Working Paper

Individual Preferences for Old Age Pension. Evidence from the International Social Survey Program

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Abstract

What determines individual preferences for old age pensions? In this paper, four effects, pecuniary self-interest, political ideology, political trust and country fixed effects will be tested. The data used in this investigation is the International Social Survey Module on the Role of Government III. The empirical analysis reveals that all four effects play an important role in shaping individual preferences for old age pensions.

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1. Introduction

The main question of this paper is: What determines individual preferences for governmental responsibility for old age pensions as well as preferences for public spending on old age pensions? This question is important for at least three reasons: First, old age pensions are a central function of the welfare state. Public pension expenditure is not only the largest share of social expenditure in many OECD countries, most pension systems even face identical challenges with respect to their financial sustainability. The second reason is public acceptance. Most of the literature on pension reforms left out the influence of individual preferences. The knowledge of preferences for old age pensions is important for designing legitimate pension reforms. Imagine the discussion about reducing the "generosity" of pension replacement rates. The resistance against such measurements can be motivated by the violation of individual pecuniary interests or by the violation of certain social values. Answering this question can be necessary in order to choose the right flanking measures (Corneo. 2004:55). Third, understanding the socio-economic factors behind individual preferences for old age pensions might help to explain the variety of international pension systems. These differences can be quite large. For example, public pension expenditure in percentage of the GDP is more than twice as high in France than in the USA. Comparative welfare research has developed theoretical ideal types of welfare states which are helpful to characterize public pensions systems as part of a liberal, conservative or social democratic welfare regime (Esping-Andersen. 1990). Moreover, political implementation of reform templates offered by international organizations such as the World Band or OECD, might improve if country specific differences in individual preferences for old age pensions were considered.

In order to explore the determinants of preferences for old age pensions, this paper uses public opinion data. Compared to other social sciences, economist are usually able to work with data on revealed preferences. Data on prices and quantities reflects the real behavior of agents. Unlike sociology and political science, the quantitative analysis of representative survey data has become a standard research technique (Corneo. 2004:65). Survey data has several

methodological issues. One major critique is, that answering a survey question has no economic consequences for the respondent. In contrast to revealed preferences, survey data expresses stated preferences. So, how reliable is survey data? First, the participant has no pecuniary incentive to give false answers, as in a representative sample his individual opinion has a neglectable effect on the outcome. Moreover, the respondent does not know if the results of the survey will cause any political measures from which he could benefit (Corneo. 2004:65). Second, research in other fields has shown that survey data replicates certain results over and over again (Rehm. 2005:2). Bearing in mind the methodological problems (Long, Freese. 2003), there are good reasons to assume that representative survey data is applicable for causal effects analysis and a reliable source for empirical testing of hypothesis.

Preferences have recently drawn more attention in economic literature. The discussion is centered around three interrelated topics: First, economics of happiness, which is also the title of a book by Frey and Stutzer (Alesina, et al. 2003; Frey, Stutzer. 2002). The basic idea is that life satisfaction data is used as a proxy for individual welfare. Second, preferences for redistribution. These authors use response to the question on whether it should be the governments responsibility to reduce differences in income to analyze determinants for redistribution (Corneo, Grüner. 2002; Rehm. 2005; Roemer, Lee. 2004; Schwarze, Härpfer. 2005). The third topic focuses on preference and institutions. These authors seek to clarify the relationship between preferences and institutions (Alesina, Fuchs-Schündeln. 2005; Alesina, Glaeser. 2004; Persson, Tabellini. 2003). This paper tries to contribute to the discussion on preferences for redistribution and institutions by focusing on a single sector of the welfare state. Despite the importance of public old age pensions, there is no comparative research on preferences for old age pensions.

This paper is closely related to the papers by Corneo and Grüner (Corneo, Grüner. 2002) and Wunder and Schwarze (Wunder, Schwarze. 2004). Corneo and Grüner used data from the International Social Survey 1992 to study what motivates people to favor income redistribution. For examining this issue, they compared preferences for redistribution in 12 countries, including six European and six

Eastern countries. They tested three competing hypotheses that explain preferences for income redistribution. The “homo economic effect” assumes that individuals support income redistribution if they gain from such a policy. The “public value effect” assumes that people support income redistribution because it confirms what they think to be a good policy for the society as a whole. The “social rivalry effect” suggests that the support for income redistribution depends on the relative living standard (Schwarze, Härpfer. 2005:6). Corneo and Grüner found that all three effects are statistically significant. Moreover, they found strong country fixed effects. They conclude that individuals in Eastern states have stronger preferences for income redistribution than individuals in European countries. The second paper is by Wunder and Schwarze (Wunder, Schwarze. 2004). They used data from the German Socioeconomic Panel (GSOEP) to analyze individuals satisfaction with the German pension system. They found evidence that on the intergenerational level, younger people are more likely to be dissatisfied with the public pension system than older people. On the intragenerational level people with longer times of unemployment are more likely to be dissatisfied with the pension system. Corneo and Grüner nor Wunder and Schwarze explicitly address the question of preferences for old age pensions in terms of an international comparison. This paper can expand on their work, since it uses a larger sample that includes more control variables than Corneo and Grüner. Compared to Wunder and Schwarze, international differences in preferences for old age pensions will be observed.

2. Theory and Hypothesis

Public pension systems fulfill two purposes: Insurance and redistribution. Insurance means, that pension schemes enable individuals to redistribute income to themselves over their life cycle. Redistribution means, that pay-as-you-go pension systems provide security against longevity related risks such as old age poverty. There are two extreme views on redistribution in old age pensions. From an intergenerational perspective, the entire pension benefit is an intergenerational redistribution paid by the working population to pensioners. However, this view ignores any positive relationship between pension contributions and pension benefits. From the other point of view, public pension contributions are entitlements to an annuity that is equivalent to the contributions paid during

working life (Börsch-Supan, Reil-Held. 2001:506). This perspective ignores, that a considerable amount of resources of public pension systems are explicitly dedicated to serve redistributive objectives.

Alesina and Glaser showed that the average poor in Europe receive more than the average poor in the Unites States when they retire (Alesina, Glaeser. 2004:25). Germany, however, is an exception among European public pension systems. The German system is not especially generous toward the old poor. This is because the German public pension system is the prototype of a Bismarckian social security systems, in which benefits are more closely linked to contributions than in a Beveridgean welfare systems. Conde Ruiz and Profeta (Conde-Ruiz, Profeta. 2003) showed that middle-income individuals would favor a large earnings-related Bismarckian system. Analysis of the European Community Household Panel (ECHP) by Heinrich (Heinrich. 2000) discovered that the income distribution among the old is less unequal than the income distribution among the working. This indicates that pension systems were used to reduce inequality (Alesina, Glaeser. 2004:29). Börsch-Supan and Reil-Held (Börsch-Supan, Reil-Held. 2001) try to estimate the amount of transfer and insurance in a pay-as-you-go pension system. Their investigation is based on the assumption that workers will pay pension contributions as long as contributions were perceived as a fair insurance premium. If contributions were perceived as tax for a redistributive purposes, labor supply will go down. As we will see from the empirical analysis, the majority of respondents supports a redistributive pension systems, while at the same time they dislike an increase in public spending on old age pensions. Given that redistribution seems to play an important role in public pensions, we want to investigate the effects that determine individual preferences for old age pensions:

2.1 Pecuniary Self Interest

The standard approach to explain individual preferences in political economics is the rational and self-interested homo economicus. Individuals will support government responsibility for old age pensions if they presume to benefit from that policy. Romer (Romer. 1975) and Meltzer and Richards (Meltzer, Richards. 1981) used the median voter approach to explain distribution under the rule of democracy. The median voter is the voter with fifty percent of people above and

fifty percent of people below him on the income ladder. In a democratic election process, preferences of the median voter prevail. Because the income of the median voter is lower than the income of the average voter, the median voter will prefer income redistribution to the poor. The main implication of the model is: "In a democracy, the larger the fraction of voters who are very poor relative to average, the stronger the support for redistribute policies" (Alesina, Glaeser. 2004:58). The pecuniary self-interest effect (PSE) assumes that:

(H1) Wealthy individuals are less likely to favor public old age pension systems.

The PSE reflects the idea of public pensions as an insurance mechanism. The PSE is measured in two ways. First, individuals response to the question whether they would like to reduce taxes or increase social expenditure and second, the respondents family income. Family income is transformed into the distance separating the individuals gross income to the average income in the individual's country of residence (Corneo, Grüner. 2002:85).

2.2 Political Ideology

Individual preferences for old age pension might not solely depend on pecuniary incentives. Like other social insurances, old age pensions contribute to social solidarity (Barr. 1998:202). The political ideology effect (PIE) assumes that preferences for old age pension are derived from certain believes in social justice. There are two opposite ways of thinking about political ideology (Alesina, Glaeser. 2004:185): Political ideology might be seen as the first cause that precedes the design of public pension systems or as an effect of the success of certain political actors. In this case, political ideology shapes economic reality. For the purpose of analysis, political ideology will be regarded as an effect:

(H2) Individuals who believe in social equality are more likely to favor public old age pension systems.

The PIE reflects the redistribution function of old age pension systems. It assumes that preferences for old age pensions are independent from the respondents income. With reference to Arrow (Arrow. 1963) the social welfare function is based on individual utility curves. Political ideology plays an important role in determining who is part of the individuals utility function and who is not. It particularly shapes the perception of social mobility. If individuals believe that

success in life is mainly determined by birth, which means that income generating factors lie beyond individuals control, they are likely to support a redistributive public pension system (Alesina, Glaeser. 2004:184). In contrast, people who believe that poverty is self-inflicted will not support a redistributive public pension system.

2.3 Political Trust

The third effect is called the political trust effect (PTE). This effect is much more ambiguous and theoretically less straight forward than the others. Trust is critical because it links individuals to the political institutions that are intended to represent them (Mishler, Rose. 2000). While cultural approaches hypothesize that political trust is a long-standing and deeply seeded believe, institutional theories hypothesize that trust is the expected utility of institutions performing satisfactorily. Although the literature on trust has grown enormously in political science (Hetherington. 1998; Levi, Stoker. 2000), most researchers employed trust as the dependent variable. The effect of political trust on preferences for old age pensions have not been explored.

(H3) Individuals who believe that they have no political influence are more/less likely to favor public old age pension systems.

If somebody believes that he has no influence on what the government does, there are two possible ways to react: First, the individual could come to the conclusion that it is necessary to take things into his own hand. In this case the person is expected not to prefer public pension systems. Second, it is also possible that such an individual wishes more governmental care because he also believes that he is not capable to handle things on his own. It will be tested if trust in the political system has a positive or negative effect on preferences for old age pensions.

2.4 Country Fixed Effects

Alesina and Glaeser (Alesina, Glaeser. 2004) argue that regardless of economic facts, respondents in the United States and Europe express different views about government activity. The country fixed effects (CFE) seek to analyze if preferences for old age pensions are exogenous or endogenous to welfare institutions. There are two contrary views on this relationship: First, the classical view on the policy process assumes a feedback between preferences and

institutions (Persson, Tabellini. 2003:3). Hence, preferences for redistribution determine the development of welfare institutions such as the pension system. Using data from the GSOEP Alesina and Fuchs-Schündeln (Alesina, Fuchs-Schündeln. 2005) investigate the feedback process between institutions and preferences. Regarding the German unification as an quasi-experiment, they showed that east Germans have stronger preferences for redistribution than west Germans. They conclude that the experience of having lived in socialist regime has shifted preferences towards redistribution. Applying this logic to welfare regime theory (Esping-Andersen. 1990), it will be tested if individuals living in traditional welfare states are more likely to support public pension systems.

(H4) Individuals living in traditional welfare states or former socialist countries are more likely to favor public old age pensions.

3. Dataset and Variables

The dataset employed in this analysis is the International Social Survey Program (ISSP. 1996) Role of the Government III Module. The ISSP is a continuing annual program of cross-national surveys, which are jointly funded by the participating countries. The survey was conducted in 1996/1997 and includes representative samples of the population of several countries, most of which are members of the OECD. Data on the following 20 countries were used for analysis: Australia, Germany, Great Britain, United States, Hungary, Italy, Ireland, Norway, Sweden, Czech Republic, Slovenia, Poland, Bulgaria, Russia, New Zealand, Canada, Japan, Latvia, France and Switzerland. The Philippines, Israel and Cyprus were excluded from the sample for reasons of comparability. On average 1385 persons per country answered the survey.

Dependent Variable

In order to test the hypothesis on preferences for old age pensions, two types of models with different dependent variables will be estimated. The dependent variable in the fist type of models is a question on governmental responsibility for old age pensions. More precisely, people were asked: “On the whole, do you think it should be the government’s responsibility to (…) provide a decent standard of living for the old?” The four possible answer categories and their percentages are shown in Figure 1 and Table 1. The scale reaches from 1 (“Definitely should not

be") to 4 ("Definitely should be"). The dependent variable in the second type of models is a question about public spending on old age pensions. People were asked: "Please indicate whether you would like to see more or less government spending in each area. (…) Old age pensions". The five possible answer categories and their percentages are shown in Figure 2 and Table 2. The scale goes from 1 ("Spend much more") to 5 ("Spend much less"). Having two dependent variables allows to differentiate between the general support for governmental responsibility in pension economics and the concrete degree of governmental activity in old age pensions.

In some models, the dependent variable is dummy coded. This is required for some post estimation procedures and makes the interpretation of coefficients easier. Concerning governmental responsibility, the first to answer categories were grouped together indicating preferences for governmental responsibility for old age pension, while the last two categories were grouped together indicating preferences for private responsibility for old age pension. Concerning public spending on old age pensions, the first two categories were grouped together indicating preferences for more spending on old age pensions, while the last three answer categories were grouped together indicating preferences for the same/less government spending on old age pensions.

Figure 1. Dependent Variable: "On the whole, do you think it should be the government's responsibility to (…) provide a decent standard of living for the old?" (total)

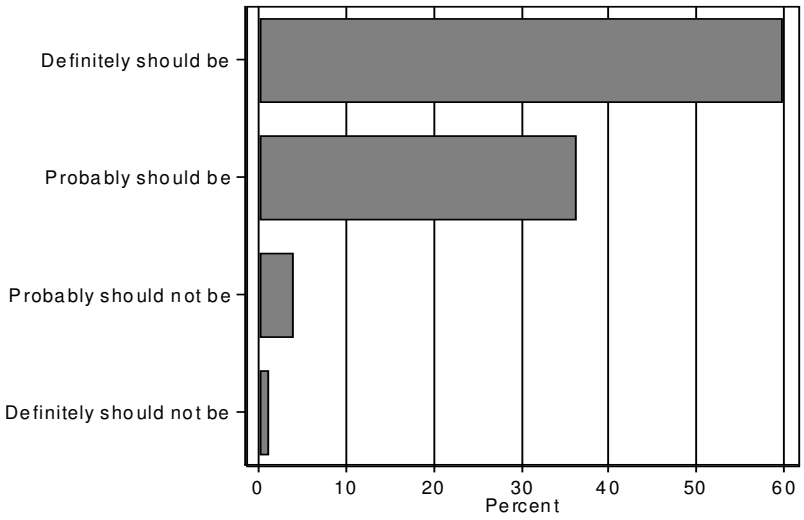


Table 1. Dependent Variable: "On the whole, do you think it should be the government's responsibility to (…) provide a decent standard of living for the old?" (in percent)

Country	(1) Definitely should not be	(2) Probably should not be	(3) Probably should be	(4) Definitely should be
Australia	0.38	5.52	56.66	37.44
Germany (West)	0.39	3.57	48.13	47.91
Germany (East)	0.37	1.28	34.07	64.29
Great Britain	0.41	1.44	25.28	72.86
United States	3.34	9.93	48.29	38.44
Hungary	0.07	1.69	35.29	62.96
Italy	0.27	1.73	22.26	75.73
Ireland	0.3	0.61	21.8	77.3
Norway	0.38	0.53	13.24	85.85
Sweden	0.67	1.67	28.25	69.42
Czech Republic	1.29	2.11	33.06	63.54
Slovenia	0.91	2.72	21.95	74.42
Poland	0.17	1.3	30.68	67.85
Bulgaria	0.5	1.71	33.1	64.69
Russia	0.18	0.84	12.36	86.63
New Zealand	0.61	5.12	35.82	58.46
Canada	1.81	8.1	42.46	47.63
Japan	2.54	6.67	41.67	49.12
Latvia	0.13	0.34	19.47	80.05
France	1.96	5.63	41.31	51.1
Switzerland	0.41	9.34	62.38	27.87
Total	0.75	3.73	35.99	59.53

Figure 2. Dependent Variable: “Please indicate whether you would like to see more or less government spending in each area. (…) Old age pensions” (total).

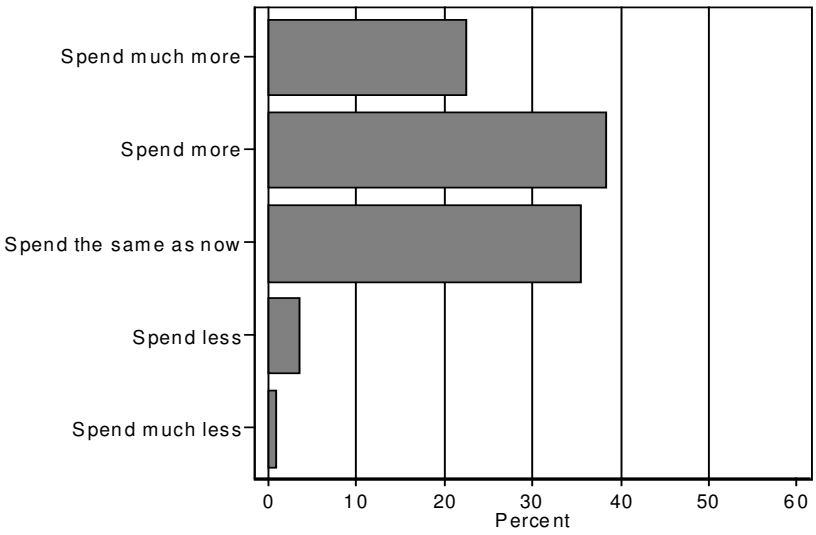


Table 2. Dependent Variable: “Please indicate whether you would like to see more or less government spending in each area. (…) Old age pensions” (in percent)

Country	(1) Spend much less	(2) Spend less	(3) Spend the same as now	(4) Spend more	(5) Spend much more
Australia	0.52	2.94	46.77	38.03	11.73
Germany (West)	0.53	4.41	50.66	31.54	12.86
Germany (East)	0	2.3	38.18	40.57	18.95
Great Britain	0.31	0.52	19.13	52.53	27.51
United States	2.06	7.85	39.33	37.59	13.16
Hungary	0.07	1.43	13.64	52.18	32.67
Italy	2.16	5.15	24.93	49.86	17.9
Ireland	0	0.51	24.54	45.62	29.33
Norway	0.15	1.39	41.48	44.1	12.88
Sweden	0.17	2.3	40.66	41.09	15.77
Czech Republic	1.03	1.88	30.39	48.03	18.67
Slovenia	1.95	4.62	34.53	35.66	23.23
Poland	0.44	1.59	15.61	45.24	37.13
Bulgaria	0.61	1.54	17.83	48.05	31.97
Russia	0.24	0.55	6.86	33.62	58.74
New Zealand	0.79	4.32	48.55	34.36	11.98
Canada	1.6	8.98	60.09	21.69	7.64
Japan	1.47	2.93	36.12	32.5	26.98
Latvia	0.07	0.28	5.85	40.22	53.58
France	2.81	7.38	57.34	21.97	10.51
Switzerland	0.87	5.9	55.96	29.22	8.05
Total	0.81	3.38	35.26	38.23	22.32

Independent Variables

The PSE is captured by the following question: "If the government had a choice between reducing taxes or spending more on social services, which do you think it should do?". The two possible answer categories and their percentages are shown in Table 3. The dummy coded variable is defined by 0 ("Spend more on social services, even if this means higher taxes") and 1 ("Reduce taxes, even if this means spending less on social services"). A second way to capture the PSE is family income. In order to achieve an international comparable income scale, I adopt a transformation equation from Corneo and Grüner (Corneo, Grüner. 2002). The variable family income is defined by $\ln(y_i / \overline{y})$, where y_i is the respondents personal family income and $\overline{y}$ is the average family income in the respondent's country. However, this variable might be biased due to unequal income definition across participating countries. Moreover, missing values are quite frequent due to high refusal rates on income questions (Corneo, Grüner. 2002: 90). For these reasons, the variable "Government should reduce taxes" is a more reliable source for testing the PSE. The coefficients for "Reduce taxes" and "Family income" are supposed to be statistically significant and negative.

Table 3. Pecuniary self-interest effect (PSE): "If the government had a choice between reducing taxes or spending more on social services, which do you think it should do?"

Country	(0) Spend more on social services, even if this means higher taxes.	(1) Reduce taxes, even if this means spending less on social services.
Australia	38.67	61.33
Germany (West)	31.57	68.43
Germany (East)	60.51	39.49
Great Britain	72.59	27.41
United States	59.92	40.08
Hungary	29.51	70.49
Italy	38.7	61.3
Ireland	32.43	67.57
Norway	59.27	40.73
Sweden	43.98	56.02
Czech Republic	60.03	39.97
Slovenia	51.69	48.31
Poland	45.68	54.32
Bulgaria	63.85	36.15
Russia	65.66	34.34
New Zealand	50.49	49.51
Canada	38.67	61.33
Japan	62.87	37.13
Latvia	71.35	28.65
France	26.06	73.94
Switzerland	41.41	58.59
Total	47.75	52.25

The PIE is captured by the response to the following statement: "It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes." The five possible answer categories and their percentages are shown in Table 4. The scale ranges from 1 ("Disagree strongly") to 5 ("Agree strongly"). The coefficient for "Government should reduce income differences" is supposed to be statistically significant and positive.

Table 4. Political ideology effect (PIE): "It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes."

Country	(1) Disagree strongly	(2) Agree	(3) Neither agree nor disagree	(4) Agree	(5) Agree strongly
Australia	11.24	25.25	21.01	25.2	17.29
Germany (West)	11	17.73	21.92	33.98	15.38
Germany (East)	2.57	9.32	12.45	38.78	36.88
Great Britain	6.67	18.52	20.85	32.17	21.8
United States	18.99	23.97	24.45	20.49	12.1
Hungary	4.3	10.58	18.36	29.9	36.86
Italy	8.08	12.96	14.27	29.3	35.4
Ireland	3.79	16.07	14.64	39.61	25.9
Norway	6.68	17.97	18.66	35.33	21.35
Sweden	7.53	13.11	19.71	27.33	32.32
Czech Republic	5.88	16.25	17.55	31.84	28.48
Slovenia	3.67	6.94	9.8	27.86	51.73
Poland	2.86	7.38	11.62	36.72	41.42
Bulgaria	4.73	13.46	13.87	33.09	34.84
Russia	3.54	8.36	14.15	30.68	43.28
New Zealand	14.14	29.24	18.61	22.91	15.1
Canada	19.37	22.98	14.79	25.18	17.69
Japan	17.86	9.75	24.59	20.45	27.35
Latvia	7.3	25.26	16.13	36.06	15.26
France	8.39	10.97	12.62	25.16	42.87
Switzerland	8.75	23.1	14.65	35.75	17.75
Total	8.69	16.84	17.2	30.45	26.83

The PTE is captured by the response to the following statement: "People like me don't have any say about what the government does." The scale ranges from 1 ("Disagree strongly") to 5 ("Agree strongly"). The five possible answer categories and their percentages are reported in Table 5. The coefficient for "No political say" is assumed to be statistically significant, although theory does not allow to predict the direction of the effect.

Table 5. Political trust effect (PTE): "People like me don't have any say about what the government does."

Country	(1) Strongly disagree	(2) Disagree	(3) Neither agree nor disagree	(4) Agree	(5) Strongly agree
Australia	4.34	30.26	14.32	34.75	16.32
Germany (West)	2.83	18.8	14.14	39.03	25.2
Germany (East)	0.74	9.75	9.38	36.68	43.45
Great Britain	1.77	15.78	14.54	41.74	26.17
United States	8.55	29.29	14.69	30.46	17.02
Hungary	2.06	10.99	8.17	33.17	45.6
Italy	5.05	12.58	10.1	33.98	38.29
Ireland	2.22	22.5	7.27	43.19	24.82
Norway	3.8	32.61	16.34	31.99	15.26
Sweden	2.79	13.78	16.65	36.01	30.77
Czech Republic	1.31	11.61	11.33	31.74	44.01
Slovenia	2.15	6.65	9.93	31.22	50.05
Poland	1.55	7.83	10.11	37.98	42.53
Bulgaria	5.56	27.67	20.78	31.07	14.92
Russia	13.85	22.49	14.63	24.74	24.29
New Zealand	2.81	21.4	14.56	40.53	20.7
Canada	8.38	28.32	18.05	29.27	15.98
Japan	54.55	16.5	11.11	9.43	8.42
Latvia	9.03	45.06	16.98	22.71	6.23
France	46.91	24.45	8.47	10.6	9.57
Switzerland	4.8	32.37	15.25	28.15	19.43
Total	8.63	22.12	13.38	31.21	24.66

Control Variables

In order to investigate country fixed effects (CFE), all estimations include a full set of country dummies. Theory suggests that country dummies for Eastern and Scandinavian countries will be statistically significant and positive. Further control variables are age, female, married, widowed, separated, primary education, university, unemployed and retired. Age and retired are supposed to have a statistically significant an positive coefficient. Older people tend to be more reliable on old age pensions. Hence, it is assumed that older people and retirees are more likely to favor public old age pension systems. The educational status is captured by two dummy variables, primary education and university degree. Since education is highly correlated with income, it is assumed that the probability of preferring governmental responsibility and more public spending on old age pensions decrease with an higher educational status. The occupational status of the respondent is captured by the dummy variable unemployed. The coefficient for unemployment is assumed to be statistically significant and positive, as in many counties the state pays pension contributions for the unemployed.

4. Empirical Analysis

The empirical analysis employs a series of ordered probit models. Ordered probit models are appropriate if the dependent variable is ordinal, which means that the categories of the variables can be ranked, but the distances between the categories are still unknown. The general model is constructed as follows (Daykin, Moffat. 2002:160f.): Let i index the respondent $i, i = 1,...,n$, where n is the sample size. y_i is individual $i´s$ respose to the survey question. This answer can take on the integer values 1,2,3,…, J. Let $y_i^* (-\infty < y_i^* < \infty)$ be the underlying latent variable representing $i´s$ propensity to agree with the statement advanced. The ordered probit model is based on the assumption that y_i^* depends linearly on x_i.

$$y_i^* = x_i' \beta + u_i \text{ ,where } i = 1,...,n;$$
$$u_i : N(0,1).$$

β is an vector of parameters not containing an intercept. y^* is unobserved, but the relationship between y^* and the observed variable *y* is:

$$\begin{aligned} y &= 1 \text{ if } -\infty < y^* < \tau_1 \\ y &= 2 \text{ if } \tau_1 < y^* < \tau_2 \\ y &= 3 \text{ if } \tau_2 < y^* < \tau_3 \\ &: \\ y &= J \text{ if } \tau_{J-1} < y^* < \infty. \end{aligned}$$

The parameters $\tau_j, j = 1,...,J-1$, are known as cut-points. The coefficients and cut-points are estimated with the maximum-likelihood-method. The log-likelihood function is constructed as follows. Let $P_i(y)$ be the probability that the ith respondent's response is y. This probability is constructed as follows:

$$P_i(y) = P(\tau_{y-1} < y_i^* < \tau_y) = \Phi(\tau_y - x_i' \beta) - \Phi(\tau_{y-1} - x_i' \beta), y = 1,2,...,J,$$

where $\Phi(.)$ is the standard normal cumulative distribution function. Based on a sample $(y_i, x_i, i = 1,...,n)$, the log-likelihood function is:

$$LogL = \sum_i \ln[P_i(y_i)] = \sum_i \ln[\Phi(\tau_{yi} - x_i' \beta) - \Phi(\tau_{yi-1} - x_i' \beta)].$$

The residuals are expected to be identically and independently distributed. A positive coefficient indicates, that the variable has a positive effect on the probability for a high value of the dependent variable. A negative coefficient indicates, that the variable has a negative effect on the probability for a high value of the dependent variable. For a correct interpretation of coefficients, it is important to bear in mind the order of the categories for the latent variables.

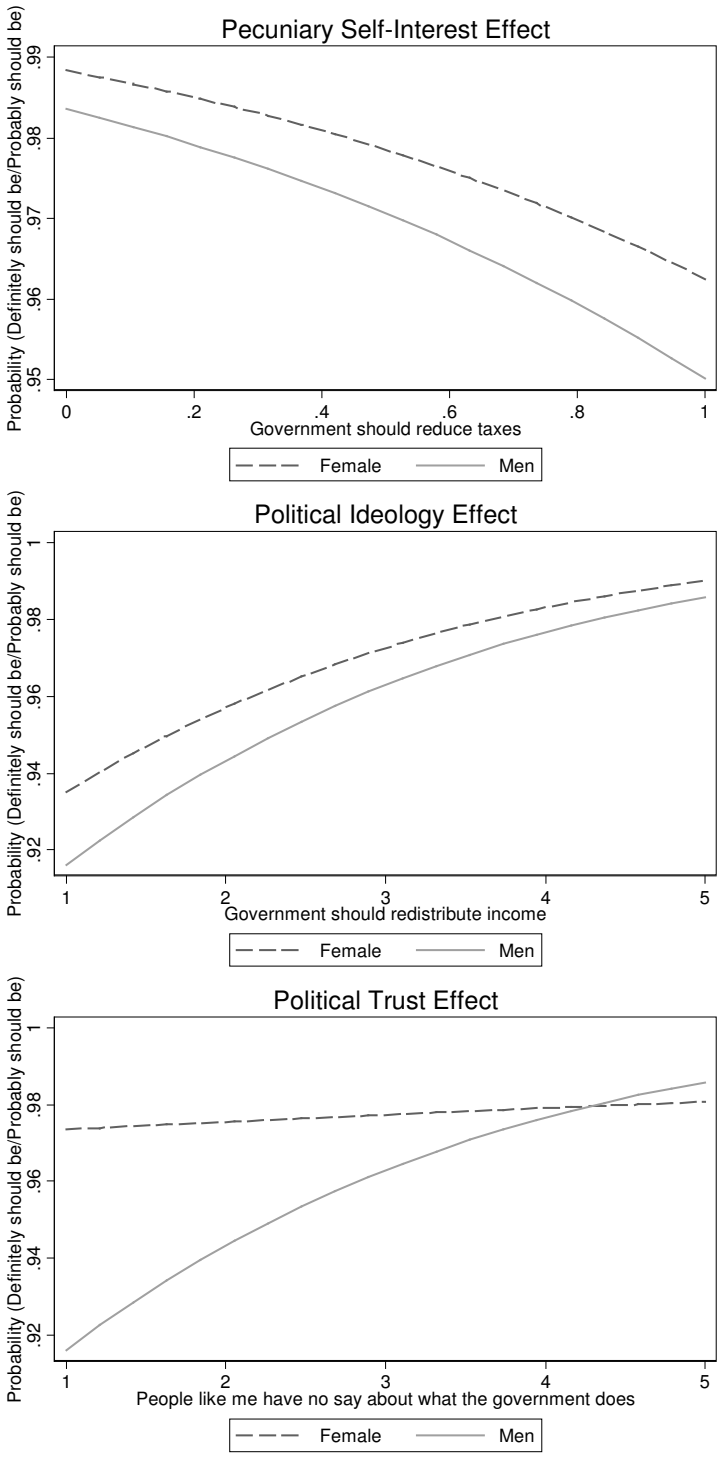
The qualitative interpretation of estimation results is guided by three criteria: statistical significance of coefficients, robustness of coefficients and substantive effect on the dependent variable. Statistical significance asks whether the estimated coefficient is statistically significant from zero, at usual statistical significance levels. There is no standard approach to check the robustness of estimated coefficients. Here, coefficients are assumed to be robust, if they are statistically significant in different models. Models will be different in their specification, sample size and estimation method. The substantive effect is a way to find out how a single independent variable effects a categorical dependent variable. For simulating substantive effects, I will use SPost for Stata written by Long and Freese (Long, Freese. 2003). SPost simulates the impact of a single independent variable on the dependent variable if everything else is held constant. This impact is called substantive effect (Rehm. 2005:17). All equations have been estimated with STATA 9.

Table 6. Estimation Results for governmental responsibility (PSE, PIE, PTE)

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
	Government should provide a decent standard of living for the old.					
	(ordered probit)	(ordered probit)	(ordered probit)	(ordered probit)	(ordered probit)	(probit)
Government should reduce taxes	-0.333 (0.021)**		-0.329 (0.019)**	-0.398 (0.021)**	-0.320 (0.021)**	-0.489 (0.039)**
Family income	-0.075 (0.019)**	-0.074 (0.017)**		-0.135 (0.019)**	-0.082 (0.019)**	
Government should reduce income differences	0.179 (0.009)**	0.194 (0.008)**	0.183 (0.008)**		0.184 (0.008)**	0.203 (0.013)**
No political say about what the government does.	0.065 (0.009)**	0.059 (0.008)**	0.067 (0.008)**	0.081 (0.009)**		0.033 (0.015)*
Age	0.004 (0.001)**	0.005 (0.001)**	0.004 (0.001)**	0.004 (0.001)**	0.004 (0.001)**	0.001 (0.001)
Female	0.149 (0.021)**	0.151 (0.018)**	0.143 (0.019)**	0.159 (0.020)**	0.152 (0.021)**	0.135 (0.035)**
Married	-0.032 (0.029)	-0.028 (0.026)	-0.039 (0.025)	-0.026 (0.029)	-0.020 (0.029)	-0.081 (0.047)
Widowed	-0.011 (0.056)	0.015 (0.050)	0.021 (0.051)	-0.037 (0.055)	0.008 (0.056)	0.065 (0.100)
Divorced	0.064 (0.049)	0.082 (0.044)	0.083 (0.045)	0.062 (0.049)	0.084 (0.049)	-0.008 (0.083)
Separated	-0.068 (0.075)	-0.015 (0.066)	-0.024 (0.068)	-0.056 (0.073)	-0.054 (0.074)	-0.068 (0.128)
Primary Education	0.057 (0.031)	0.076 (0.027)**	0.072 (0.027)**	0.081 (0.030)**	0.070 (0.030)*	0.102 (0.057)
University	-0.121 (0.025)**	-0.092 (0.023)**	-0.133 (0.022)**	-0.145 (0.025)**	-0.145 (0.025)**	-0.083 (0.039)*
Unemployed	0.046 (0.064)	0.067 (0.055)	0.056 (0.057)	0.083 (0.063)	0.052 (0.063)	0.022 (0.123)
Retired	0.018 (0.038)	0.031 (0.034)	0.059 (0.034)	0.029 (0.038)	0.019 (0.038)	0.115 (0.070)
Constant						1.518 (0.153)**
Observations	15290	19624	19362	15761	15525	19362
Wald chi2(df)	2913.07 (34)**	3573.82 (33)**	3770.51 (33)**	2606.23 (33)**	2929.03 (33)**	977.47 (33)**
Pseudo R2	0.125	0.119	0.128	0.107	0.123	0.164

Robust standard errors in parentheses, * significant at 5%; ** significant at 1%
All estimations include a full set of country dummies (not shown)

Figure 3. Substantive effect on governments responsibility to provide a decent standard of living for the old (by gender)



Note: Simulation based on Model (6)

Table 7. Estimation Results for government responsibility (CFE)

	Model(3)	Model(3.a)	Model(3.b)
	Government should provide a decent standard of living for the old		
	(ordered probit)	(ordered probit)	(ordered probit)
Government should reduce taxes	-0.329	-0.156	-0.395
	(0.019)**	(0.037)**	(0.023)**
Government should reduce income differences	0.183	0.168	0.183
	(0.008)**	(0.015)**	(0.009)**
No political say about what the government does	0.067	0.049	0.074
	(0.008)**	(0.016)**	(0.009)**
Australia	-0.486		-0.119
	(0.057)**		(0.059)*
Germany (West)	-0.277		0.086
	(0.057)**		(0.059)
Germany (East)	-0.178		0.162
	(0.067)**		(0.071)*
Great Britain	0.203		0.547
	(0.069)**		(0.072)**
United States	-0.620		-0.281
	(0.062)**		(0.065)**
Hungary	-0.048	-0.073	
	(0.061)	(0.062)	
Italia	0.332		0.696
	(0.069)**		(0.072)**
Ireland	0.466		0.838
	(0.069)**		(0.072)**
Norway	0.805		1.163
	(0.076)**		(0.078)**
Sweden	0.180		0.543
	(0.067)**		(0.070)**
Czech Republic	-0.119	-0.112	
	(0.069)	(0.069)	
Slovenia	0.136	0.145	
	(0.075)	(0.074)	
Poland	0.062	0.049	
	(0.073)	(0.072)	
Russia	0.587	0.594	
	(0.073)**	(0.072)**	
New Zealand	-0.018		0.346
	(0.068)		(0.070)**
Canada	-0.270		0.092
	(0.067)**		(0.070)
Japan	-0.358		
	(0.069)**		
Latvia	0.457	0.468	
	(0.067)**	(0.067)**	
France	-0.243		0.137
	(0.064)**		(0.066)*
Switzerland	-0.772		-0.419
	(0.055)**		(0.057)**
Observations	19362	5753	13609
Wald chi2(df)	3770.51(33)**	432.88(19)**	2839.60(26)**
Pseudo R2	0.128	0.062	0.130

Note: Robust standard errors in parentheses, * significant at 5%; ** significant at 1%
All estimations include a full set of control variables (not shown)

4.1 Government responsibility for old age pensions

Table 6 shows the results for the first type of models using "Government responsibility for old age pensions" as the dependent variable. First, let us focus on the PSE. The PSE is captured by the dummy variable "Government should reduce taxes" that equals one if the respondent thinks that he would profit from lower taxes. As expected, the coefficient is strongly significant and negative. Individuals who wish lower taxes are less likely to favor governmental responsibility for old age pensions. Moreover, the variable has a relatively strong explanatory power of individual attitudes toward redistribution. The alternative variable to test the PSE is family income. Although the variable has less explanatory power, the estimated coefficient is statistically significant and shows in the right direction.

The PIE is captured by the response to question if the government should reduce differences in income. The variable ranges from 1 to 5, while higher values indicate stronger preferences for income redistribution. In accordance with the hypothesis, we find a statistically significant and positive coefficient. This means that people who believe that the government should reduce income inequality, are more likely to favor governmental responsibility for old age pensions.

The PTE is captured by the question if people think that they have influence on government politics. Theory does not offer a suggestion of the effects direction. The variable also ranges from 1 to 5 and takes higher values if the individual believes to have no political influence on what the government does. The coefficient turns out to be statistically significant and positive, which means that people who think that they have no political influence prefer government responsibility for old age pensions.

Now, let us consider the substantive effect of the PSE, PIE and PTE on governmental responsibility. The graphs in Figure 3 simulate the impact of changing a single independent variable (PSE, PIE or PTE) on the dependent variable. The graphs are based on the simulation that all other variables are set at their mean except dummy variables set at zero. The x-axis shows the categories of

the independent variable that captures the effect. The y-axis shows the probability that the respondent agrees ("Definitely should be"/"Probably should be") with government responsibility for old age pensions. For example, changing the answer category for "Government should redistribute income" from the lowest to the highest category increases the probability of being in favor of governmental responsibility by roughly 6%. The distance between the lines for female and men shows a gender gap in preferences for redistribution. Concerning the PSE and PIE the gender gap is relatively small. Concerning the PTE, changing the categories for women has merely no effect on the preferences for governmental responsibility. However, changing the answer categories for men has a rather large substantive effect on the dependent variable. The graph shows that particularly resigned men favor government responsibility for old age pensions.

Country fixed effects (CFE) are shown in Table 7. The first row is a re-estimation of Model (3) form Table 6. Model (3.a) uses the East sample and Model (3.b) the West sample. Only if a country dummy is statistically significant in all models and both samples, the coefficient is regarded as robust. The coefficients are statistically significant and negative for the USA, Australia and Switzerland. This means that respondents from these countries are less likely to favor government responsibility for old age pensions. The coefficients for Italy, Ireland, Norway, Great Britain and Sweden are statistically significant and positive. This means that respondents from these countries are more likely to favor government responsibility. Concerning the East sample, only the coefficients for Russia and Latvia are statistically robust and indicate that individuals form Russia and Latvia are more likely to support governmental responsibility for old age pensions.

Among the control variables, age, female and education turn out to be statistically significant. Wunder and Schwarze (Wunder, Schwarze. 2004) interpret the variable age as a proxy for the generational conflict involved in pension politics. Although the coefficient is statistically significant and positive, age has no strong explanatory power. However, the variable confirms their findings.

4.2 Government spending on old age pensions

Table 8. shows the results for the second type of models using government spending on old age pensions as the dependent variable. The estimated coefficient for the PSE, PIE and PTE are statistically significant and point into the right direction.

Substantive effects on the dependent variable increased as well as the gender gap (Figure 4). Changing the answer categories for the PSE from the lowest to the highest category changes the probability of being in favor of more public spending on old age pensions by roughly 10%. Concerning the PIE, the substantive effect amounts 20%. For the PTE, the substantive effect is 10% for women and 20% for male. Women's probability to favor government responsibility is approximately 6% higher than the probability for men. This might be due to the fact that women still have to shoulder child rearing. Another reason might be that women's higher life expectancy makes them favoring redistributive public pension schemes (Rehm. 2005:14).

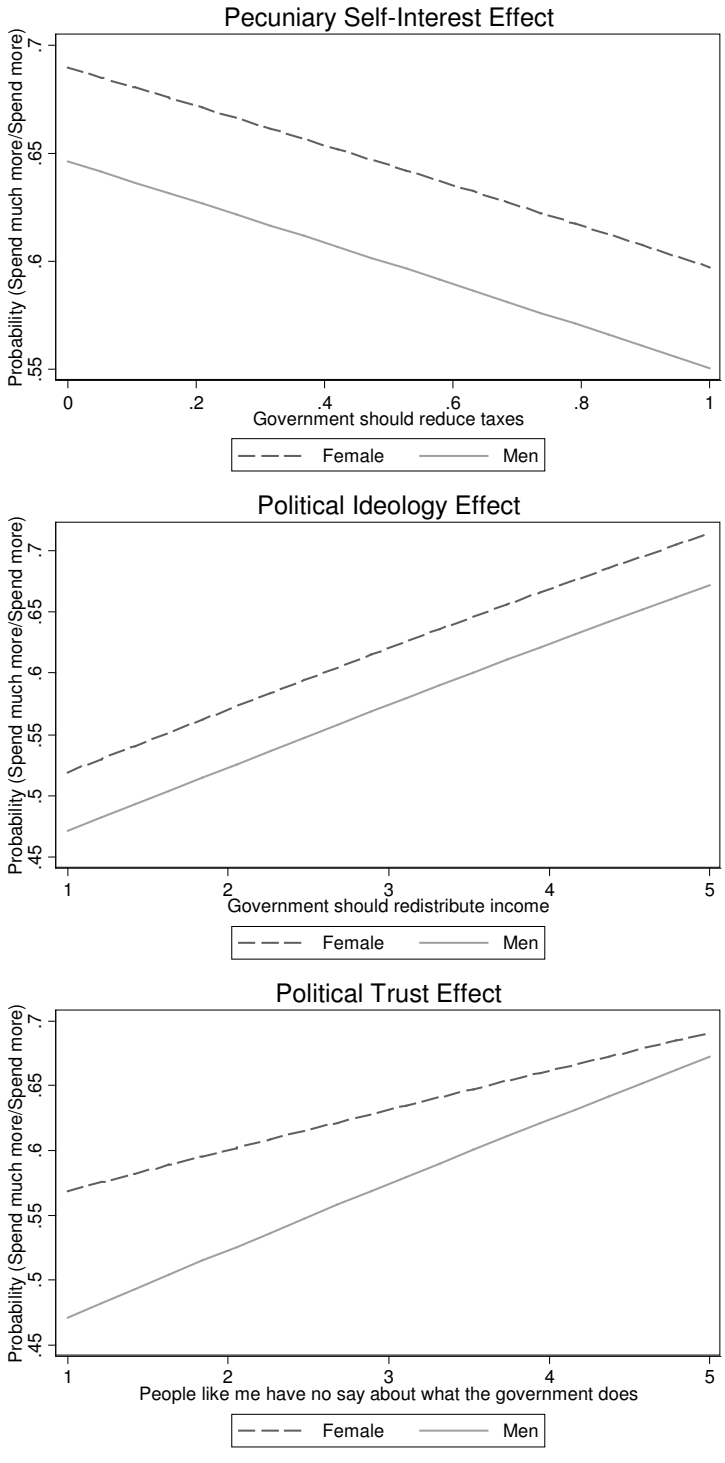
Except for Ireland and Great Britain, all county-dummies in the West sample are statistically significant and negative, which means that respondents from these counties favor less public spending on old age pensions (Table 9). Even respondents from the Czech Republic and Slovenia are likely to favor less public spending on old age pensions. In the East sample, only the coefficients for Russia and Latvia are statistically significant and positive.

Table 8. Estimation Results for government spending (PSE, PIE, PTE)

	Model (7)	Model (8)	Model (9)	Model (10)	Model (11)	Model (12)
	Government spending on old age pensions					
	(ordered probit)	(ordered probit)	(ordered probit)	(ordered probit)	(ordered probit)	(probit)
Government should reduce taxes	-0.218 (0.019)**		-0.219 (0.017)**	-0.398 (0.021)**	-0.206 (0.019)**	-0.249 (0.021)**
Family income	-0.097 (0.018)**	-0.094 (0.015)**		-0.135 (0.019)**	-0.107 (0.017)**	
Government should reduce income differences	0.123 (0.008)**	0.131 (0.007)**	0.125 (0.007)**		0.129 (0.008)**	0.129 (0.008)**
No political say about what the government does	0.075 (0.008)**	0.069 (0.007)**	0.074 (0.007)**	0.081 (0.009)**		0.081 (0.009)**
Age	0.006 (0.001)**	0.006 (0.001)**	0.006 (0.001)**	0.004 (0.001)**	0.006 (0.001)**	0.004 (0.001)**
Female	0.113 (0.019)**	0.127 (0.017)**	0.120 (0.016)**	0.159 (0.020)**	0.115 (0.018)**	0.120 (0.020)**
Married	-0.034 (0.027)	-0.037 (0.024)	-0.086 (0.023)**	-0.026 (0.029)	-0.020 (0.027)	-0.103 (0.028)**
Widowed	-0.053 (0.049)	-0.030 (0.043)	-0.009 (0.044)	-0.037 (0.055)	-0.040 (0.049)	-0.014 (0.056)
Divorced	0.049 (0.044)	0.037 (0.039)	0.045 (0.039)	0.062 (0.049)	0.059 (0.043)	0.067 (0.049)
Separated	-0.144 (0.068)*	-0.078 (0.060)	-0.137 (0.060)*	-0.056 (0.073)	-0.123 (0.067)	-0.142 (0.076)
Primary Education	0.162 (0.027)**	0.154 (0.024)**	0.193 (0.024)**	0.081 (0.030)**	0.180 (0.027)**	0.227 (0.029)**
University	-0.208 (0.023)**	-0.203 (0.020)**	-0.227 (0.020)**	-0.145 (0.025)**	-0.234 (0.022)**	-0.251 (0.024)**
Unemployed	0.046 (0.055)	0.087 (0.049)	0.112 (0.050)*	0.083 (0.063)	0.043 (0.054)	0.151 (0.065)*
Retired	0.049 (0.034)	0.062 (0.030)*	0.105 (0.030)**	0.029 (0.038)	0.053 (0.033)	0.078 (0.037)*
Constant						0.039 (0.077)
Observations	15146	19388	19178	15761	15384	19178
Wald chi2(df)	3900.76 (34)**	5031.68 (33)**	4663.72 (33)**	2606.23 (33)**	3968.34 (33)**	3603.25 (33)**
Pseudo R2	0.121	0.123	0.113	0.107	0.120	0.174

Note: Robust standard errors in parentheses, * significant at 5%; ** significant at 1%
All estimations include a full set of country dummies (not shown)

Figure 4. Substantive effect on government spending on old age pensions (by gender)



Note: Simulation based on Model (12)

Table 9. Estimation Results for government spending (CFE)

	Model(9)	Model(9.a)	Model(9.b)
	Government spending on old age pensions.		
	(ordered probit)	(ordered probit)	(ordered probit)
Government should reduce taxes	-0.219	-0.106	-0.263
	(0.017)**	(0.032)**	(0.020)**
Government should reduce income differences	0.125	0.104	0.127
	(0.007)**	(0.013)**	(0.008)**
No political say about what the government does	0.074	0.056	0.083
	(0.007)**	(0.014)**	(0.009)**
Australia	-0.620		-0.357
	(0.050)**		(0.058)**
Germany (West)	-0.807		-0.582
	(0.050)**		(0.059)**
Germany (East)	-0.646		-0.430
	(0.056)**		(0.065)**
Great Britain	-0.027		0.206
	(0.056)		(0.064)**
United States	-0.642		-0.413
	(0.057)**		(0.064)**
Hungary	0.071	0.091	
	(0.051)	(0.053)	
Italia	-0.508		-0.287
	(0.058)**		(0.067)**
Ireland	-0.031		0.211
	(0.055)		(0.062)**
Norway	-0.499		-0.265
	(0.054)**		(0.061)**
Sweden	-0.557		-0.322
	(0.054)**		(0.062)**
Czech Republic	-0.388	-0.371	
	(0.056)**	(0.057)**	
Slovenia	-0.641	-0.565	
	(0.063)**	(0.063)**	
Poland	0.038	0.079	
	(0.065)	(0.065)	
Russia	0.607	0.683	
	(0.059)**	(0.060)**	
New Zealand	-0.622		-0.362
	(0.058)**		(0.065)**
Canada	-0.924		-0.673
	(0.058)**		(0.065)**
Japan	-0.245		
	(0.064)**		
Latvia	0.680	0.716	
	(0.056)**	(0.057)**	
France	-0.908		-0.647
	(0.057)**		(0.064)**
Switzerland	-0.902		-0.668
	(0.049)**		(0.057)**
Observations	19178	5674	13504
Wald chi2(df)	4663.72(33)**	905.16(19)**	2369.23(26)
Pseudo R2	0.113	0.083	0.076

Note: Robust standard errors in parentheses, * significant at 5%; ** significant at 1%
All estimations include a full set of control variables (not shown)

5. Concluding remarks

This paper suggest that preferences for old age pensions are shaped by four effects, pecuniary self-interest (PSE), political ideology (PIE), political trust (PTE) and country fixed effects (CFE). Estimated coefficients for the PSE and PIE are significant and point in the right direction. The PTE turns out to be statistically significant and positive. Moreover, it was shown that the variables have a substantive effect on the dependent variable. This pattern holds for all models.

Like economic theory suggest, pecuniary self-interest is a very strong motive that shapes individual preferences for old age pensions. However, preferences for public pensions can not be explained satisfactorily only by pecuniary incentives. Political ideology as well as political trust plays an important role in determining preferences for old age pensions. This result confirms Corneo and Grüner´s (Corneo, Grüner. 2002) findings for determinants of preferences for income redistribution. We can conclude from the PIE that redistribution issues will continue to earmark pension politics. Results for the PTE might appear paradox at first sight. Individuals who believe that they have no say about what the government does are more likely to favor a strong government and more public spending on old age pensions. A possible explanation is, that preferences for public pension are the result of a self-assessment-process. Those who believe that they have no political say might also believe that success in life is over-directed. Hence, these individuals favor a caring state.

Country fixed effects explain most of the international variance in preferences for old age pensions (Corneo, Grüner. 2002:106). Figure 5 shows the relationship between public pension expenditure and preferences for governmental responsibility for old age pensions. The x-axis shows the national mean response to the question on governmental responsibility for old age pensions. High values indicate relatively high preferences for government responsibility. The y-axis shows pension expenditure in 1996 measured as a percentage of the GDP (SOCX. 2005). The graph demonstrates that countries in which citizens have strong preferences for government responsibility spend more on old age pensions.

Figure 5. Preferences for old age pensions in relation to public pension expenditure

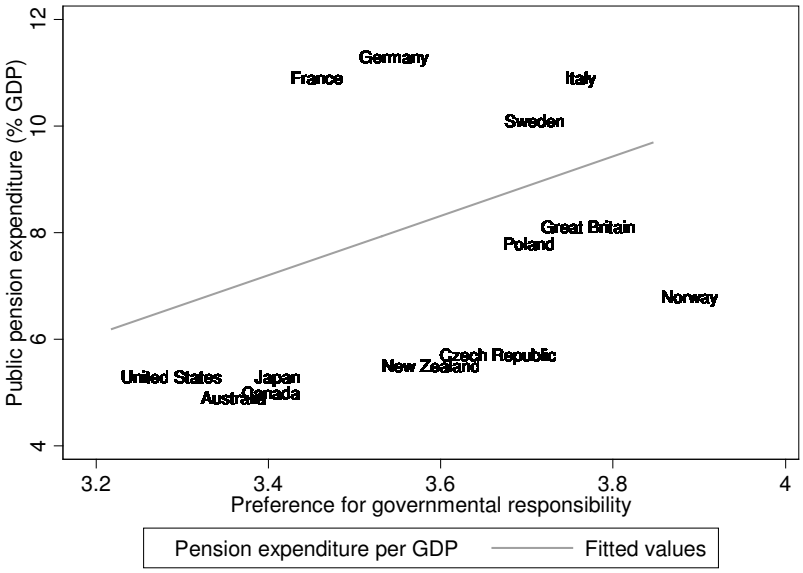


Table 10. Predicted probabilities that respondents favor governmental responsibility and more public spending on old age pensions (by country)

	Government should be responsible for old age pensions	Government should spend more/much more on old age pensions
Australia	0.949	0.336
Germany (West)	0.962	0.256
Germany (East)	0.964	0.320
Great Britain	0.977	0.614
United States	0.870	0.364
Hungary	0.975	0.675
Italy	0.972	0.447
Ireland	0.988	0.561
Norway	0.988	0.368
Sweden	0.969	0.347
Czech Republic	0.951	0.467
Slovenia	0.936	0.316
Poland	0.976	0.594
Russia	0.973	0.776
New Zealand	0.954	0.332
Canada	0.918	0.207
Japan	0.882	0.442
Latvia	0.991	0.840
France	0.925	0.221
Switzerland	0.900	0.230

Note: Simulation based on Model (6) and (12).

Comparing country dummies for both types of models (see Table 7 and Table 9) we see that many countries support governmental responsibility for old age pension but do not wish more public spending on old age pension. This makes sense if we take into account that government responsibility expresses a long term social value, while response to the question on government spending might reflect the perception of the current financial situation of the pension system.

The hypothesis on CFE does not hold for all countries. There is no strong evidence that respondents from former socialist countries and traditional welfare states are more likely to support public pension systems. Concerning public spending on old age pensions, even some countries from the East sample have a negative coefficient. Table 10 summarizes the predicted probabilities that the respondent from a certain country is in favor of governmental responsibility for old age pensions and more public spending on old age pensions. The CFE holds for countries like Russia and the USA. The probability that an individual from Russia favors governmental responsibility for old age pensions is 10% higher than the probability that an individual from the USA favors governmental responsibility. Differences are even larger for the response to the question on public spending. Russian are 30% more likely to favor more governmental spending on old age pensions than Americans.

Although the investigation identified determinants of individual preferences for old age pension it is unclear if country specific differences are due to political indoctrination or economic conditions. The results give reason for further comparative research on public pension systems using public opinion data for empirical analysis.

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