Insurance or redistribution motives?

Behaviors and beliefs in the welfare state

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Abstract

Key controversies in the debate over social insurance and redistribution revolve around the issue of the income elasticity of the demand for social insurance and redistribution. Why doesn't the welfare state become obsolete when national income rises? Why is there a negative rather than a positive association between pre-transfer income inequality and the generosity of the welfare state? This paper provides micro evidence on the relationship between voters' demand for public transfers and their income, using subsequent voter surveys from Norway, conducted every fourth year in connection with each parliamentary election from 1977 to 2009, the US' General Social Survey, 1984-2010, as well as Norwegian individual panel data. First, we replicate a well known significantly negative correlation between income and support for public transfers in the cross section. Next we show that this negative correlation turns significantly positive once we control for the individual's relative position in the income distribution. Thus, demand for public transfers is driven by insurance motives rather than redistribution motives.

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1 Introduction

The dominating approach to explain voter support for welfare state spending is to emphasize the redistributive impact of the welfare state: Since the welfare state redistributes income from the rich to the poor, conflicts on the size of the welfare state is portrayed as a distributive class struggle (e.g. Huber and Stephens 2001; Korpi 2006). Empirical tests of formal models of the welfare state as a distributive struggle (Meltzer and Richard 1981; Romer 1975; Roberts 1977) illustrates, however, the limits of this approach. In contrast to what we should expect if welfare spending is driven by the conflict between the rich and the poor, it is countries with the smallest wage inequalities which have the largest welfare states and the highest levels of income redistribution (e.g. Iversen and Soskice 2009).

We argue that voter support for the welfare state is better explained by social insurance motives. The welfare state redistributes income from a good state (e.g. being employed) to a bad state (e.g. being unemployed), and voters want public social insurance to mitigate against the income loss associated with the bad state. We outline a theoretical model of support for redistribution and social insurance, which produces the main predictions that the income elasticity of the demand for redistribution is negative, but positive for public transfers (see also Moene and Wallerstein 2001, 2003; Barth, Finseraas, and Moene forthcoming). Historical evidence suggest that insurance motives have been more important in the development of the welfare state than distributive motives (Baldwin 1990).

Our claim of a positive correlation between income and demand for public transfers is however controversial since a host of empirical studies estimate a negative correlation (Iversen and Soskice 2001; Rehm, Hacker, and Schlesinger 2012). These studies are based on cross-sectional data, and we argue that they provide poor estimates of the income elasticity of demand for transfers. Instead we claim that these studies pick up the effect of the rich' lower risks of income loss. In a cross-section, it is difficult to disentangle the effect of income from that of risks, since risks of income loss tend to fall as we move upwards in the income distribution, see Figure 1 for a stark illustration. Thus, what

appears as the effect of rising income might be the effect of falling risks.

To identify the effect of income, we control for predicted risks of income loss estimated using administrative data covering the whole population, where risk is identified from one's position in the income distribution. Since we have cross sectional data from many years, we are able to identify both income and one's place in the distribution separately. We expect a negative correlation between demand for transfers and position in the income distribution, since risks fall when we move upwards in the income distribution, but we expect a positive effect of income, conditional on position in the income/risk distribution, since voters can afford to buy more social insurance when their income rises.

We find empirical support for these claims using repeated cross-sectional data from Norwegian election studies, 1977-2009, US data from the General Social Survey 19XX-19xx, and when using Norwegian individual-level panel data. Moreover, we show that the insurance motive dominates the redistributive motive when we estimate them jointly in a seemingly unrelated regressions-framework.

2 Theory

We consider individual preferences over redistribution benefits R to people with a job and social insurance benefits I to those who have lost their income. The preferences consist of two parts, one deterministic part that represents pure self-interest and one that may reflect social concerns and random influences.

Self-interest: Respondents belong to (risk) groups denoted by p. In a certain period the position p fully characterizes their pay, risk and preferences. The part of the preference that represent pure self interests is given by

$$V(p) = (1 - e(p))U(C_E(w(p))) + e(p)U(C_N) \tag{1}$$

where C_E is consumption as long as the respondent earns his income, and C_N is his

consumption when he has lost his income:

$$C_E = (1-t)w(p) + R \text{ and } C_N = \left[\theta + (1-\theta)\frac{w(p)}{\bar{w}}\right] I \tag{2}$$

The probability of losing the income that a respondent in position p perceives, is denoted $e(p)$. We assume that pay is higher in higher positions implying that $w'(p) \geq 0$, and that the risk of losing one's income tends to lower in higher positions $w'(p) \leq 0$.

Social preferences: In addition to self-interests the respondents may have social preferences based on sympathies (or antipathies) with others, ideological commitments, fairness ideals or just random influences on how they evaluate redistribution and social insurance. We represent these influences in a simple manner:

$$v_i(p) = V(p) + \beta_i R + \gamma_i I \tag{3}$$

The parameters β_i and γ_i are individual characteristics, and both parameters can take negative and positive values. The parameters are distributed over respondents and we shall think of both as having a normal distribution with cdfs given by $F(\cdot)$ and $G(\cdot)$.

Balanced budget and deadweight costs: Respondents are assumed to have a reasonable understanding of the cost of welfare spending. Let the average probability of income loss be denoted $\bar{w}$. The balanced budget condition can be written

$$\tau(t)(1-\bar{e})\bar{w} = \bar{e}I + (1-\bar{e})R \tag{4}$$

where $\tau(t)$ represents tax revenues as a share of earnings with the tax rate t. The function $\tau(t)$ implicitly incorporates the deadweight cost of taxation. We assume, therefore, that $\tau(t)$ is a strictly increasing and concave function (the deadweight cost of taxation increases at an increasing rate as the tax rate increases), with $\tau'(0) = 1$ (there is no deadweight cost when the tax rate is zero), and $\tau(0) = \tau(1) = 0$ (tax revenues are zero either when there is no taxation or when taxation is completely confiscatory).

Expand or not: Respondents are asked whether the government should reduce in-

come inequality or not. We interpret this as whether respondents would like to increase R or not; respondents answer Yes if and only if $dv_i(p)/dR > 0$.

Respondents are also asked whether social insurance should be expanded or not. We interpret this as whether respondents would like to increase I or not; respondents answer Yes if and only if $dv_i(p)/dI > 0$.

The support for redistribution: From (3) using (1),(2), and (4) we obtain

$$\frac{dv_i(p)}{dR} = \phi(w(p)) + \beta_i \text{ where} \tag{5}$$

$$\phi(w(p)) \equiv (1 - e(p))U'(C_E(w(p)) \left[-\frac{w(p)}{\bar{w}} \frac{1}{\tau'} + 1 \right] \tag{6}$$

Observe that out of self-interest respondents would only have an interest in expanding R if

$$x \equiv \left[-\frac{w(p)}{\bar{w}} \frac{1}{\tau'} + 1 \right] > 0 \tag{7}$$

While respondents with a negative β_i can answer No also in this case; respondents with a positive β_i can answer Yes even when x is negative. Clearly, respondents for whom $\phi(w(p)) > -\beta_i$ answer positive to whether there should be more redistribution. Hence, using the cumulative distribution function $F(\cdot)$ for β, the probability (or fraction) of positive answers for a given $w(p)$ is

$$\text{Prob}(\textit{Yes}) = 1 - F(-\phi(w(p))) \tag{8}$$

This probability, that we estimate below, is declining in $w(p)$ irrespective of how risk averse respondents are. This is so since $\phi(w) < 0$ (as $\phi = (1 - e)xU'$ and both x and U' is lower the higher is $w(p)$). Notice, however, that an increase w associated with an increase in p also leads to a higher $(1 - e(p))$ implying that the decline in the Prob($\textit{Yes}$) if anything should decline less fast in this case.

The support for social insurance: From (3) using (1),(2), and (4) we obtain

$$\frac{dv_i(p)}{dI} = \pi(w(p)) + \gamma_i \text{ where} \tag{9}$$

$$\pi(w(p)) \equiv (1 - e(p))U'(C_E(w(p)) \left[-\frac{\bar{e}}{1-\bar{e}} \frac{w(p)}{\bar{w}} \frac{1}{\tau'} + 1 \right] + e(p)U'(F) \tag{10}$$

Clearly, respondents for whom $\pi(w(p)) + \gamma_i > 0$ respond by a Yes to the question of whether social insurance should be expanded or not, and by utilizing the cumulative density function G for the distribution of γ, the probability of a positive response is

$$\text{Prob}(\, Yes) = 1 - G(-\phi(w(p))) \tag{11}$$

This probability is increasing in $w(p)$ as long as the respondent is sufficiently risk averse. To see this we calculate

$$\phi'(w) = \left[U'(C_E(w)) \frac{\bar{e}}{1-\bar{e}} \frac{1}{\bar{w}\tau'} \right] \left[\mu \frac{(1-t)w}{(1-t)w + R} - 1 \right] \tag{12}$$

which is positive as long as the coefficient of relative risk aversion

$$\mu = -\frac{U''(C_E)D_E}{U'(C_E)}$$

is sufficiently large. When there is no redistribution, $R = 0$, it is enough that $\mu > 1$.

So far we have characterized the impact of higher earnings on the support for higher social insurance keeping the risk $e(p)$ constant. Clearly, the isolated effect of higher risks (for given earnings) on the support for higher social insurance is positive. This is important for distinguishing between within group support and across group support. Within groups the support for social insurance is increasing in the typical group earnings. Across groups higher earnings are associated with a higher position p, and the risk of losing the earnings $e(p)$ tends to be lower. Accordingly, across groups richer respondents tend to respond less in favor of an expansion of social insurance. Most likely, richer respondents want less social insurance. The exact conditions for the proposition that (i) the support for social insurance expansion is increasing in $w(p)$ keeping risks constant,

while (ii) the support for social insurance expansion is declining in p where $w'(p) > 0$ and $e'(p) < 0$ can easily be stated (fotnote?) but it is not so interesting.

In sum:

- The link between the support for welfare state expansion and higher respondent incomes differs across welfare state programs: social insurance versus redistribution.
- The link between earnings and the support for social insurance depends on whether earnings go up within a given risk group or whether earnings go up as we move upwards across groups exposed to lower and lower risks. While social insurance tends to be a normal good within groups, it can be an inferior good across groups.
- The links between earnings and support for redistribution from the rich to the poor is independent of within group and across group considerations. According to the self-self-interests of respondents redistribution tends to be an inferior good.

3 Social Transfers in Norway

The Norwegian social transfers system is comprehensive in comparative perspective. The main income replacement programs for people in the working age population are unemployment insurance, sick-leave benefits, rehabilitation benefits, disability pension, subsidized early retirement pension, and parental leave benefits. In addition, there is a means-tested social assistance program for people not eligible to any of the income replacement programs. Access to unemployment insurance, sick-leave benefits, early retirement, and parental leave is through employment.

The replacement rates depends on previous earnings, which introduces an insurance element into the transfer system. There are however floors and ceilings to the benefit levels which makes the programs a mix of insurance and income redistribution. The redistributive element is strengthened by guaranteed minimum benefits to those without earnings in the health-related benefits. Replacement rates are typically around 60-65 percent of previous earnings, except for sick-leave benefits, which are 100 percent up to one year of absence after which you will be transferred to one of the other welfare

programs. Parental leave schemes also cover 100 percent of previous earnings up to a ceiling, if parents fulfill the requirements regarding previous employment history.[1]

Parts of the social insurance system is generous in comparative perspective, in particular the sick-leave benefits and the parental leave schemes.[2] In comparative welfare state research, the Norwegian welfare state is usually grouped together with the other Scandinavian countries into a "social democratic" welfare institutional regime (Esping-Andersen 1990). This regime is characterized by tax-financing of benefits, universal access to programs, and egalitarian aims, and is often contrasted with the "conservative", status-preserving regime dominating in Continental Europe, and the "residual", needs-based regime dominating in English-speaking countries. To ensure that our model is not applicable only in a social democratic regime type, we also test its implications on data from the US, which belongs to the needs-based welfare regime type.

4 Empirical Strategy

5 Data

Our data comprise 8 waves of the Norwegian election survey; 1977, 1981, 1985, 1989, 1993, 1997, 2001, and 2009. The surveys are national representative post election-surveys, asking about current social and political issues, such as party preferences, interests for politics and which political issues people are concerned with.

Our variable measuring demand for social insurance is based on the following question: "What is your opinion? Should social insurances be reduced in the future, should they maintain the current level or should they be expanded?". Our dependent variable is an indicator variable taking value 1 if the respondent wants to expand social insurance, 0 otherwise.

We measure preferences for redistribution by the question "In Norway we have come

[1]Over the years we study in this paper, the period of 100 percent coverage of previous earnings was expanded from 18 to 46 weeks, and a quota of weeks reserved for the father was introduced.

[2]See e.g. the Comparative Welfare Entitlements Data set (cwed2.org) for comparable welfare benefits data from the OECD area.

as far in reducing economic differences as we would want to.". The answer categories are a Likert scale, which we recode into a binary variable taking the value of 1 if the respondent disagrees or disagrees strongly (0 otherwise). Unfortunately this question is not asked in 1977 and 1985. In 1997 and 2009 the question was rephrased to "The government should reduce differences in economic ability", while in 2001 the question asked was: "Economic inequality among Norwegians is still large and the government should take action to reduce them". Likert-scales were used also in 1997, 2001 and 2009, so we collapse agree and agree strongly into support for redistribution (0 otherwise). Since the question-wording might influence how respondents answer the question, we add dummy variables for the years 1997, 2001 and 2009 in the redistribution analyses to account for the change in question wording.

Table 1: Share of the sample which supports expanding social insurance and reducing inequality by year.

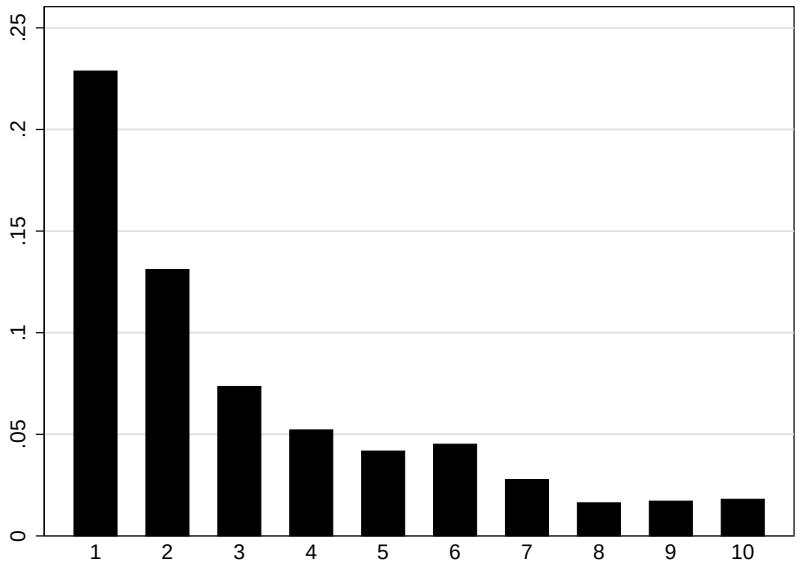
	1977	1981	1985	1989	1993	1997	2001	2009
Increase social security	43	25	47	28	21	29	25	15
Reduce inequality	n.a.	43	n.a	47	49	64	73	60

In Table 1 we present the share of the sample who agrees on whether we should increase social security, and whether we should reduce inequality. We note a jump in support for redistribution from 1993 to 1997, probably reflecting the change in question wording.

Our measure of income is log of real household income measured as gross yearly income, i.e. before tax, transfers, and income tax allowances. In the first four waves household income was reported within an interval where the limits differ between the years. To construct a somewhat continuous measure of income, we use income in 1993 (which is continuous), index it to current year, apply the year-specific income intervals from the survey, and calculate the mean of that interval. We use this mean (in 100 000 NOK, in 2000-prices) as a measure of household income. To account for different household sizes, we control for household size using the EU-equivalence scale.[3] Children in the household was not registered in 1977 and 1981, therefore we include year dummies for 1977 and 1981

[3]I.e., the first adult in household is given the weight 1, other adults (older that 16) in household are given the weight 0.5 each. Children (under 16) are given a weight of 0.3.

Figure 1: Average predicted risk of income loss by income decile



Note: The figure shows the average predicted risk of income loss in income deciles constructed from self-reported household income in the Norwegian Election Surveys. We derive the predicted risk of income loss from a regression model of the probability of job loss in the next year using administrative population-wide data. The coefficient estimates are then used to predict risk for the survey respondents in the Norwegian Election Surveys.

in all analyses.

A key parameter in the theoretical model is the respondents' risk class. We proxy risk class by income deciles and account for it in two ways. First, we rely on administrative data covering the total Norwegian population 1993-2010 to estimate the probability of being employed in $t+1$ if employed in year t, where $t = 1993, 1997, 2001, 2009$ (the election years). We estimate this probability from own income decile (based on own and spouse's gross yearly income from earnings), gender, age, age-squared, education, and whether the spouse is employed. Next we use these estimates to predict survey respondents' risk of income loss[4] and include the predicted risk as a control variable. Figure 1 shows how predicted risk of income loss decreases rapidly when we move upwards in the income distribution.

The second approach is a reduced form model where we directly use the respondents' income decile as a proxy for her risk class. We do so by including a set of income decile

[4]We use the 1993 estimates to predict risk in the pre-1993 elections, but we also present results excluding the pre-1993 elections.

dummies. We use the reduced form approach in most of the paper since we do not have the administrative data to use the first approach in the analysis of the US data.

In addition, we include two controls for subjective risk assessments. First, a dummy representing whether the respondent fear for unemployment on behalf of himself or a family member in the near future, and second, two dummies representing the respondents' expected economic situation in the near future (Better, Same (reference group) or Worse than today). Moreover, we account for labour market affiliation through a set of binary indicators–Blue collar (reference group), white collar (public), white collar (private), self-employed and farmers, students/housewifes/others and pensioneer–as well as education, registered as a 3 category variable: Compulsory primary and secondary school (reference group), upper secondary/ high school and college. Finally, we have information on social status and whether the spouse is employed, as well as age and gender. Descriptive statistics are presented in the Appendix.

Since our dependent variables are binary outcomes, we estimate probit models and present marginal effects.

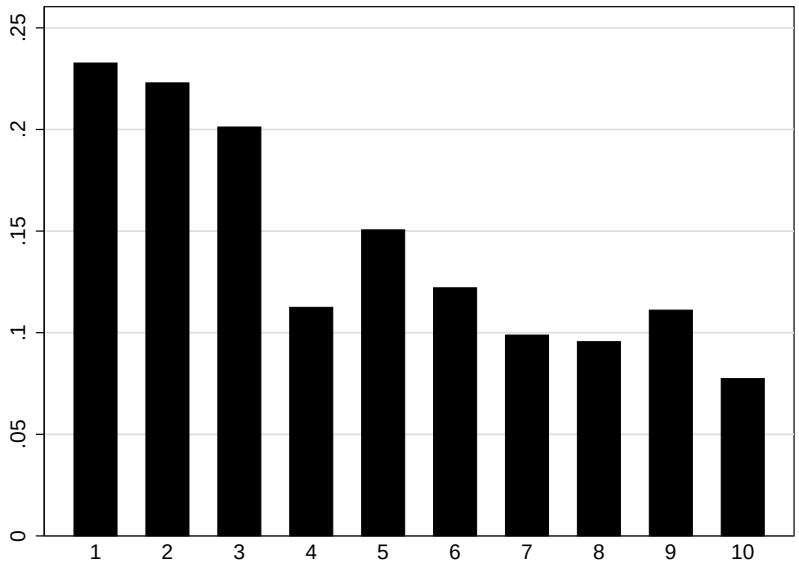
6 Results

Expand social insurance?

Respondents to the election surveys were asked if social transfers in the future ought to be cut, remain as is, or be expanded. Figure 2 shows the share in each income decile who answered that social transfers should be expanded in 2009. The figure shows the familiar pattern that support for welfare benefit expansion decreases across the income distribution.

The first row of table 2 shows the (marginal) effect of real household earnings on respondent's probability of wanting to expand social insurance when we only control for gender, age, education, and number of consumers in the household. For ease of presentation we leave out these coefficients, but these are reported in Table OA-1 (Online appendix). Comparing two households where one earns the double of the other, holding

Figure 2: Agree to expansion of social insurance by income decile



Note: Income is household income. Source: Own calculations on the Norwegian Election Survey from 2009, N=1603

consumption units constant, the richest household have 3 percentage points lower probability of wanting to expand social insurance. This difference drops to 2.3 percentage points when we control for employment, occupation, and a set of household variables (model 2).[5]

Our key result appears in models 3 and 4 where we include proxies for risk. Unsurprisingly, individuals who fear own unemployment in the near future have a higher probability of wanting to expand social transfers, but interestingly both expecting a positive and expecting a negative change in future economic situation implies higher probability of wanting to expand social insurance, compared to an individual who expects no significant change in their own economic situation. The positive coefficient for expecting a positive

[5]The probability of wanting to expand social insurance increases with age and decreases with education. Self employed have significantly lower probability of supporting an increase, while pensioners have significantly higher support than the reference group (blue collar workers). These findings echo previous research using cross-national data (e.g. Rehm 2011). Furthermore, in line with what we might expect from the insurance model, individuals with a working spouse have lower probability of wanting to expand social transfers, however, this difference is larger and only significant for men. We further find that married men are more like to support expansion, while there is no difference between married and unmarried women. Previous research show that Norwegian unmarried women are particularly likely to vote for left parties (Finseraas, Jakobsson, and Kotsadam 2012). Thus, it seems they do so for other reasons than to expand social insurance programs.

Table 2: Increase spending on social insurance benefits. Marginal effects estimated from probit models.

	Model 1	Model 2	Model 3	Model 4
ln(income)	-0.033***	-0.023***	0.047***	0.052**
	(0.007)	(0.009)	(0.015)	(0.020)
Expected neg. change			0.049***	0.049***
			(0.011)	(0.011)
Expected pos. change			0.052***	0.055***
			(0.010)	(0.010)
Fear of unempl			0.038***	0.035***
			(0.011)	(0.011)
ln(risk)			0.051***	
			(0.009)	
Income decile 2				-0.051**
				(0.026)
Income decile 3				-0.071**
				(0.032)
Income decile 4				-0.112***
				(0.035)
Income decile 5				-0.104***
				(0.038)
Income decile 6				-0.136***
				(0.039)
Income decile 7				-0.130***
				(0.041)
Income decile 8				-0.150***
				(0.043)
Income decile 9				-0.136***
				(0.046)
Income decile 10				-0.183***
				(0.047)
Observations	12,590	12,590	12,505	12,505

Note: All models include controls for gender, age, age-sq, dummy for high school education, dummy for college education, number of consumers in the household, a year trend, and year dummies for 1977 and 1981 (see text). Models 2-4 further includes controls for an interaction between income and employment, dummies for occupation (public white collar, private white collar, self-employed/farmer, student/housewife/other, pensioneer), dummies for married, for whether the spouse is employed, and interactions between gender and married and female and whether spouse in employed. Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

change is contrary to the hypothesis that prospects of upward mobility make people less supportive of the welfare state (Benabou and Ok 2001), and instead suggest that people want to insure against variance in their income level.

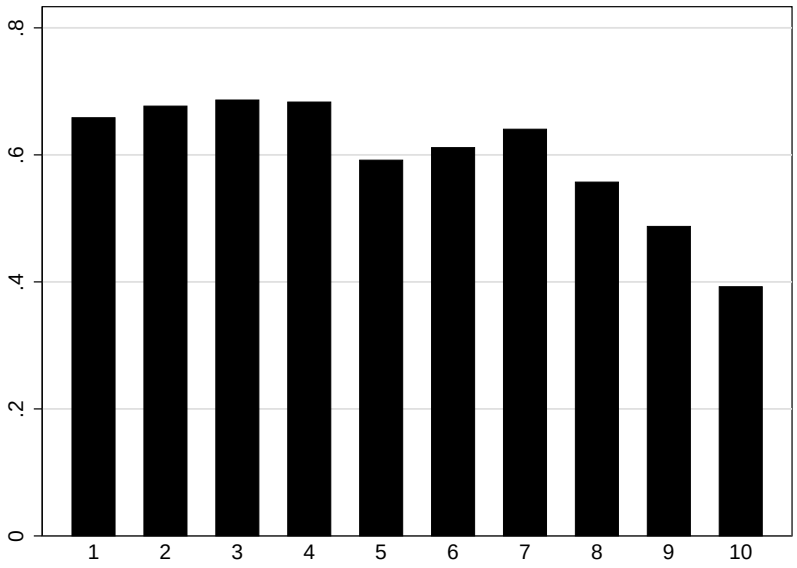
In model 3 we further include the predicted risk measure derived from the analysis of administrative data. The risk variable is strongly related to support for social insurance, and our estimate suggests that a one standard deviation difference in risk of income loss is associated with a 5.8 percentage points higher probability of supporting an increase.[6]. More importantly, however, the effect of household earnings switches from a significantly negative to a significantly positive sign. i.e. when appropriately controlling for risk, the effect of higher income is to increase support for an expansion of social transfers.[7] In model 4, we get the same result when we use the reduced form approach of directly controlling for relative position in the income distribution.

Our interpretation of the results in Model 4-5 is as follows: The relative position in the income distribution is an indicator of risk class or of social class, determining the weight put on the unfortunate states of the world in the demand for social insurance. Real income, given risk class, on the other hand, implies higher demand for social insurance for two reasons: First, higher income means higher ability to pay for social insurance through the income effect (you want to buy more of a normal good when your income increases), and secondly, since the relative loss in case of a bad state increases, the smoothing effect leads to demand for higher social transfers (you want to smooth out differences in your income level over time). In the cross section, which is effectively what we display in figure 2 and models 1-3, the effect of higher income confounds two separate effects that work in opposite directions: The first is the income effect, which we show in models 4-5 to be positive, and the second is the effect of being in different risk or social classes, that we show in model 5 as the visibly negative pattern of relative position in the income distribution.

[6]The standard deviation of log(risk) is about 1.13

[7]Table OA-3 in the Online appendix shows that we get a positive income coefficient also if we restrict the analysis to the 1993-2009 period, i.e. the years covered by the administrative data.

Figure 3: Agree to income redistribution by government by income decile



Note: Income is household income. Source: Own calculations on the Norwegian Election Survey from 2009, N=1603

Preferences for redistribution

Next we examine the income elasticity of income redistribution. Figure 3 shows the share of each income decile who supports government reduction of income inequality in 2009. We find a declining pattern over income deciles also for this variable.

Table 3 shows the results of a similar analysis of the probability of supporting redistribution as for social insurance. We see that risk is much weaker associated with support for redistribution and we find a negative coefficient for real earnings in all four specifications. Correspondingly, there is a tendency for individuals above the median income class to be less favorable towards redistribution, and for individuals below the median to be more favorable towards redistribution, consistent with any model of either individual interest or local identification with groups more similar to oneself. However, it is clear that we in this case do not find the effect we found for social transfers; a positive effect conditional on the rank in the earnings distribution. We argue that this is a strong indication that the demand for social insurance is guided partly by other mechanisms than purely preferences for redistribution.

Table 3: Increase income redistribution by government. Marginal effects estimated from probit models.

	Model 1	Model 2	Model 3	Model 4
ln(income)	-0.063***	-0.086***	-0.063***	-0.025
	(0.008)	(0.011)	(0.019)	(0.024)
Expected pos. change				0.057***
				(0.013)
Expected neg. change				-0.021*
				(0.013)
Fear of unempl.				0.050***
				(0.013)
ln(risk)			0.020	
			(0.013)	
Income decile 2				0.033
				(0.034)
Income decile 3				0.029
				(0.041)
Income decile 4				0.040
				(0.047)
Income decile 5				-0.043
				(0.052)
Income decile 6				-0.027
				(0.054)
Income decile 7				-0.039
				(0.059)
Income decile 8				-0.065
				(0.061)
Income decile 9				-0.085
				(0.066)
Income decile 10				-0.184***
				(0.071)
Observations	10,211	10,211	10,211	10,122

Note: All models include controls for gender, age, age-sq, dummy for high school education, dummy for college education, number of consumers in the household, a year trend, and year dummies for 1977, 1997, 2001, and 2009 (see text). Models 2-4 further includes controls for an interaction between income and employment, dummies for occupation (public white collar, private white collar, self-employed/farmer, student/housewife/other, pensioneer), dummies for married, for whether the spouse is employed, and interactions between gender and married and female and whether spouse in employed. Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Another more curious piece of evidence that go in the same direction is that the effect of a positive change in expected economic situation is negatively associated with a preference for redistribution (e.g. Benabou and Ok 2001), whereas the same coefficient turned out to be positive in the case of social transfers. This difference indicates that uncertainty about the future may add to the demand for social insurance, regardless of the direction of the uncertainty, but reduce the demand for redistribution when the expected outcome is to get richer.

Panel data evidence

So far we have relied on quasi-panel data to show that support for social insurance increases with income when accounting for risk of income loss. In this section we rely on true panel data, allowing us to control for all time-invariant individual heterogeneity, to show that social insurance is a normal good. The data are from the two rounds of the Norwegian Life Course, Ageing and Generation Study (NorLAG). The NorLAG study follows a panel of respondents who were at least 40 years old when the first round was conducted in 2002/2003. The second round was conducted in 2007/2008. The NorLAG study combines survey data with administrative register data on respondents' income and income sources, including wage income. Thus, we have top quality data on earnings. Unfortunately, the survey does not include information on support for redistribution so the analysis is restricted to support for social insurance.

The dependent variable is constructed from three survey items on whether the respondent would like to see more spending, less spending, or the same spending level as today on health care, care for the elderly and public pensions. We construct an additive index, *insurance*, which runs from 0 to 1, where a score of 1 implies that the respondent would like to see more spending on all three areas. Our earnings measure is the log of wage income before taxes and transfers in the year of the survey. In some models we include a vector of standard control variables, which are described in the Appendix (the appendix also includes descriptive statistics).

Table 4 shows the results. In columns 1-3 we replicate the familiar negative cross-

sectional correlation between levels of earnings and support for social insurance. In columns 4 and 5 we exploit the panel feature of the data to estimate the model in first differences. As evident, the coefficient for income changes to positive and strongly significant, providing further evidence that the demand for social insurance is a normal good. According to our estimates, a one standard deviation increase in wage income increases support for social insurance by about .014 units, which amounts to nine percent of the standard deviation of the dependent variable. Thus, demand for social insurance has a moderate, but non-negligible, relationship with income in the panel data.

Is the demand for social transfers driven by preferences for redistribution?

We have found strong indications that the demands for social transfers and for government redistribution are driven by different mechanisms, in particular because of the role income plays for the determination of the two. In this section we model the determination of the two simultaneously. To model them simultaneously is useful since most actual policies combine redistribution and insurance, hence redistribution and insurance preferences might be determined jointly. First we present a "seemingly unrelated" regression, implemented as a bivariate probit since we have dichotomous dependent variables. Second, we estimate directly to what extent redistribution has an effect on social insurance preferences.

Table 7 shows the results of the bivariate probit models. In addition to the coefficients shown, the models also include the demographics and risk variables of tables 1 and 2 which are left out for ease of presentation. We find the same pattern as above, a negative coefficient for income in the redistribution model and a positive income coefficient in the insurance model. Furthermore, we find a positive correlation between the two residual distributions (rho) in the first model, yet the correlation is not strong.

In the second model we include support for redistribution in the social transfers equation. We find a positive effect of redistributive preferences on the demand for social

Table 4: Support for increased spending on social insurance. Linear regression models.

	Cross-section Levels	Cross-section Levels	Cross-section Levels	Panel First differences	Panel First differences
ln(income)	–.004***	–.003***	–.001	.002**	.003**
	(.001)	(.001)	(.001)	(.001)	(.001)
Female		.045***	.041***		
		(.006)	(.006)		
Age		.010**	.005		
		(.003)	(.004)		
Age squared		–.000**	–.000		
		(.000)	(.000)		
High school		–.008	–.005		
		(.008)	(.008)		
College		–.075***	–.070***		
		(.009)	(.009)		
Paid work			–.028**		–.020*
			(.010)		(.011)
Retired			–.005		.004
			(.013)		(.009)
Married/Cohab.			.020**		–.018
			(.009)		(.014)
Bad health			.036***		.010
			(.009)		(.008)
Spouse working			–.021**		–.014*
			(.008)		(.009)
Household size			–.014***		.003
			(.004)		(.003)
Constant	.930***	.637***	.800***	–.003	–.005
	(.005)	(.095)	(.108)	(.003)	(.004)
adj. R-square	.02	.08	.10	.00	.01
No. of obs.	3,006	2,998	2,958	2,550	2,464

Note: Cross-section: All variables in levels. Panel: All variables in first differences. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

transfers, but if anything, the results with respect to the effect of earnings on the demand for social transfers are strengthened. The rho switches to negative and is slightly larger compared to in Model 1. We get similar conclusions if we replace the income deciles dummies with the risk variable, however, the income coefficient is not statistically significant (see Table OA-4, Online Appendix).

Table 5: Support for redistribution and social insurance. Bivariate probit

	Model 1		Model 2	
	Redistribution	Social insurance	Redistribution	Social insurance
ln(income)	-0.077	0.153**	-0.081	0.172**
	(0.064)	(0.068)	(0.063)	(0.068)
Income decile 2	0.078	-0.193**	0.084	-0.211**
	(0.089)	(0.092)	(0.089)	(0.092)
Income decile 3	0.081	-0.304***	0.088	-0.322***
	(0.109)	(0.113)	(0.109)	(0.113)
Income decile 4	0.121	-0.351***	0.132	-0.380***
	(0.124)	(0.129)	(0.123)	(0.129)
Income decile 5	-0.079	-0.400***	-0.070	-0.381***
	(0.136)	(0.142)	(0.135)	(0.144)
Income decile 6	-0.054	-0.496***	-0.045	-0.482***
	(0.141)	(0.148)	(0.140)	(0.150)
Income decile 7	-0.058	-0.567***	-0.049	-0.553***
	(0.155)	(0.164)	(0.154)	(0.165)
Income decile 8	-0.152	-0.533***	-0.141	-0.494***
	(0.158)	(0.167)	(0.157)	(0.171)
Income decile 9	-0.185	-0.568***	-0.175	-0.523***
	(0.170)	(0.180)	(0.169)	(0.185)
Income decile 10	-0.432**	-0.693***	-0.418**	-0.586***
	(0.186)	(0.197)	(0.185)	(0.213)
Redistr				0.655*
				(0.380)
rho	0.181***		-0.220	
	(0.0182)		(0.241)	
Controls	Yes		Yes	
No. of obs.	9,450		9,450	

Note: All models include the same control variables as in Table 2 and 3. Year dummies for 1981, 1997, 2001, and 2009 included. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Evidence from the US

We argue that demand for social insurance is driven by an insurance logic, irrespective of characteristics of the welfare state institutions already in place. Thus, conditional on risk, we expect a positive correlation between earnings and demand for social insurance also in the US, despite the large differences between welfare arrangements between Norway and the US.

To study demand for social transfers in the US we rely on data from the General Social

Survey (GSS). Demand for social insurance is measured by a dummy equal to 1 if the respondent answers that the federal government spends "too little" on "social security". The data cover the period 1984-2012. In addition, we present results of support for spending on unemployment benefits, but unfortunately, this question is asked only in 1985, 1990, 1996 and 2006. Respondents answering "spend more" and "spend much more" are classified as supporting spending on unemployment benefits.[8]

To capture demand for redistribution, we rely on two survey questions. The first is a dummy equal to 1 if respondent answers 1-3 on a scale from 1-7 on a question of whether the "government in Washington ought to reduce the income differences between the rich and the poor, perhaps by raising the taxes of wealthy families or by giving income assistance to the poor". This question covers the period 1978-2012.[9] The second is a dummy equal to 1 if the respondent answers that the federal government spends "too little" on "welfare". Since most welfare benefits in the US are means-tested, an increase in welfare spending will have strong redistributive consequences. This question covers the period 1973-2012.

We include the same type of controls as above. Since we rely on a set of quite standard controls, we are able to set up a similar model using the GSS data as in the Norwegian data. The main difference is that the occupational controls are somewhat different, where the GSS has a distinction between full-time and part-time instead of the public-private distinction we have in the Norwegian data. We describe the controls in the Appendix. Family income is always given in brackets in the GSS.[10] We transform categories into dollar amounts by assigning respondents the mid-category dollar amount, and inflation-adjust the amount. The amounts are in constant 2000-dollars.

The results are presented in Table 6. We restrict the presentation to the income coefficients and refer to the online appendix for the full set of results. Regarding the

[8]The exact question wording is "Listed below are various areas of government spending. Please indicate whether you would like to see more or less government spending in each area. Remember that if you say "much more," it might require a tax increase to pay for it. G. Unemployment benefits."

[9]This question was not asked in 1985. In 1985 we instead use the question "It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes.". Those who agree or agree strongly are classified as supporting redistribution.

[10]We use the income variable named "coninc". See Hout (2004) for a discussion of the income variables in GSS.

Table 6: Results from the GSS

	Baseline controls	Adding labor market controls	Adding Household controls	Adding Relative position
DV: Social security				
ln(income)	-0.035***	-0.039***	-0.038***	0.028***
	(0.003)	(0.005)	(0.005)	(0.010)
ln(income)xNotworking		-0.002	-0.003	-0.025***
		(0.006)	(0.006)	(0.006)
Observations	33,156	33,155	33,155	33,155
DV: Unemployment benefits				
ln(income)	-0.096***	-0.100***	-0.091***	0.017
	(0.009)	(0.013)	(0.013)	(0.029)
ln(income)xNotworking		0.013	0.010	-0.011
		(0.017)	(0.017)	(0.018)
Observations	4,000	4,000	4,000	4,000
DV: Welfare				
ln(income)	-0.074***	-0.063***	-0.052***	-0.022***
	(0.003)	(0.004)	(0.004)	(0.008)
ln(income)xNotworking		-0.010*	-0.012**	-0.015***
		(0.005)	(0.005)	(0.005)
Observations	28,562	28,561	28,561	28,561
DV: Redistribution				
ln(income)	-0.067***	-0.072***	-0.068***	-0.005
	(0.004)	(0.005)	(0.005)	(0.012)
ln(income)xNotworking		0.010	0.008	-0.013*
		(0.007)	(0.007)	(0.007)
Observations	26,516	26,515	26,515	26,515

Note: All models include control variables, see Appendix. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

controls, the signs of the coefficients are the same in the US as in Norway for most variables, the most notable difference is that married men in the US are negative towards all kinds of social transfers.

The relationships between income and preferences for social transfers follow a similar pattern in the US as in Norway. Support for social security is decreasing with income as long as we do not condition on income class, but is increasing with income when we

Table 7: Social security and redistributive welfare in the US. Bivariate probit

	Model 1		Model 2	
	Welfare	Social sec	Welfare	Social sec
ln(income)	-0.055	0.036	-0.055	0.033
	(0.037)	(0.036)	(0.037)	(0.037)
ln(income)XNot working	-0.030	-0.056**	-0.030	-0.057**
	(0.025)	(0.023)	(0.025)	(0.023)
Redistr				-0.150
				(0.282)
rho	0.336***		0.427**	
	(0.015)		(0.176)	
Controls	Yes		Yes	
No. of obs.	15,754		15,754	

All models include control variables, see Appendix. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

do. The same is the case for support for unemployment benefits, however, the small sample size results in an imprecise estimate. Support for redistributive welfare benefits and support for reducing income differences are negative also when we condition on income class. Thus, as in Norway, the results for social insurance follows the insurance model, while support for redistribution follows the redistribution model.

When we estimate support for social security and support for welfare benefits simultaneously in a SUR-framework, we again get a similar pattern as in Norway, however, we get less precise estimates and cannot rule out the null hypotheses. We also find a negative correlation between support for welfare and support for social security when the former is included in the regression model for the latter.

Conclusion

TBA

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Appendix

Descriptive statistics, Norwegian election studies

Table A-1: Descriptive statistics, Norwegian election studies.

	Mean	Std.dev
Social insurance	0.29	(0.45)
Redistribute	0.56	(0.50)
ln(income)	0.97	(0.84)
Year	1,99	(9.53)
Consumers	1.49	(0.41)
Female	0.47	(0.50)
Age	44.7	(16.3)
Age-sq	2,27	(1,55)
High school	0.48	(0.50)
College	0.26	(0.44)
ln(income)XNot working	0.064	(0.47)
White collar, public	0.21	(0.41)
White collar, private	0.20	(0.40)
Self employed, farmer	0.092	(0.29)
Students, housewife, others	0.15	(0.35)
Pensioneer	0.18	(0.39)
Married	0.64	(0.48)
Spouse working	0.50	(0.50)
FemaleXMarried	0.29	(0.46)
FemaleXSpouse working	0.25	(0.43)
Expected neg. change	0.20	(0.40)
Expected pos. change	0.25	(0.43)
Fear of unempl	0.18	(0.39)
Income decile 2	0.11	(0.32)
Income decile 3	0.14	(0.35)
Income decile 4	0.07	(0.26)
Income decile 5	0.14	(0.35)
Income decile 6	0.09	(0.29)
Income decile 7	0.10	(0.30)
Income decile 8	0.10	(0.30)
Income decile 9	0.07	(0.26)
Income decile 10	0.08	(0.26)

Variable descriptions, panel data

ln(wage income) is the log of wage income in the year of the survey, *high school* is a dummy for whether the respondent has completed high school (ref. category is compulsory education), *College* is a dummy for whether the respondent has a degree from college/university (ref. category is compulsory education), *Paid work* is a dummy for whether the respondent reports to be in paid work, *Retired* is a dummy for whether the respondent is retired (including those on disability pension), *Married/Cohab.* is a dummy for whether the respondent is married/cohabitant, Bad health is a dummy for whether the respondent reports to have visited a physician in the last 12 months, *Spouse working* is a dummy for whether the respondent reports to have a spouse in paid work, *Household size* is the reported number of people living in the household.

Table A-2: Descriptive statistics, panel data.

	Cross-section		Panel	
	Mean	Std. Dev.	Mean	Std. Dev.
Insurance	.89	.16	–.005	.16
ln(wage income)	9.14	5.43	–1.01	4.09
Paid work	.66	.47	–.09	.38
Retired	.23	.42	.21	.42
Married/Cohab.	.74	.44	–.02	.27
Bad health	.85	.36	.02	.42
Spouse working	.50	.50	–.07	.39
Household size	2.43	1.21	–.05	1.02
Age	56.72	10.28		
Female	.53	.50		
High school	.53	.50		
College	.33	.47		

Variable descriptions, GSS data
The regression models include the following set of controls.
Baseline:
Year: Linear time trend
Female: Gender dummy
Consumption units:control for household size using the EU-equivalence scale.I.e., the first adult in household is given the weight 1, other adults (older that 16) in household are given the weight 0.5 each. Children (under 16) are given a weight of 0.3.
Age: in years
Age-sq: Square of age
Not high school: No high school degree. Ref category: junior college degree
High school: High school degree. Ref category: junior college degree
Bachelor: Bachelor degree. Ref category: junior college degree
Graduate: Graduate degree. Ref category: junior college degree
Added variables in labor market controls models:
Working full-time: Ref category: Temporary not working
Working part-time: Ref category: Temporary not working
Unemployed: Ref category: Temporary not working
Retired: Ref category: Temporary not working
School: In school. Ref category: Temporary not working
Keeping house: Ref category: Temporary not working
Other: Ref category: Temporary not working
Added variables in household controls models:
Married: Marital status
Spouse working: Spouse working full-time or part-time
FemaleXMarried: Interaction term
FemaleXSpouse working: Interaction term
Fear of unemployment: Respondent reports that s/he is very like or fairly like to lose the job
Added variables in household controls models:
Dummies for income decile

Table A-3: Descriptive statistics, GSS.

	Mean	Std.dev
Social security	0.57	(0.49)
Welfare	0.20	(0.40)
Redistribution	0.46	(0.50)
Unemployment benefits	0.30	(0.47)
ln(income)	10.35	(1.01)
Female	0.55	(0.50)
Consumers	1.63	(0.54)
Age	45.62	(16.97)
Not high school	0.17	(0.38)
High school	0.52	(0.50)
Bachelor	0.16	(0.37)
Graduate	0.08	(0.27)
ln(inc)XNotworking	3.61	(4.83)
Working full-time	0.53	(0.50)
Working part-time	0.11	(0.31)
Unemployed	0.03	(0.17)
Retired	0.14	(0.34)
School	0.03	(0.17)
Keeping house	0.12	(0.33)
Other	0.02	(0.14)
Married	0.50	(0.50)
Spouse working	0.34	(0.47)
FemaleXSpouse working	0.19	(0.40)
FemaleXMarried	0.26	(0.44)
Fear of unemp	0.041	(0.20)
Decile 2	0.11	(0.31)
Decile 3	0.11	(0.31)
Decile 4	0.09	(0.29)
Decile 5	0.12	(0.32)
Decile 6	0.10	(0.30)
Decile 7	0.09	(0.29)
Decile 8	0.11	(0.31)
Decile 9	0.11	(0.31)
Decile 10	0.05	(0.22)

Online Appendix

Table OA-1: Increase spending on social insurance benefits. Marginal effects estimated from probit models.

	Model 1	Model 2	Model 3	Model 4
ln(income)	-0.033***	-0.023***	0.047***	0.052**
	(0.007)	(0.009)	(0.015)	(0.020)
Year	-0.010***	-0.010***	-0.013***	-0.011***
	(0.001)	(0.001)	(0.001)	(0.001)
Consumers	-0.024**	-0.037**	-0.035**	-0.039**
	(0.012)	(0.017)	(0.017)	(0.017)
Female	0.004	0.024*	0.029**	0.023
	(0.008)	(0.014)	(0.014)	(0.014)
Age	0.004**	0.007***	0.008***	0.007***
	(0.002)	(0.002)	(0.002)	(0.002)
Age2	-0.000*	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
High school	-0.006	-0.001	0.012	0.004
	(0.011)	(0.011)	(0.011)	(0.011)
College	-0.056***	-0.053***	-0.042***	-0.046***
	(0.012)	(0.013)	(0.013)	(0.013)
Year 1977	-0.052***	-0.059***	-0.078***	-0.072***
	(0.017)	(0.017)	(0.017)	(0.018)
Year 1981	-0.161***	-0.151***	-0.170***	-0.159***
	(0.014)	(0.015)	(0.016)	(0.016)
ln(income)XNot working		-0.006	-0.019*	-0.022*
		(0.011)	(0.011)	(0.012)
White collar, publ.		-0.003	0.006	0.002
		(0.015)	(0.015)	(0.015)
White collar, priv.		-0.025*	-0.022	-0.020
		(0.014)	(0.014)	(0.014)
Self-employed, farmer		-0.056***	-0.055***	-0.055***
		(0.016)	(0.016)	(0.016)
Students, housewife, others		-0.014	-0.005	-0.000
		(0.016)	(0.016)	(0.017)
Pensioneer		0.072***	0.080***	0.080***
		(0.019)	(0.020)	(0.020)
Married		0.043**	0.045***	0.045***
		(0.017)	(0.017)	(0.017)
Spouse working		-0.030**	-0.073***	-0.024*
		(0.014)	(0.016)	(0.014)
Femalexmarried		-0.040**	-0.044**	-0.041**
		(0.019)	(0.020)	(0.020)
Femalexspousework		0.014	0.016	0.015
		(0.019)	(0.019)	(0.019)
Expected neg. change			0.049***	0.049***
			(0.011)	(0.011)
Expected pos. change			0.052***	0.055***
			(0.010)	(0.010)
Fear of unempl.			0.038***	0.035***
			(0.011)	(0.011)
ln(risk)			0.051***	
			(0.009)	
Income decile 2				-0.051**
				(0.026)
Income decile 3				-0.071**
				(0.032)
Income decile 4				-0.112***
				(0.035)
Income decile 5				-0.104***
				(0.038)
Income decile 6				-0.136***
				(0.039)
Income decile 7				-0.130***
				(0.041)
Income decile 8				-0.150***
				(0.043)
Income decile 9				-0.136***
				(0.046)
Income decile 10				-0.183***
				(0.047)
Observations	12,590	12,590	12,505	12,505

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

Table OA-2: Increase income redistribution by government. Marginal effects estimated from probit models.

	Model 1	Model 2	Model 3	Model 4
ln(income)	-0.0631***	-0.0858***	-0.0630***	-0.0254
	(0.0081)	(0.0107)	(0.0186)	(0.0242)
Year	0.0083*	0.0076*	0.0081*	0.0088*
	(0.0043)	(0.0044)	(0.0044)	(0.0045)
Consumers	0.0224	0.0404**	0.0411**	0.0348*
	(0.0141)	(0.0198)	(0.0199)	(0.0200)
Female	0.0715***	0.0779***	0.0792***	0.0756***
	(0.0100)	(0.0174)	(0.0174)	(0.0177)
Age	0.0137***	0.0134***	0.0137***	0.0126***
	(0.0022)	(0.0024)	(0.0024)	(0.0024)
Age2	-0.0001***	-0.0001***	-0.0001***	-0.0001***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
High school	-0.0084	-0.0027	0.0014	0.0024
	(0.0140)	(0.0142)	(0.0144)	(0.0143)
College	-0.0899***	-0.0761***	-0.0719***	-0.0524***
	(0.0158)	(0.0166)	(0.0169)	(0.0170)
Year 1977	0.0266	0.0051	0.0081	0.0151
	(0.0469)	(0.0478)	(0.0479)	(0.0501)
Year 1997	0.1187***	0.1336***	0.1163***	0.1362***
	(0.0282)	(0.0284)	(0.0310)	(0.0291)
Year 2001	0.1827***	0.2045***	0.1813***	0.1949***
	(0.0429)	(0.0429)	(0.0464)	(0.0446)
Year 2009	0.0212	0.0517	0.0193	-0.0047
	(0.0784)	(0.0787)	(0.0821)	(0.0837)
ln(income)XNot working		0.0592***	0.0558***	0.0211
		(0.0134)	(0.0135)	(0.0142)
White collar, publ.		-0.0304	-0.0290	-0.0187
		(0.0186)	(0.0187)	(0.0188)
White collar, priv.		-0.1398***	-0.1391***	-0.1183***
		(0.0182)	(0.0182)	(0.0184)
Self-employed, farmer		-0.0767***	-0.0770***	-0.0648***
		(0.0216)	(0.0216)	(0.0218)
Students, housewife, others		-0.1148***	-0.1106***	-0.0656***
		(0.0220)	(0.0221)	(0.0227)
Pensioneer		-0.0893***	-0.0870***	-0.0512**
		(0.0250)	(0.0250)	(0.0255)
Married		-0.0355*	-0.0353*	-0.0315
		(0.0205)	(0.0206)	(0.0208)
Femalexmarried		0.0126	0.0116	0.0114
		(0.0239)	(0.0239)	(0.0242)
Spouse working		0.0425**	0.0278	0.0577***
		(0.0172)	(0.0198)	(0.0177)
Femalexspousework		-0.0344	-0.0333	-0.0375
		(0.0237)	(0.0237)	(0.0240)
Expected neg. change				0.0567***
				(0.0133)
Expected pos. change				-0.0214*
				(0.0129)
Fear unempl.				0.0501***
				(0.0133)
ln(risk)			0.0197	
			(0.0131)	
Income decile 2				0.0332
				(0.0339)
Income decile 3				0.0287
				(0.0415)
Income decile 4				0.0404
				(0.0469)
Income decile 5				-0.0433
				(0.0522)
Income decile 6				-0.0267
				(0.0540)
Income decile 7				-0.0392
				(0.0594)
Income decile 8				-0.0650
				(0.0609)
Income decile 9				-0.0854
				(0.0656)
Income decile 10				-0.1838***
				(0.0713)
Observations	10,211	10,211	10,211	10,122

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

Table OA-3: Increase spending on social insurance benefits. Marginal effects estimated from probit models. Norwegian election studies 1993-2009.

	Analysis restricted to 1993-2009 elections
ln(income)	0.045***
	(0.016)
Expected neg. change	0.034**
	(0.014)
Expected pos. change	0.057***
	(0.013)
Fear of unempl	0.040***
	(0.013)
ln(risk)	0.080***
	(0.012)
Observations	6,734

The model includes the same controls as Models 2-3, Table 2.
Standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Table OA-4: Support for redistribution and social insurance. Bivariate probit

	Redistribution	Social insurance
ln(income)	-0.163***	0.025
	(0.049)	(0.059)
ln(risk)	0.043	0.033
	(0.035)	(0.039)
Redistribution		0.663
		(0.434)
rho	-0.229	
	(0.291)	
Observations	9,450	9,450

The model includes the same controls as in Table 7
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table OA-5: Full results from GSS. Social security.

	(1) social security	(2) social security	(3) social security	(4) social security
ln(income)	-0.035***	-0.039***	-0.038***	0.028***
	(0.003)	(0.005)	(0.005)	(0.010)
Year	0.005***	0.005***	0.005***	0.005***
	(0.000)	(0.000)	(0.000)	(0.000)
Female	0.085***	0.099***	0.085***	0.082***
	(0.006)	(0.006)	(0.008)	(0.008)
Consumption units	-0.003	0.004	0.012**	0.018***
	(0.006)	(0.006)	(0.006)	(0.006)
Age	0.017***	0.015***	0.016***	0.016***
	(0.001)	(0.001)	(0.001)	(0.001)
Age-sq	-0.000***	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Not high school	0.081***	0.087***	0.087***	0.083***
	(0.013)	(0.013)	(0.013)	(0.013)
High school	0.036***	0.039***	0.040***	0.038***
	(0.011)	(0.011)	(0.011)	(0.011)
Bachelor	-0.135***	-0.134***	-0.134***	-0.124***
	(0.013)	(0.013)	(0.013)	(0.013)
Graduate	-0.189***	-0.188***	-0.186***	-0.169***
	(0.015)	(0.015)	(0.015)	(0.015)
lnconincXnotworking		-0.002	-0.003	-0.025***
		(0.006)	(0.006)	(0.006)
Working full-time		-0.066	-0.069	-0.306***
		(0.067)	(0.068)	(0.069)
Working part-time		-0.121*	-0.126*	-0.354***
		(0.067)	(0.068)	(0.068)
Unemployed		-0.071***	-0.074***	-0.087***
		(0.026)	(0.026)	(0.026)
Retired		-0.057**	-0.056**	-0.073***
		(0.023)	(0.023)	(0.023)
School		-0.162***	-0.164***	-0.162***
		(0.026)	(0.026)	(0.026)
Keeping house		-0.107***	-0.106***	-0.117***
		(0.022)	(0.022)	(0.022)
Other		-0.014	-0.015	-0.031
		(0.029)	(0.029)	(0.029)
Married			-0.040***	-0.040***
			(0.011)	(0.011)
Spouse working			0.012	0.019
			(0.012)	(0.012)
FemaleXspouseworking			0.022	0.027
			(0.017)	(0.017)
FemaleXMarried			0.007	0.005
			(0.016)	(0.016)
Fear of unemp			0.025*	0.025*
			(0.014)	(0.014)
Income decile 2				-0.003
				(0.015)
Income decile 3				-0.029
				(0.018)
Income decile 4				-0.040**
				(0.020)
Income decile 5				-0.072***
				(0.022)
Income decile 6				-0.064***
				(0.024)
Income decile 7				-0.097***
				(0.026)
Income decile 8				-0.147***
				(0.028)
Income decile 9				-0.205***
				(0.031)
Income decile 10				-0.219***
				(0.035)
Observations	33,156	33,155	33,155	33,155

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

Table OA-6: Full results from GSS. Unemployment insurance.

	(1) unemp	(2) unemp	(3) unemp	(4) unemp
ln(income)	-0.096***	-0.100***	-0.091***	0.017
	(0.009)	(0.013)	(0.013)	(0.029)
Year	0.007***	0.006***	0.006***	0.006***
	(0.001)	(0.001)	(0.001)	(0.001)
Female	0.007	0.008	0.021	0.021
	(0.015)	(0.016)	(0.022)	(0.022)
Consumption units	0.016	0.016	0.028	0.026
	(0.016)	(0.016)	(0.018)	(0.018)
Age	0.015***	0.013***	0.014***	0.014***
	(0.003)	(0.003)	(0.003)	(0.003)
Age-sq	-0.000***	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Not high school	0.205***	0.202***	0.203***	0.193***
	(0.039)	(0.039)	(0.039)	(0.039)
High school	0.088***	0.089***	0.087***	0.086***
	(0.032)	(0.032)	(0.032)	(0.032)
Bachelor	-0.052	-0.050	-0.051	-0.047
	(0.035)	(0.036)	(0.036)	(0.036)
Graduate	0.017	0.022	0.019	0.028
	(0.042)	(0.042)	(0.042)	(0.042)
lnconincXnotworking		0.013	0.010	-0.011
		(0.017)	(0.017)	(0.018)
Working full-time		0.021	-0.008	-0.239
		(0.185)	(0.187)	(0.205)
Working part-time		-0.024	-0.046	-0.216
		(0.180)	(0.178)	(0.156)
Unemployed		0.026	0.028	0.009
		(0.066)	(0.066)	(0.065)
Retired		-0.124**	-0.113**	-0.125**
		(0.051)	(0.051)	(0.051)
School		-0.101*	-0.097	-0.097
		(0.059)	(0.060)	(0.060)
Keeping house		-0.089*	-0.077	-0.086*
		(0.049)	(0.050)	(0.050)
Other		-0.044	-0.037	-0.061
		(0.064)	(0.064)	(0.064)
Married			-0.035	-0.023
			(0.030)	(0.030)
Spouse working			0.035	0.034
			(0.029)	(0.030)
FemaleXspouseworking			-0.095**	-0.092**
			(0.043)	(0.043)
FemaleXMarried			0.036	0.033
			(0.044)	(0.044)
Fear of unemp			0.040	0.042
			(0.040)	(0.040)
Income decile 2				-0.065*
				(0.037)
Income decile 3				-0.103**
				(0.042)
Income decile 4				-0.156***
				(0.046)
Income decile 5				-0.194***
				(0.048)
Income decile 6				-0.185***
				(0.053)
Income decile 7				-0.171***
				(0.058)
Income decile 8				-0.209***
				(0.060)
Income decile 9				-0.260***
				(0.063)
Income decile 10				-0.241***
				(0.069)
Observations	4,000	4,000	4,000	4,000

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

Table OA-7: Full results from GSS. Welfare.

	(1) welfare	(2) welfare	(3) welfare	(4) welfare
ln(income)	-0.074***	-0.063***	-0.052***	-0.022***
	(0.003)	(0.004)	(0.004)	(0.008)
Year	0.002***	0.002***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Female	0.017***	0.014**	0.019***	0.017**
	(0.005)	(0.005)	(0.007)	(0.007)
Consumption units	0.039***	0.036***	0.050***	0.051***
	(0.004)	(0.005)	(0.005)	(0.005)
Age	0.000	0.000	0.002*	0.002**
	(0.001)	(0.001)	(0.001)	(0.001)
Age-sq	-0.000*	-0.000*	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Not high school	0.060***	0.054***	0.052***	0.047***
	(0.013)	(0.013)	(0.013)	(0.013)
High school	-0.004	-0.006	-0.005	-0.006
	(0.011)	(0.011)	(0.011)	(0.011)
Bachelor	0.022*	0.022*	0.023*	0.023*
	(0.013)	(0.013)	(0.013)	(0.013)
Graduate	0.084***	0.083***	0.083***	0.082***
	(0.016)	(0.016)	(0.016)	(0.016)
lnconincXnotworking		-0.010*	-0.012**	-0.015***
		(0.005)	(0.005)	(0.005)
Working full-time		-0.131**	-0.151***	-0.181***
		(0.056)	(0.057)	(0.059)
Working part-time		-0.100**	-0.112**	-0.132***
		(0.047)	(0.046)	(0.046)
Unemployed		0.048**	0.048**	0.045**
		(0.021)	(0.021)	(0.021)
Retired		-0.013	0.002	-0.002
		(0.018)	(0.019)	(0.018)
School		0.014	0.014	0.012
		(0.021)	(0.021)	(0.021)
Keeping house		-0.002	0.018	0.013
		(0.017)	(0.018)	(0.017)
Other		0.107***	0.117***	0.109***
		(0.026)	(0.026)	(0.026)
Married			-0.049***	-0.048***
			(0.009)	(0.009)
Spouse working			0.008	0.010
			(0.010)	(0.010)
FemaleXspouseworking			-0.041***	-0.039***
			(0.014)	(0.014)
FemaleXMarried			0.010	0.011
			(0.014)	(0.014)
Fear of unemp			0.074***	0.072***
			(0.013)	(0.013)
Income decile 2				-0.025**
				(0.011)
Income decile 3				-0.034**
				(0.013)
Income decile 4				-0.054***
				(0.015)
Income decile 5				-0.072***
				(0.016)
Income decile 6				-0.066***
				(0.017)
Income decile 7				-0.071***
				(0.018)
Income decile 8				-0.088***
				(0.019)
Income decile 9				-0.094***
				(0.021)
Income decile 10				-0.070***
				(0.024)
Observations	28,562	28,561	28,561	28,561

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

Table OA-8: Full results from GSS. Redistribution.

	(1) redist	(2) redist	(3) redist	(4) redist
ln(income)	-0.067***	-0.072***	-0.068***	-0.005
	(0.004)	(0.005)	(0.005)	(0.012)
Year	0.001***	0.001***	0.001**	0.001**
	(0.000)	(0.000)	(0.000)	(0.000)
Female	0.053***	0.061***	0.058***	0.056***
	(0.006)	(0.007)	(0.009)	(0.009)
Consumption units	0.001	0.005	0.013*	0.018***
	(0.006)	(0.006)	(0.007)	(0.007)
Age	0.002*	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Age-sq	-0.000***	-0.000**	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Not high school	0.097***	0.099***	0.098***	0.095***
	(0.015)	(0.015)	(0.015)	(0.015)
High school	0.005	0.005	0.005	0.003
	(0.013)	(0.013)	(0.013)	(0.013)
Bachelor	-0.060***	-0.059***	-0.059***	-0.050***
	(0.015)	(0.015)	(0.015)	(0.015)
Graduate	0.028	0.030*	0.031*	0.050***
	(0.017)	(0.017)	(0.017)	(0.017)
lnconincXnotworking		0.010	0.008	-0.013*
		(0.007)	(0.007)	(0.007)
Working full-time		0.069	0.051	-0.182**
		(0.076)	(0.077)	(0.080)
Working part-time		0.056	0.039	-0.181**
		(0.076)	(0.076)	(0.076)
Unemployed		0.004	0.005	-0.005
		(0.028)	(0.028)	(0.028)
Retired		-0.045*	-0.038	-0.052**
		(0.025)	(0.025)	(0.025)
School		-0.082***	-0.081***	-0.077***
		(0.028)	(0.028)	(0.029)
Keeping house		-0.065***	-0.059**	-0.067***
		(0.023)	(0.023)	(0.023)
Other		0.048	0.051	0.039
		(0.032)	(0.032)	(0.032)
Married			-0.037***	-0.037***
			(0.013)	(0.013)
Spouse working			0.020	0.026**
			(0.013)	(0.013)
FemaleXspouseworking			-0.032*	-0.028
			(0.019)	(0.019)
FemaleXMarried			0.024	0.022
			(0.018)	(0.018)
Fear of unemp			0.068***	0.066***
			(0.017)	(0.017)
Income decile 2				0.013
				(0.017)
Income decile 3				-0.025
				(0.020)
Income decile 4				-0.032
				(0.023)
Income decile 5				-0.060**
				(0.025)
Income decile 6				-0.066**
				(0.027)
Income decile 7				-0.090***
				(0.029)
Income decile 8				-0.114***
				(0.031)
Income decile 9				-0.165***
				(0.034)
Income decile 10				-0.212***
				(0.037)
Observations	26,516	26,515	26,515	26,515

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