIBUTION DIFFER BETWEEN COUNTRIES? COMPARATIVE EVIDENCE FROM GERMANY AND SWITZERLAND

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### Introduction

There is wide agreement among economists that the redistribution of income has become the core activity of politicians. Why is it, then, that the amount of income redistribution differs so widely between industrial countries, with social benefits at 12 percent of GDP in the United States and Switzerland on the one hand, but almost 25 percent of GDP in Germany on the other (Table 1)? Interpreting these figures as reflecting national equilibria, one is led to examine determinants of the demand for and supply of the service ‘income redistribution’. Indeed, these determinants are found to differ between countries. While there is a good deal of empirical evidence with respect to the supply side, the determinants of ‘pure’ demand for redistribution are seldom identified. Experimental evidence from Germany and Switzerland represents a first step in filling this gap.

### Amount and structure of income redistribution

Table 1 reports some indicators reflecting the amount of income redistribution and its structure in several OECD countries. The choice of countries can be justified in the following way. Much of the research focuses on the United States; Austria and France are neighbors of Germany and Switzerland, the two countries where experimental evidence on citizens’ preferences regarding

income redistribution is available (see section ‘Pure’ demand for income redistribution below); Sweden has the reputation of being the welfare state *par excellence*, while the UK serves as the ‘European representative’ of the United States. The data refer to 2011 for government expenditure and to 2006 for social expenditure, respectively; while they exhibit some change over time, the rankings between countries are reasonably stable.

Firstly, the higher the level of government expenditure as a share of GDP, the greater the scope for income redistribution. With regard to this overall indicator, column (1) of Table 1 already shows sizable differences. The United States and Switzerland are at the low end with some 37 and 34 percent of GDP respectively, while the high end is occupied by Sweden (65 percent), Germany (55 percent), and France (54 percent). Secondly, subsidies are an additional component of government expenditure that is designed to redistribute income (column 2). Here, Germany with its low figure of one percent sides with the UK (0.6 percent), while Switzerland with its 3.3 percent almost joins Sweden (four percent), due to its generosity towards farmers. Another component of government expenditure related to income redistribution is social benefits (column 3). Here, the United States and Switzerland are again in the same camp, with low GDP shares of 15 and 12 percent, respectively, which are almost half of the levels in Germany and France.

Columns (4) to (6) of Table 1 report public social expenditure, which is more comprehensive than subsidies and social benefits. Accordingly, their total GDP share is higher, falling slightly short of 20 percent in the United States, compared to 32 percent in France and 26 percent in Germany. Yet Germany’s neighbor, Switzerland, with its 20 percent definitely resembles the United States. Old age provision (column 5) is the main component of social expenditure (with the exception of the United States, where it is health). Here Germany’s public social expenditure as a share of GDP reaches nine percent, and is similar to that of Sweden, while the Swiss figure (six percent) is again close to that of the United States. However, old age provision does not necessarily redistribute lifetime incomes, but mainly revolves around a reallocation of income over the life cycle. By way of



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Table 1

## Government expenditure, social expenditure, and its financing, as a percent of GDP

Country	Total Gov't Exp. (2011)	Subsidies (2011)	Social Benefits (2011)	Total Social Exp. (2011)	Old Age (2006)	Incapacity (2006)	Indir. Taxes (2006)	Social Security Contrib. (2006)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
US	37.1	1.9 <sup>a)</sup>	15.2	19.7	6.1	1.5	7.3	7.0
Austria	50.5	3.4	24.5	27.9	12.0	2.5	14.0	16.0
France	54.4	1.5	25.6	32.1	12.3	2.0	15.4	18.3
Sweden	64.9	4.0	17.9	27.6	10.2	5.0	17.1	13.2
UK	43.5	0.6	14.6	23.9	6.7	2.9	12.8	8.4
<b>Germany</b>	<b>54.8</b>	<b>1.0</b>	<b>24.4</b>	<b>26.2</b>	<b>9.1</b>	<b>2.3</b>	<b>12.1</b>	<b>17.3</b>
<b>Switzerland</b>	<b>33.8</b>	<b>3.3</b>	<b>11.6</b>	<b>20.2</b>	<b>6.7</b>	<b>3.3</b>	<b>7.2</b>	<b>7.1</b>

<sup>a)</sup> 2010

Sources: US Department of Commerce, Bureau of Economic Analysis (2013); OECD (2013a), OECD (2013b); OECD (2007).

contrast, incapacity benefits have a much more redistributive characteristic. With 2.3 and 3.3 percent of GDP devoted to such reallocation, Germany and Switzerland are not too far apart on this account, at least when compared to Sweden (five percent).

However, a structure of public expenditure that looks very redistributive may be neutralized by a mode of financing that heavily relies on indirect taxation rather than contributions to social security (which are usually tied to income). As becomes evident from column 7 of Table 1, industrial countries also differ widely with regard to the financing of public and social expenditure. As for indirect taxation, the United States are joined by Switzerland with just over seven percent of GDP – clearly lower than Germany (12 percent). With regard to social security contributions (column 8), the United States and Swiss figures are again lowest with about seven percent, while Germany is a world apart with its 17.3 percent, matched only by France (18.3 percent).

While no single indicator constitutes a precise measure of income redistribution, the entries of Table 1 do point to substantial differences between industrial countries (even seemingly similar ones such as Germany and Switzerland), which call for an explanation. Government expenditure in Germany is oriented much more strongly towards income redistribution than either in the United States or Switzerland. This conclusion needs not be corrected in view of its financing since the ratio of indirect taxes to social security contributions is roughly 1:1 across most countries in the sample.

### Explaining the amount of income redistribution

Repeatedly, the finding has been that the United States and Switzerland are at one end of the spectrum, whereas France and Germany are close to the other end. This gives rise to the question of how this divergence can be explained. After all, France, Germany, and Switzerland are neighbors, separated from the United States by an ocean.

As usual in economics, an observed quantity (here: the amount of income redistribution) is interpreted as reflecting an equilibrium, i.e., the outcome of an interaction between supply and demand. Most of the existing literature has focused on the demand side; this literature will be surveyed first before turning to the supply side and the identification issue.<sup>3</sup> So-called behavioral determinants (such as altruism, which varies with the homogeneity of the population and immigration, left- or right-wing orientation, and religiosity) are not considered here.

#### *Demand-side explanations*

The seminal theoretical contribution is by Meltzer and Richard (1981), who relate an individual's demand for income redistribution to his or her position in income distribution. Those with below-average income would have the government redistribute because they pay little income tax to finance such a measure and stand to receive much of the benefit. Their model predicts that the more marked the skewness of the income distribution, and

<sup>3</sup> For an explorative study considering the full range of determinants, see Neustadt, Zweifel, and Akkoyunlu (2010).

hence the further the median voter is below the average in terms of his or her income, the more marked the demand for income distribution. However, for all its popularity, this model has received limited empirical support (Barenboim and Karabarbounis 2011). According to the model, Switzerland, with its Gini coefficient of 0.296 as of 2005 (CIA 2013), should have a much smaller share of its GDP devoted to government and social expenditure than the United States, whose Gini is a high 0.450 (as of 2007). However, as is evident in Table 1, the two countries do not differ in terms of their GDP share devoted to public expenditure or social expenditure. Similarly, Germany has a lower Gini coefficient of 0.270 (2006), but higher GDP shares than Switzerland.

The Meltzer-Richard model has been extended by Bénabou and Ok (2001), who emphasize the role of expectations concerning future income mobility. Poor voters may well have little demand for income redistribution because they expect to be richer in the future, causing them to bear the tax burden necessary to finance it. This so-called Predicted Upward Mobility (POUM) hypothesis has been found to be in accordance with US data by Alesina and La Ferrara (2005); however, there is still debate over the best choice of mobility indicator. According to the hypothesis, Switzerland, which is comparable to Germany in terms of income mobility (CIA 2013), should have similar GDP shares devoted to general government and transfers. Yet, both figures are clearly higher for Germany (see Table 1 again).

### *Supply-side explanations*

Since income redistribution is a service supplied by the government, supply-side explanations emphasizing institutional differences related to government are credible. One institutional difference is a country's openness to international trade and capital flows. Adsera and Boix (2002) are the latest in a tradition that postulates a compensation relationship. Because the wages of some voters come under pressure due to international competition, the government has to provide relief through income redistribution in order to be able to reap the gains of globalization. However, openness can also be argued to limit the distributional leeway of governments because it is usually accompanied by a high number of multinational firms who can leave the country if taxed excessively in a governmental attempt to channel wealth to its constituents. This may explain why the size of the public sector is high in rich countries (where exit is fraught with high sunk cost for multinationals), but small in poor ones (where multinationals may have

considerable political clout) (Balcells Ventura 2006). Switzerland is the most open country listed in Table 1, way ahead of the United States and still more open than Germany (CIA 2013); at the same time, however, it devotes about the same relative amount to government expenditure and social expenditure as the United States (and clearly less than Germany).

Other authors have examined the role of the political process, arguing that proportional representation leads to multiparty parliaments, who in turn favor 'pork barrel' programs and hence income redistribution (Persson and Tabellini 2003). Here, the difference between the two seemingly similar neighbors becomes salient: Switzerland is roughly comparable to Sweden in its degree of proportionality in representation, while Germany is roughly comparable to the United States (Persson and Tabellini 2004). Yet, as stated above, the two neighbors are in different camps when it comes to income redistribution.

Another institutional feature is fiscal decentralization, which prevents the central government (a big spender due to the military in any case) from becoming dominant, which also limits the overall size of the public sector. According to Inman and Rubinfeld (1992), both Switzerland and the United States are characterized by a higher degree of fiscal decentralization than most EU countries with the exception of Germany – and yet Germany clearly differs from these two countries according to Table 1.

In conclusion, supply-side explanations of the international differences in the amount of income distribution do not seem to perform well either.

### *The identification problem and possible solutions*

Since the demand for income redistribution can only be expressed in the political sphere, any study that uses government expenditure and social expenditure as indicators is open to the criticism that the observed data also reflect supply-side characteristics. Conversely, studies emphasizing the role of institutional factors neglect the fact that these institutions (like 'pork barrel' programs) reflect voter's demand for redistribution, at least in a democracy. Therefore, both approaches are subject to a classical identification problem. Yet truly exogenous instruments that affect only one side of the 'market for redistribution' are hard to find. For instance, one might argue that a heterogeneous population goes along with a multiparty parliament (which, in turn, leans towards

redistribution). However, heterogeneity itself may well be endogenous, reflecting the fact that a multiparty parliament, being unable to find a majority for formulating a coherent immigration policy, has permitted uncontrolled immigration for decades.

One solution has been to use attitudes as a measure of the demand for redistribution. The assumption is that when respondents in a survey state that they deem the distribution of incomes very unequal or that the government should do more to close the gap between the rich and the poor, they will indeed vote for a pro-redistribution delegate in the next election. However, this assumption is very tenuous. Respondents in surveys frequently resort to yea-saying, meaning that they prefer to answer in a way that they believe to be socially acceptable (Blamey, Benett and Morrison 1999), but consider the impact of their choice on their own welfare when in the anonymity of the voting booth.

Another solution to the identification problem is to revert to choice experiments. The variant described in greater detail here is the Discrete Choice Experiment (DCE) because it comes closest to determining an indifference curve. It is worth remembering that the slope of an indifference curve mirrors an individual's subjective trade-off between two goods, attributes, or objectives. In the case of income redistribution, two attributes found relevant in pre-tests are the 'size of the pie available for redistribution' (measured as a share of GDP) and the 'way this pie is divided' (e.g., the share going to the working poor). The aim of the experiment is to estimate the slope of the indifference curve through the status quo in order to gauge the relative importance of these two attributes to voters. To this end, the status quo ( $S$ ) is described in considerable detail to participants in the experiment, to make them share a common reference point. The attributes are then combined anew to constitute a hypothetical alternative in attribute space, say  $A$ . If  $A$  is preferred to  $S$ , it lies on a higher-valued indifference curve than  $S$ ; conversely, the (unknown) indifference curve through  $S$  must run below point  $A$ . The experimenter then proceeds to propose another alternative  $B$ . Let the respondent prefer  $S$  this time. However, this implies that the indifference curve through  $S$  runs above point  $B$ . Evidently, if this choice is repeated several times, it becomes possible to identify (the slope of) the indifference curve in the neighborhood of the status quo.

Finally, let the attribute 'share of the pie going to the working poor' be replaced by a so-called price attrib-

ute. In the present context, this is the share of personal income taxed away for financing redistribution. Now the slope of the indifference curve indicates the respondent's willingness to sacrifice a marginally higher share of his or her personal income in return for increased support of the working poor. This is nothing but a marginal willingness-to-pay (WTP) value that can be expressed in money.

Since the two DCEs to be discussed below both include such a price attribute, they effectively impose a budget constraint on participants, forcing them to face trade-offs. Admittedly, these trade-offs are hypothetical since respondents are not made to pay the tax implied by their preferred choice after the experiment. However, in a few applications of DCEs, it was possible to pit stated preferences against revealed preferences (i.e., actual choices), with encouraging results (Telser and Zweifel 2007). At the very least, DCEs fare much better than the conventional Contingent Valuation (CV) alternative. In a CV experiment, participants are asked directly how much they are willing to pay for the product in question, whose other attributes are fixed. This invites strategic responses because the focus is exclusively on the price rather than on all attributes simultaneously. Incidentally, the experimental design of CV is far from reality. In an economy abounding with product differentiation, it is very rare that anyone needs to find out his or her (maximum!) WTP for a good, with all other attributes of the good in question held constant.

#### **'Pure' demand for redistribution: two DCEs performed in Germany and Switzerland**

The upshot of Table 1 was that there are two neighboring countries, Germany and Switzerland, that differ strongly with regard to income redistribution. This is puzzling; the mere fact that Switzerland is the preferred destination of German migrants, causing their population share to reach almost four percent, testifies to their similarity. Yet there may be a latent difference in preferences with regard to income redistribution that may explain the divergence exhibited in Table 1. Two independent DCEs were performed with the aim of measuring and comparing the 'pure' demand for redistribution (unaffected by supply influences) in the two countries. The first DCE was fielded in 2008, after two pre-tests that suggested dropping a third slicing of the cake (Figure 1), namely, redistribution at the level of communes, of cantons (member states of Switzerland), and at the federal level. The simplified version of the experiment was rated by 28

Figure 1

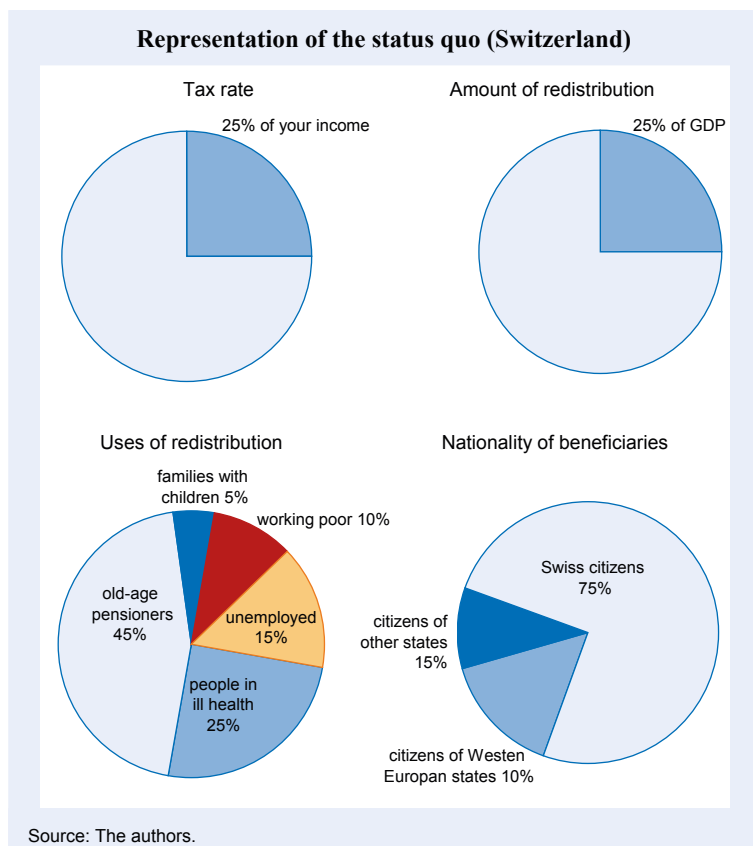
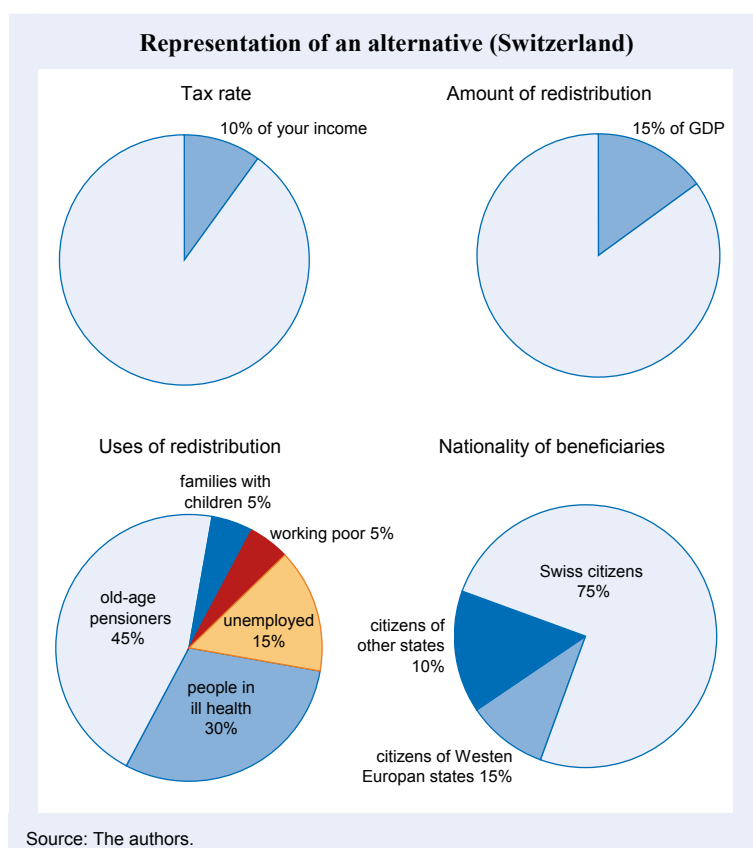


Figure 2



percent of participants as ‘difficult’ or very difficult’, which is a usual figure for a DCE. The experiment involved almost 1,000 Swiss adults who were members of a panel run by a specialized market research agency. Participants were presented with a card defining the status quo, in which an estimated share of 25 percent of personal income is devoted to redistribution on average (Figure 1). The same share of GDP characterized the ‘size of the pie’. Five uses of redistribution were distinguished, along with three groups of nationalities of beneficiaries (Neustadt and Zweifel 2010).

Participants had to make ten choices presented in randomized order, one of which was a repeat designed to check the consistency of responses. One of the alternatives is represented by the choice card shown in Figure 2. The tax price is decreased to ten percent; in return, the amount of redistribution is reduced as well, to 15 percent of GDP. From an economic point of view, it would be natural to combine a reduction in the amount of redistribution by x percent with a reduction in the tax price of x percent. However, such proportional variation would induce perfect multicollinearity, making separate estimation of the coefficient pertaining to the tax price and hence estimation of WTP values impossible. The share of the proceeds going to people in ill health also increased from 25 to 30 percent to the detriment of the working poor, who are to receive a share of five rather than ten percent.

A practically identical DCE was performed in Germany in 2012

(Pfarr 2013), involving over 1,500 residents. However, the status quo tax share of personal income (and with it, the amount of redistribution) is 30 percent (rather than 25 percent as in Switzerland). The current allocation of the money differs too, with 35 percent (30 percent in Switzerland) going to people in ill-health, ten (rather than 15) percent to the unemployed, five (five) percent to the working poor, ten (five) percent to families with children, and 40 (45) percent to old-age pensioners. Finally, 85 percent (rather than 75 percent) of the redistribution budget benefits German citizens, five (15) percent, citizens of Western European countries, and ten percent, citizens of other states.

The theoretical background for the econometric inference has been provided by McFadden's (1974) random utility theory, complemented by Louviere and Street (2000). The objective is to explain the probability of indirect utility afforded by the alternative to exceed the level attained in the status quo. Since the utility function by assumption contains a random component, a probability distribution law has to be specified with regard to the (difference of) two random variables. The extreme value assumption leads to a logit estimation, the normality assumption, to the probit alternative used in the two DCEs reported here.

The results of the probit estimation are displayed in Table 2. All coefficients are significant according to conventional criteria. The two sets of estimates derive from slightly different specifications (see footnote to Table 2). They can nevertheless be compared in the following way, always considering marginal changes of one percentage point in the allocation of the budget available for redistribution. With regard to the slicing of the pie in Switzerland, one extra percentage point of GDP devoted to the working poor (W\_POOR) causes an increase of 0.7 (0.0066 = 0.0070 – 0.00040) percentage points in the probability of acceptance of the pertinent alternative, compared to supporting persons in ill health (ILL). This group is the benchmark category in the German DCE, but could have served as well in the

Table 2

Probit estimation results for two DCEs						
Variable	Switzerland			Germany		
	Coefficient	Standard error	Marginal effects	Coefficient	Standard error	Marginal effects
<i>Uses of redistribution</i>						
W_POOR	0.0278	0.0071	0.0070	-0.017	0.007	-0.0063
UNEMP	0.0113	0.0045	0.0028	-0.018	0.004	-0.0070
ILL	0.0160	0.0046	0.00040	-- <sup>b)</sup>	-- <sup>b)</sup>	-- <sup>b)</sup>
FAM	0.0638	0.0094	0.0160	0.0140	0.004	0.0055
<i>Nationality of beneficiaries</i>						
OWN_CITIZ	0.0366	0.055	0.0092	-- <sup>b)</sup>	-- <sup>b)</sup>	-- <sup>b)</sup>
WEU_FOR	0.0293	0.0087	0.0093	-0.0363	0.005	-0.014
OTH_FOR	-- <sup>a)</sup>	-- <sup>a)</sup>	-- <sup>a)</sup>	-0.0389	0.003	-0.015
(OTH_FOR) <sup>2</sup>	-- <sup>a)</sup>	-- <sup>a)</sup>	-- <sup>a)</sup>	0.0037	0.001	0.0014
<i>Amount and financing of redistribution</i>						
REDIST	-0.0052	0.0018	-0.0013	0.0321	0.002	0.012
(REDIST) <sup>2</sup>	-0.0662	0.0117	-0.0166	-0.0006	0.000	-0.002
TAX	-0.0205	0.0018	-0.0051	-0.0569	0.002	-0.0217
(TAX) <sup>2</sup>	--	--	--	-0.0013	0.000	-0.0005
CONSTANT	-1.299	0.0613	--	-0.306	0.035	--

<sup>a)</sup> The specification for Switzerland uses only one benchmark category, OTH\_FOR (the share going to other foreigners) because this was sufficient to avoid multicollinearity. <sup>b)</sup> The specification for German has two benchmark categories, ILL (the share going to persons in ill health) and OWN\_CITIZ (the share going to German citizens) in order to avoid multicollinearity.

Sources: Neustadt and Zweifel (2010); Pfarr (2013).

Swiss DCE in view of its very small marginal effect. Therefore, the two populations do not seem to differ in their preferences concerning this group of beneficiaries. However, when it comes to the working poor, preferences diverge, with the marginal effect of W\_POOR being negative (-0.6 points).

In the same vein, use of additional funds in favor of the Swiss unemployed (UNEMP) would serve to increase the probability of choice by 0.3 (0.00276 = 0.0028 – 0.00040) points, for their German counterparts, a decrease by 0.7 points. With regard to families with children (FAM), the two populations seem to broadly agree again. In the Swiss sample, FAM is associated with an increase of 1.6 percentage points, in Germany, of 0.6 points. However, Swiss respondents would potentially support an increase of public social expenditure in favor of families beyond the current figure of 1.25 (= 0.25 \* 0.05, see Figure 1) percent of GDP, more so than their German counterparts [although the status quo figure is a high 3 (= 0.3 \* 0.1) percent already; see Figure 2].

As for the nationality of beneficiaries, Swiss respondents exhibit a clear willingness to support their own cit-

izens (OWN\_CITIZ, relative to foreigners from outside Western Europe, OTH\_FOR). The same is true in the German sample, where OWN\_CITIZ constitutes the benchmark category. The Swiss estimate is 0.92 percentage points per percentage point of GDP, the German figure, evaluated at the status quo value of ten percent (see above), roughly 1.5 ( $+0.0147 = 0.015 - 2 * 0.1 * 0.0014$ ) percentage points [the precise estimate would be derived from the net coefficient value nonlinearly transformed into a marginal effect; see Norton, Wang and Chungrong (2004)]. More support to foreigners from Western Europe (rather than OWN\_CITIZ) would leave the probability of acceptance unaffected in Switzerland ( $-0.0001 = 0.0092 - 0.0093$ ), but would lower it by roughly 1.4 percentage points ( $-0.0137 = -0.014 + 2 * 0.1 * 0.0014$ ) in Germany. Therefore, both populations would like to see (if at all, see below) extra funds going to their national compatriots rather than to foreigners from outside Western Europe. Additionally, the Swiss would opt for a reallocation of funds from foreigners from outside Western Europe to those from Western Europe; this does not hold in Germany. In conclusion, German and Swiss preferences with respect to the slicing of the pie can be said to be similar when it comes to nationalities, but rather different when it comes to types of beneficiaries (with the exception of people in ill health).

Marked differences in preference emerge again when the amount and financing of redistribution is examined. Evaluated at the status quo value, the Swiss would suffer a utility loss if the GDP share devoted to redistribution (REDIST) were to be increased. Their reduction in acceptance probability amounts to roughly one percentage point ( $-0.0096 = -0.0013 - 2 * 0.25 * 0.0166$ ). German respondents, on the other hand, seem to favor more redistribution even beyond their higher status quo value of 30 percent of GDP (see above). Their acceptance probability is estimated to increase by roughly 1.1 percentage points, *ceteris paribus* ( $0.0108 = 0.012 - 2 * 0.3 * 0.002$ ). Of course, in the DCE both sets of respondents were made aware of the fact that more redistribution goes

along with a higher TAX price, expressed as a share of their personal income. In the Swiss case, this increase causes the probability of acceptance to fall by 0.51 percentage points, in Germany, the decrease is as high as 2.2 points ( $-0.0220 = -0.0217 - 2 * 0.3 * 0.0005$ ). In view of the already high tax burden in Germany, it comes not as a surprise that resistance to further tax increases is especially marked.

Finally, the constant is of some interest. Its high value in the Swiss sample indicates that respondents would suffer a marked utility loss when moving away from the status quo (exhibiting so-called *status quo bias*). It vindicates the common conception of the Swiss as being even more conservative than the Germans.

By dividing the coefficients of the probit estimates by the coefficient pertaining to the price attribute [reflecting the (negative of) the marginal utility of income], one can derive estimates of marginal WTP. These estimates are displayed in Table 3. As can be surmised from Table 2, the Swiss exhibit negative WTP for an increase in the amount of redistribution. They would have to be compensated to the tune of 0.25 percentage points of their personal income for each extra percentage point of GDP devoted to it. The Germans, on the other hand, still exhibit positive WTP. In fact, they seem to be willing to sacrifice 0.56 percentage points of their own income for additional redistribution. From these estimates, the maximum of WTP as a function of GDP can be determined, indicating the optimal size of the welfare state from the citizens' point of view. In Switzerland, this maximum is attained at 21 percent of GDP (compared to 25 percent in the status quo); in Germany, at no less than 55 percent, way above the status quo value of 30 percent (Pfarr 2013, p. 197). However, the sizable standard error of the estimate is caused by the 95 percent confidence interval to span the 41 percent and 69 percent values, respectively. Yet even when adopting the lower boundary of 41 percent of GDP as a conservative estimate, one has to conclude that German citizens seem to have

Table 3

Estimates of marginal WTP for more redistribution derived from two DCEs				
	Switzerland		Germany	
	% of income <sup>a)</sup>	Standard error <sup>c)</sup>	% of income <sup>b)</sup>	Standard error <sup>c)</sup>
Marg. WTP	-0.25	0.054	+0.56	0.034

<sup>a)</sup> Evaluated at mean monthly income of CHF 4,712 (EUR 3,140 at 2008 exchange rates).  
<sup>b)</sup> Evaluated at mean monthly income of EUR 1,775.  
<sup>c)</sup> Calculated using the Delta method (see Greene 2003, p. 913f.).

Sources: Neutstadt and Zweifel (2010), Pfarr (2013), p. 201.

a marked preference for expanding their welfare state even further.

In sum, the two DCEs suggest that the differences in the amount of redistribution found between Germany and Switzerland (see Table 1 again) can be traced to a difference in underlying preferences. As noted before, conventional demand-side and supply-side approaches fail to offer convincing explanations of this difference. It would be interesting to see whether experimental evidence of the same type as reported here would suggest that US citizens also exhibit negative marginal WTP with regard to the amount of redistribution, in line with the Swiss. However, such evidence is not available at this time.

### Discussion and conclusion

Two Discrete Choice Experiments (DCEs) performed in Switzerland (2008) and Germany (2012) reveal considerable divergences in preferences between the two countries. The most striking difference is that German respondents, although starting from a high status quo value, continue to exhibit positive willingness to pay (WTP) for income redistribution. At face value, their choices put the optimal value of income redistribution at 51 percent of GDP, compared to only 21 percent among the Swiss. Their preferred structure of redistribution also diverges from that of the Swiss, especially with regard to the unemployed and working poor as beneficiaries. Of course, this conclusion is open to several criticisms. Firstly, choices in a DCE, while realistic and imposing trade-offs through a price attribute, are still hypothetical. Participants in the experiment knew that they would not have to pay the increased income tax that goes along with more redistribution. While this criticism appears to be strong at first sight, it fails to explain why the Swiss, taking part in a practically identical DCE, are characterized by negative marginal WTP values on average. Why should they act systematically differently although they were also aware of the fact that changes in the tax burden were hypothetical?

A second criticism relates to the composition of the sample. The German population comprises a minority of citizens who, until reunification in 1989, were exposed to a Communist regime. The preferences of these 'Eastern' citizens are likely to be molded by decades of propaganda emphasizing income equality and redistribution by the government as the way to achieve it. However, with a population share of maybe ten percent (many

'Easterners' presumably having acquired Western tastes in the meantime), their influence is limited, implying that to achieve the results reportedly obtained, Western Germans must exhibit a relatively strong inclination towards redistribution as well. In addition, the Swiss sample consists of some 23 percent of French-speaking citizens, reflecting their share in the population (the Italian-speaking seven percent minority was excluded from the DCE to save on costs). However, the French-speaking Swiss are known to believe in a much stronger role for government (very much like the French) than their German-speaking counterparts. Therefore, the heterogeneity argument does not carry very far either.

A final aspect may be the timing of the two DCEs. The year 2008, when the Swiss DCE was fielded, was characterized by the banking crisis for which greedy bankers were held responsible. Since the government bailed out UBS, the No. one bank, income redistribution at the time meant supporting rich bankers. As a late reflection, the popular initiative 'against fat cat pay' (*Abzocker-Initiative*) was passed with a 68 percent majority in March 2013. Sentiment in 2008 evidently did not favor redistribution. By 2012, when the DCE was performed in Germany, the banking crisis had turned into a financial crisis affecting the governments of several EU countries. With their government committing ever-increasing amounts for bail-outs, Germans presumably felt forced to finance income redistribution favoring citizens in Greece and other southern EU countries. This may have triggered the feeling that if at all, redistribution benefitting the country's own (relatively more deserving) citizens was called for. Unfortunately, without the possibility of repeating the two DCEs, this latter explanation must remain speculative.

The experimental evidence presented here nevertheless lends some *prima facie* credibility to the hypothesis that international differences observed in the amount and structure of income redistribution may well be caused by underlying differences in citizens' preferences. The fact that religiosity and work ethic are found to be a major determinant of WTP among the Swiss (Neustadt 2011) also supports this conclusion. Economic explanations emphasizing voters' position in the income distribution and political explanations revolving around national institutions of democracy have little explanatory power by comparison. However, additional experiments performed at different times and in more countries are needed to arrive at a final verdict as to what best explains the wide variation in income redistribution even between otherwise similar countries.



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