What Makes People Support Public Responsibility for Welfare Provision: Self-interest or Political Ideology?

A Longitudinal Approach

Mads Meier Jæger

Danish National Institute of Social Research, Denmark

abstract: This article investigates which socio-economic and ideological factors make individuals support the normative principles of the welfare state. Two principal theoretical perspectives, relating to self-interest and the political ideology, respectively, have been proposed in the literature as causal explanations. However, as most studies utilize solely cross-sectional data, causal interpretations of which factors make people express support for the welfare state have so far been hard to sustain. This article, using panel data from the Canadian 'Equality, Security, and Community' survey and an extended random-effect model, exploits the longitudinal nature of the data and econometric methods to provide a more accurate analysis of the extent to which self-interest and political ideology actually determine support for welfare state principles. The empirical analysis indicates that both self-interest and political ideology variables to some extent are significant predictors of support for welfare state principles. In addition, the article discusses several avenues for future research.

keywords: attitudes ◆ Canada ◆ concomitant variables ◆ longitudinal data ◆ random effect model ◆ welfare state

1. Introduction

Public support is an essential component in the legitimacy of the welfare states in the Western, industrialized countries. The welfare state redistributes incomes, provides social security and intervenes in labour markets, and most citizens are somehow financially or socially intertwined with the welfare state. Empirical studies generally confirm that public support for most types of public social security arrangements is high throughout the OECD area and has displayed remarkable stability since the 1970s (Goul-Andersen, 1993; Sihvo and Uusitalo, 1995; Bean and Papadakis, 1998; Kaase and Newton, 1998; Taylor-Gooby, 2001). But what makes people support the principles and ambitions of the welfare state? Two general explanations have been proposed in the literature (see Papadakis, 1992; Kangas, 1997; Taylor-Gooby, 1999). First, people may be motivated by *self-interest*. This perspective suggests that people support public welfare because they benefit from the cash benefits or social services provided by the state. Second, support for the welfare state may arise from the generic *political values* or *preferences* of the individual. Here, it is posited that people express support for public welfare

Acta Sociologica ◆ September 2006 ◆ Vol 49(3): 321–338 ◆ DOI: 10.1177/0001699306067718

because they generally give adherence to the political principles and values that undergird the welfare state institution (see van Oorschot and Komter, 1998; van Oorschot, 2002).

The empirical literature provides ample evidence that both theoretical perspectives are of significance in explaining variations in different measures of support for welfare state principles, both across countries and over time (e.g. Pöntinen and Uusitalo, 1988; Hasenfeld and Rafferty, 1989; Svallfors, 1995, 1997, 2004; Bean and Papadakis, 1998; Bonoli, 2000; Gelissen, 2000; Arts and Gelissen, 2001; Blekesaune and Quadagno, 2003; Derks, 2004). However, an important shortcoming in the existing empirical literature pertains to its utilization of purely cross-sectional data, which makes tests of the causal hypotheses posed in the theoretical literature weak. That is, while cross-sectional data may be used to identify differences in levels of support for welfare state principles among different social groupings of theoretical interest (e.g. social classes, occupational groupings, public/private employees, unemployed/employed, pensioners/those in the labour market, and so on), then data of this type are ill-suited for investigating the extent to which self-interest or political ideology actually *determines* the extent to which individuals support public responsibility for welfare provision, as claimed in the theoretical literature on self-interest and political ideology.

The purpose of this article is to overcome some of the weaknesses of cross-sectional analysis by utilizing longitudinal data and econometric methods. By doing so, I aim to provide a stronger and more direct test than has previously been carried out of the hypotheses of self-interest and political ideology as the driving forces explaining *why* people support the principles of the welfare state. In this respect, longitudinal data, containing information on the same individual over time, offer distinct analytical advantages compared to traditional cross-sectional studies when attempting to grasp the dynamics of opinion formation. The data deployed in the analysis come from the Canadian 'Equality, Security, and Community' (ESC) survey, a two-wave panel data set conducted in 2000/2001 and 2002/2003. Given the sample size (approximately 2100 respondents) and the fairly short spacing between the two waves (approximately 2 years), this data set is particularly suited for the present research. This is not least because of an extreme scarcity of longitudinal data sets including information on attitudes towards the welfare state and social policy. Finally, the article makes a methodological contribution by applying econometric methods that exploit the longitudinal nature of the data and corrects for unobserved individual heterogeneity in the formation of support for the principles of the welfare state. By doing so, it should be possible to arrive at more accurate estimates of the causal effects of self-interest and political ideology factors on welfare attitudes than have previously been reported in the literature.

In the following section I present the two theoretical frameworks for understanding why people support public responsibility for welfare provision. Section 3 describes the data, variables and methodology used in the article. In section 4, I analyse the determinants of support for welfare state principles in longitudinal perspective, whereas section 5 provides a conclusion and discussion of the findings.

2. Theoretical perspectives on support for the welfare state

As stated in the Introduction, two theoretical arguments have been proposed as to why individuals would support the welfare state. In this section I review the main lines of thought proposed in this literature.

Self-interest

According to the self-interest perspective, people who are themselves recipients of transfer incomes or who are in a position of being at risk of becoming financially dependent on the welfare state would be more likely to support public welfare policies compared to people who

do not face this risk. Hence, from this perspective one would expect for instance old-age pensioners, the unemployed, students and other members of the so-called transfer classes (Lepsius, 1979; Alber, 1984) to be highly supportive of public responsibility for welfare provision. Comparative and single-country studies generally confirm the unemployed and those not in the labour force to be more inclined to express positive attitudes towards state responsibility of welfare provision compared to those in regular employment, whereas there is less consensus on the position of pensioners (see Papadakis and Bean, 1993; Elim and Papadakis, 1998; Andress and Heien, 2001; and note 5 later). In addition, those employed in the public sector as producers of welfare would be expected to be more supportive of the welfare state compared to private-sector employees – a hypothesis which has also found support in empirical studies (e.g. Hoel and Knutsen, 1989; Svallfors, 1999, 2004). It is also asserted that social groups that have indirect self-interests, e.g. parents who receive family benefits or use public child care institutions, will be more likely to support public responsibility for social security (Nordlund, 1997; Pettersen, 2001). Furthermore, at the general level it has also been argued that self-interest will manifest in attitudinal cleavages among different social classes, as these have divergent political interests in preserving or reducing the scope of public welfare (Esping-Andersen, 1990, 1999; Papadakis, 1992, 1993; Svallfors, 1997, 1999, 2004).

Political ideology

The second principal theoretical explanation states that people's personal political values and beliefs guide their opinions about the desired scope of public welfare provision. Here, it is argued that one's degree of support for public responsibility for welfare provision is embedded within a general and coherent system of political orientations and ideological preferences (Feldman and Zaller, 1992). Empirical studies support this notion, as people's attitudes towards welfare state policies tend to be fairly internally consistent and correlated with other ideological beliefs (see Hasenfeld and Rafferty, 1989; Jacoby, 1994; Gelissen, 2000). Furthermore, single-country and comparative empirical studies find that a wide range of attitudinal variables tapping different aspects of political ideology and values are positively correlated with individuals' support for public responsibility for welfare provision. These attitudinal dimensions are, for example, subjective position on the left/right continuum (Papadakis and Bean, 1993; Bean and Papadakis, 1998; Edlund, 1999; Pettersen, 2001; Arts and Gelissen, 2001), beliefs about social justice and social mobility (Linos and West, 2003), egalitarian ideology (Andress and Heien, 2001; Blekesaune and Quadagno, 2003), and post-materialist values (Gelissen, 2000).

From this review of the existing literature one would expect both self-interest and political ideology to be of significance in explaining why people support public provision of welfare. Most cross-sectional studies include variables pertaining to both the self-interest and political ideology perspective and find significant and expected effects of both types of explanations in multivariate analyses. Although some studies posit a causal theoretical model of the effect of different socio-economic and attitudinal traits on the expressed level of support for public responsibility for welfare provision (e.g. Hasenfeld and Rafferty, 1989; Andress and Heien, 1999), none of these studies directly address the empirical difficulties associated with applying causal inference to cross-sectional data. As a consequence, at present substantive empirical evidence on the validity of the central motivational claims suggested in theories explaining why people support public welfare provision remains inconclusive.

3. Data, variables and methods

Data

The data utilized in this analysis come from the panel sample of the 'Equality, Security, and Community' (ESC) survey. The panel sample of the ESC is a two-wave survey conducted by the Institute of Social Research at York University in 2000/2001 and 2002/2003, and the sample consists of 2112 Canadians aged 18 and older. The ESC survey programme is made up of three components: a National Probability Sample (NPS) (stratified by province), a Metropolitan Oversample (MO) (of respondents from Montreal, Toronto and Vancouver), and finally a British Columbia Resource Community Sample (BCRCS). The randomly sampled and nationally representative NPS and the MO were carried out in 2000/2001 and 2002/2003, whereas the BCRCS was only fielded in the 2000/2001 survey. In my analysis, only respondents from the NPS who participated in the panel are included. The response rate for the first (2000/2001) wave of the NPS was 50 per cent (see ESC Technical Documentation 1999), while the re-interview rate for panel participants in the second wave (2002/2003) was 51.5 per cent. Appendix Table 1 presents a detailed analysis of attrition in which the distribution of all variables used in the analysis in the nationally representative 2000/2001 NPS cross-section is compared to the panel sample. As is evident from this table, while there are some statistically significant differences between the two samples with respect to socio-economic and attitudinal traits, then these differences are relatively small.

The comparatively short time-span between the two waves (approximately 2 years) is both an advantage and a potential problem in this context. First, with respect to socio-economic and family characteristics, health status, employment position, etc., the comparatively short span between the two waves is clearly advantageous when attempting to explain 'volatile' phenomena such as attitudinal beliefs. This is the case because it is more likely that changes in for example employment status, family situation and health condition have the most profound impact on attitudes and beliefs in the short term (that is, shortly after they occur), whereas the effect of such changes would be much harder to detect with a longer spacing between the waves. In this respect, the most efficient use of the longitudinal dimension in the data with respect to socio-economic traits is probably gained by having a short spacing between the waves. On the other hand, if, as suggested in most sociological research, values are fairly constant over time and change only at very slow pace (Halman and Nevitte, 1996), then a comparatively long time-span between the waves would be advantageous in order to detect any substantive changes in respondents' opinions on public responsibility for welfare provision. This fact also applies to explanatory variables related to respondents' ideological and political beliefs. Thus, it may not be the case that respondents' political convictions and values change much over a 2-year period. As a consequence, it should be borne in mind when interpreting the findings that the data utilized here are better suited to testing the effect of socio-economic 'self-interest' variables on respondents' attitudes towards public welfare provision than the effect of 'political ideology' variables.

Variables

The means and standard deviations of the variables used in the analysis are given in Table 1.

Dependent variables

As has been argued by several scholars (e.g. Roller, 1992), it is important to distinguish analytically between studying people's attitudes towards the aims, means and effects of the welfare state. In my analysis, as is the case in most of the literature on welfare state attitudes (see Svallfors, 1997; Andress and Heien, 2001; Arts and Gelissen, 2001; Blekesaune and Quadagno, 2003; Linos and West, 2003; Jæger, 2006), I focus on respondents' opinions towards the general

Table 1 *Means and standard deviations of variables used in the analysis*

	2000/2001		2002/2003	
Dependent variables:	Mean	SD	Mean	SD
Q: 'The government must do more to reduce the income gap between rich and poor Canadians . . .'				
Agree (percent)	0.77		0.73	
Q: 'ONE, The government should see to it that everyone has a decent standard of living, OR, two, the government should leave it to the people to get ahead on their own'				
Agree (percent)	0.55		0.56	
Self-interest				
Employed	0.64	0.48	0.63	0.48
Retired	0.19	0.39	0.21	0.41
Unemployed	0.05	0.21	0.05	0.21
Student	0.05	0.21	0.03	0.16
Other employment status	0.07	0.27	0.08	0.28
Public sector	0.30	0.46	0.22	0.42
Private sector	0.39	0.49	0.31	0.46
Sector unknown/ambiguous	0.31		0.47	
Income decile	5.77	2.53	5.81	2.63
Subjective health	2.35	1.05	2.13	0.73
Children (1 = yes)	0.73	0.44	0.76	0.43
No. of children	1.86	1.64	2.00	1.68
Political ideology				
Liberal party scale	0.34	0.78	0.34	0.78
Conservative party scale	0.29	0.78	0.32	0.77
Controls				
Level of education	5.52	2.09	5.83	2.06
Married/cohabiting	0.63	0.48	0.65	0.48
Size of residential area[a]	2.22	0.90	–	–
Gender[a] (= male)	0.43	0.49	–	–
Age	45.9	15.8	–	–
Instrumental variable: Province[a]				
Newfoundland	0.06	0.23	–	–
Prince Edward Island	0.06	0.24	–	–
Nova Scotia	0.06	0.24	–	–
New Brunswick	0.05	0.23	–	–
Quebec	0.11	0.31	–	–
Ontario	0.23	0.42	–	–
Manitoba	0.11	0.31	–	–
Saskatchewan	0.11	0.31	–	–
Alberta	0.11	0.31	–	–
British Columbia	0.10	0.30	–	–

[a] Time-invariant variable.

Source: Equality, Security and Community panel study, 2000/2001 and 2002/2003 waves, national sample.

aims and ideological principles behind the welfare state; that is, the extent to which respondents believe that the state should intervene in the market to reduce social inequality and provide citizens with basic economic and social security. The ESC contains two items dealing with these issues which are used as the dependent variables in the empirical analysis.

First, respondents were asked if they agreed or disagreed with the statement: 'The government must do more to reduce the income gap between rich and poor Canadians'. From Table 1 I find that, at the overall level, 77 per cent of the respondents agreed with this statement in the first wave, while this figure decreased slightly to 73 per cent in the second wave. In terms of longitudinal changes, 8 per cent of the sample moved from 'disagree' to 'agree' between the two waves, 12 per cent changed their opinion from 'agree' to 'disagree', while 80 per cent of the panel did not change their view. This item on attitudes towards government redistribution is roughly similar to others used in the empirical literature (e.g. Svallfors, 1997; Edlund, 1999; Andress and Heien, 2001; Arts and Gelissen, 2001; Blekesaune and Quadagno, 2003; Linos and West, 2003). As the second dependent variable in the analysis, the respondents were asked if they agreed with the statement: 'ONE, The government should see to it that everyone has a decent standard of living, OR, two, the government should leave it to the people to get ahead on their own'. As can be seen from Table 1, 55 per cent of the respondents agreed with this statement in the first wave and this figure remains practically unchanged over time at the aggregate level. However, looking at changes in the panel I find more attitudinal diversity, as 16 per cent of the respondents moved from 'disagree' to 'agree', 15 per cent changed their view from 'agree' to 'disagree', while the remaining 69 per cent did not change their opinion. Again, this type of item dealing with basic income provision has previously been deployed in the empirical literature (e.g. Svallfors, 1997; Gelissen, 2000; Andress and Heien, 2001; Linos and West, 2003).[1] The highly significant ($p < 0.000$) gamma coefficient for the correlation between the two items is 0.53 for the first wave and 0.57 for the second wave, whereas the temporal correlation for the 'income reduction' item is 0.82 and 0.67 for the 'decent standard of living' item (both with $p < 0.000$).

Independent variables

How does one adequately construct variables to test the implications of the self-interest and political ideology hypotheses? With longitudinal data, it is possible to observe changes in respondents' labour market position, income, family situation and a range of political preferences over time. In the analysis, I exploit this possibility and construct a number of independent variables which may be used to test the effect of changes in respondents' living conditions which may render them more directly or indirectly dependent on the welfare state, as well as changes in attitudinal beliefs, on their expressed level of support for public responsibility for welfare provision.

First, in order to test the significance of the self-interest hypothesis I include indicators on the respondent's employment status in the 2000/2001 and 2002/2003 waves. In both years, I distinguish between whether the respondent is regularly employed (either as a salaried worker or self-employed) or belongs to one of the 'transfer classes', i.e. retired, unemployed or a student.

As argued above, I expect people who move into the role of welfare recipient to become more in favour of public responsibility for social security provision. Second, sector of employment (private/public sector) is included to test the hypothesis that public sector employees are particularly supportive of public sector responsibility for providing social security. Third, I include the respondent's personal gross income in Canadian dollars, here recoded into deciles to facilitate ease of interpretation. According to the self-interest hypothesis, I expect a negative effect of income on the probability of expressing support for the 'income reduction' and 'decent standard of living' items, as both initiatives would require higher taxes to be fulfilled. Fourth, I include a variable on self-rated subjective health on a 5-point scale (with 1 = 'excellent', 2 =

'very good', 3 = 'good', 4 = 'fair' and 5 = 'poor'). Here, respondents who experience a decline in health would be asserted to display more favourable attitudes towards public responsibility for redistribution and providing a decent standard of living since these respondents are more likely to lose their work capacity and become dependent on some kind of income support scheme. Finally, I also include two variables relating to having children. The first is a dummy variable indicating whether the respondent has children or not. The second variable summarizes the number of children in the respondent's family. Both variables were included in the analysis, since they pertain to the effect of two potentially different situations: having one's first child and 'enlarging' an already existing family. In both cases, the self-interest perspective would predict that people who have children or enlarge their family are more supportive of increased state responsibility for redistribution and ensuring a decent standard of living compared to respondents who do not have a family.

To test the hypothesis of political ideology two variables were constructed. Special considerations are required in the present type of analysis, since endogeneity bias could arise when attempting to 'explain attitudes with attitudes' due to a correlation between the explanatory variables and the error term in the statistical model. As a consequence, in order to minimize this potential bias, rather 'concrete' political ideology variables were utilized in the analysis in which respondents were forced to express their ideological preferences within a clearly defined context rather than at a high level of abstraction (see also Bertrand and Mullainathan, 2001; Lipsmeyer and Nordstrom, 2003). Furthermore, as described in the methodology section later, the availability of panel data also greatly enhances the possibility of dealing with this potential endogeneity bias. More specifically, respondents were asked with which political party at the federal level they felt most empathetic. Several possibilities were available, but here I focus on the two parties which were considered to be most ideologically 'pure': The Liberal Party and the Conservative Party.[2] After stating that they felt more akin to either the Liberal Party or the Conservative Party, respondents were then asked how strongly they felt affiliated to this party with the options 1 = 'not very strongly', 2 = 'fairly strongly' and 3 = 'very strongly'. Two political ideology variables measuring respondents' ideological support for the Liberal and Conservative parties, respectively, were created such that expressing not feeling any affiliation with the Liberal or Conservative party was given a score of 0, expressing 'not very strongly' was scored 1, expressing 'fairly strongly' was scored 2, and finally expressing 'very strongly' was scored 3. The two variables are thus meant to act as proxies for two dimensions of political ideology: *left/right orientation* (since the Liberal Party in the Canadian and North American context is 'left wing' by European political standards) and degree of conservatism. The correlation between respondents' score on the liberal party scale between the two waves is 0.47 ($p < 0.000$), while this correlation on the conservative party scale is 0.39 ($p < 0.000$). The correlation between the two scales is 0.25 in wave 1 and 0.29 in wave 2 (both with $p < 0.000$).

Finally, a range of control variables was also included in the analysis. First, respondents' level of education on a 10-point scale was included (1 = 'No schooling', 2 = 'Some elementary schooling', 3 = 'Completed elementary school', 4 = 'Completed secondary/high school', 5 = 'Some technical, community college', 6 = 'Completed technical, community college', 7 = 'Some university', 8 = 'Bachelor's Degree', 9 = 'Master's Degree' and 10 = 'Professional degree or doctorate'). Second, a dummy variable indicating the marital status of the respondent (where 1 = married or cohabitating) is controlled. Third, I control for the size of the residential area in which the respondent lives. The available categories are 1 = 'small town', 2 = 'Census Agglomeration', and 3 = 'Census Metropolitan Area', with higher values indicating that the respondent lives in a larger urban area. Fourth, I control for gender and age. Finally, a variable indicating in which of Canada's federal provinces the respondent lives (out of 10 possible provinces) is included. This variable is of no substantive interest in the analysis but acts as an instrumental variable in the identification of the statistical model, as is described later.

Methodology

The availability of panel data enhances the validity of causal analysis of support for the principles of the welfare state by adding a longitudinal (i.e. within-individual) source of variation to the traditional analysis of between-individual variation. As the dependent variables in my analysis are both binary indicators, I utilize a non-linear, discrete-choice framework. Here, I assume that for individual i at time t the latent propensity of expressing support for the statements that the government should reduce income differences and provide a decent standard of living for everyone, y_{it}^* (subscripts for distinguishing between the two dependent variables are omitted for convenience of presentation), may be modelled as a linear function of self-interest, political ideology and control variables

$$(1)\ y_{it}^* = \beta' x_{it} + \gamma' z_{it} + \delta' c_{it} + \alpha_i + \varepsilon_{it},\ i = 1, \ldots, n;\ t = 1, 2,$$

where x is the vector of *self-interest* variables with regression coefficients β', z is the vector of the *political ideology* variables with regression coefficients γ', and finally c is the vector of *control* variables with coefficient vector δ'. ε_{it} is the error term, and α_i is a time-invariant unobserved individual effect absorbing all unobserved heterogeneity. However, respondents' 'true' propensity to express support, y_{it}^*, is not directly observed in the data. Rather, two binary (0–1) indicators, y_{it}, are observed such that

$$(2)\quad \begin{aligned} y_{it} &= 1 \quad \textit{if} \quad y_{it}^* > 0 \\ y_{it} &= 0 \quad \textit{otherwise.} \end{aligned}$$

Assuming a normally *idd* distributed error term structure in (1) gives rise to the probit model (see Wooldridge, 2002; Halaby, 2004).

Two general estimation strategies to deal with unobserved heterogeneity exist with panel data: random or fixed effects (see Wooldridge, 2002; Halaby, 2004). The random-effect (RE) approach treats the unobserved individual effect as coming from a random (known or unknown) distribution (typically a normal distribution is assumed so that $\alpha \sim N(0, \sigma_\alpha^2)$) but rests on the assumption that the individual effect α_i is not correlated with any of the explanatory variables in the model; an assumption that is highly unrealistic in my setting.[3] The fixed-effect (FE) approach, on the other hand, treats the unobserved individual effect as varying across individuals but fixed over time, and since the individual effects are 'purged' from the FE model this estimator is robust to correlations between the individual effect and the explanatory variables (see Wooldridge, 2002; Greene, 2003). However, a serious drawback of the FE model in the case of binary dependent variables is that it relies solely on the time-varying information in the data. This means that only respondents who change attitude between the two waves (i.e. move from 'disagree' to 'agree' or vice versa) are included in the estimation procedure, thereby reducing the sample size dramatically and making the FE estimator highly inefficient (in the case of support for reduction of income differences the effective sample size is reduced from 2112 to 424 observations and in the case of public provision of a decent standard of living the sample is reduced from 2112 to 643 observations).

Since I consider the FE model to be overly detrimental to the sample size in this application, in the present analysis an alternative strategy is pursued. I adopt the basic RE framework (which utilizes both time-varying and time-invariant information and thus the entire sample) but extend this framework to allow for a correlation between the unobserved individual effects and the explanatory variables. My approach then implies proposing a complete model for the full correlation between the unobserved individual effects and the explanatory variables. I model the random-effect distribution within a non-parametric, finite mixture framework, in which the unknown distribution of the unobserved individual effects is approximated with a

discrete distribution taking c different values (see Heckman and Singer, 1984; McLachlan and Peel, 2000). This amounts to the latent class model

$$(3)\ P(U = u_j) = P_j;\ u = 1, \ldots, c,$$

where c is the number of latent classes used to approximate the unknown distribution of the random effect and U designates the probability of belonging to latent class j. This non-parametric approach was chosen since no prior knowledge exists of the distribution of the unobservables and because I wish to make no parametric assumptions about its distributional form. In addition to the finite mixture approach, I extend (3) with a so-called concomitant variable framework by allowing the probability of membership of latent class j to depend on the x, z and c variables through the multinomial logit model (see Dayton and Macready, 1988; Wedel, 2002)

$$(4)\quad P_j = \frac{\exp(\alpha_j + \theta' x_j + \kappa' z_j + \varphi' c_j + \mu a_j)}{1 + \sum \exp(\alpha_\kappa \theta' x_k + \kappa' z_k + \varphi' c_k + \mu a_k)},\ j = 1, \ldots, c-1,$$

$$P_c = 1 - \sum_{j=1}^{j=c} P_j,$$

where the x, z and c are the explanatory variables, and a is a so-called instrumental variable (province) required to identify this part of the model. The instrumental variable is assumed to affect latent class membership but not the dependent variables when the other explanatory variables are included in the model (see Greene, 2003). The province in which the respondent lives was chosen as the instrumental variable because it is believed that while province of residence would not in itself be expected to have any direct bearing on respondents' general attitudes towards welfare state principles, then province of residence might easily be of significance with respect to, for example, respondents' socio-economic traits (e.g. regional employment opportunities, income dispersion and sector of employment) as well as preference for particular political parties. Equations (1), (3) and (4) then specify a finite mixture concomitant variable probit model for the effect of self-interest, political ideology and control variables on the probability of support, the distribution of the unobserved individual effects as well as the correlation between the unobserved individual effects and the observed explanatory variables.

4. Results

The results of the analysis of determinants of respondents' support for the notion that the government should reduce income differences and provide a decent standard of living for everyone are given in Table 2. For both items, the table reports the results of two probit panel regressions: the standard random-effect (RE) model and the finite mixture concomitant variable (FM-CV) model in which the correlation between the explanatory variables and the unobserved individual effects is modelled. For both standard RE models, the estimate of the variance of the random effect, σ^2_α, is highly significant, indicating that unobserved heterogeneity is present. For the FM-CV models, an estimate of this variance is not available since I do not assume any parametric form for the RE distribution, but I do find that for the model with two latent classes of unobserved heterogeneity and concomitant variables model likelihood is superior to that of the standard RE model.[4] This fact indicates that, in addition to the presence of unobserved heterogeneity, there is strong evidence of correlations between the explanatory variables and the unobservables. Finally, I find noticeable differences in parameter estimates and significance levels when comparing the RE and FM-CV models. Again, these differences

Table 2 *Results of random-effect probit models of support for statement that the government should (1) reduce income differences between rich and poor and (2) provide a decent standard of living for everyone. Parameter estimates with standard errors in parentheses*

Dependent variable	Reduce income differences		Provide decent standard of living	
Model specification	Random effect	FM-CV[a]	Random effect	FM-CV[a]
Self-interest				
Employed	−0.40 (0.17)*	−0.48 (0.18)**	−0.24 (0.12)*	−0.12 (0.14)
Retired	−0.56 (0.20)**	−0.69 (0.23)**	−0.11 (0.15)	−0.05 (0.18)
Unemployed	−0.27 (0.24)	−0.39 (0.26)	0.08 (0.17)	0.12 (0.20)
Student	0.33 (0.30)	0.36 (0.28)	0.03 (0.20)	0.19 (0.22)
Private sector	0.27 (0.10)**	0.32 (0.11)**	0.06 (0.07)	−0.10 (0.08)
Public sector	0.62 (0.11)***	0.49 (0.11)***	0.14 (0.08)#	0.01 (0.09)
Income decile	−0.08 (0.02)***	−0.03 (0.02)#	−0.06 (0.01)***	−0.02 (0.02)
Subjective health	0.01 (0.04)	−0.04 (0.04)	0.06 (0.03)*	0.07 (0.03)*
Children	0.10 (0.14)	0.32 (0.17)#	0.14 (0.11)	−0.10 (0.15)
No. of children	−0.04 (0.04)	−0.04 (0.05)	−0.03 (0.03)	−0.05 (0.04)
Political ideology				
Liberal party scale	0.15 (0.05)**	0.13 (0.05)*	0.01 (0.04)	−0.04 (0.04)
Conservative party scale	0.10 (0.05)*	0.07 (0.05)	0.07 (0.04)#	−0.01 (0.04)
Controls				
Level of education	−0.08 (0.03)***	−0.14 (0.04)***	0.01 (0.02)	0.06 (0.03)*
Married/cohabiting	−0.16 (0.10)	−0.03 (0.14)	−0.09 (0.07)	0.00 (0.11)
Size of residential area	−0.15 (0.06)**	0.13 (0.11)	0.00 (0.04)	0.06 (0.08)
Gender (= male)	−0.13 (0.10)	−0.10 (0.17)	−0.35 (0.07)***	−0.64 (0.13)***
Age[b]	0.03 (0.04)	−0.07 (0.07)	−0.19 (0.03)***	−0.17 (0.05)***
Intercept	2.51 (0.33)***	1.83 (0.35)***	1.43 (0.24)***	1.41 (0.27)***
σ^2_α	0.69 (0.03)***		0.52 (0.03)***	
Model log-likelihood	−2,049	−2,001	−2,595	−2,558

# $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, $p < 0.001$. $N = 4{,}123$. [a] FM-CV = 2-class finite mixture concomitant variable model. [b] Parameter estimate and standard error multiplied by 10.
Source: Equality, Security, and Community panel study, 2000/2001 and 2002/2003 waves, national sample.

suggest that not taking into account the correlation between observed and unobserved variables, as is the case in the standard RE model, results in biased estimates.

But does self-interest and political ideology affect how respondents feel about redistribution and state responsibility for providing everyone with a minimum income? Beginning with attitudes towards redistribution, from the FM-CV model in Table 2, a significant negative effect of being in regular employment on the probability of expressing support is observed. This finding supports the self-interest hypothesis in that economically independent respondents steadily engaged in the labour market and thus not members of the 'transfer classes' have little incentive to support further redistribution. This interpretation is further supported by the fact that there is also a weakly significant negative effect of income on the probability of supporting increased redistribution. That is, as income goes up, the propensity to support further redistribution goes down. Interestingly, I also observe a strong negative effect for those in retirement. This finding is in contrast to theoretical expectations since retirees would be expected to have an economic interest in ensuring that funds for their pensions are available.[5]

In addition, I find no significant effects for the other members of the transfer classes, i.e. the unemployed and students. These results are in contrast to findings in previous cross-sectional studies in which especially the unemployed have been found to be highly in favour of redistribution (e.g. Bean and Papadakis, 1998; Blekesaune and Quadagno, 2003; Linos and West, 2003; Svallfors, 2004). On the other hand, it is found that sector of employment is of significance in that both private and public sector employees display a higher probability of expressing support, with public sector employees having the higher probability of supporting increased redistribution. Since longitudinal data are used, these effects should be interpreted as the effect of moving into private or public sector employment between the two waves. Hence, both shifts in employment sector induce more positive attitudes towards redistribution but, as predicted by the self-interest perspective, this effect is stronger for those moving into public sector employment. Finally, I also find weak evidence that support for redistribution is higher among respondents who have children. Again, this result is in agreement with the self-interest hypothesis, since these respondents now gain entitlement to child and family benefits provided by the state. Turning to the political ideology variables, I find a positive significant effect for the Liberal party scale but no effect for the Conservative party scale. As anticipated from the perspective of the political ideology hypothesis, the results suggest that respondents who express a left-wing party preference (i.e. show more support for the Liberal Party) are also more inclined to support increased redistribution. On the other hand, the degree to which one supports a conservative ideology is of little significance. Taken together these effects might indicate that support for redistribution is more strongly related to the traditional 'left–right' cleavage than to conservatism. Finally, among the control variables, the only significant variable is education, which has a negative effect on the probability of supporting increased redistribution. A similar effect of education has been found in previous studies on support for redistribution (see Bean and Papadakis, 1998; Andress and Heien, 2001; Arts and Gelissen, 2001; Linos and West, 2003).

Turning to the other dependent variable, support for government responsibility for providing everyone with a decent standard of living, the FM-CV model explains only very little variation in attitudes. None of the self-interest variables are significant, with the exception of subjective health, which has a positive effect indicating that respondents with poor health have a higher probability of supporting this statement than those in good health. This finding is in line with the self-interest perspective stating that individuals in poor health and at risk of becoming incapable of working would have an objective interest in promoting government responsibility for providing a decent income for everyone. Unfortunately, neither of the political ideology variables is significant. Among the control variables, I find a positive effect of education on the probability of supporting public responsibility for providing a decent standard of living (a positive effect was found for a similar item in Gelissen (2000)). Furthermore, as in most other studies, in the ESC data men are significantly less likely than women to support public responsibility for providing a basic income for all citizens. Finally, I observe a negative effect of age, such that people acquire more negative attitudes as they get older.

Taken together, the empirical analysis provides some, although far from decisive support for the hypotheses that self-interest and political ideology may be substantive driving forces behind why people support the principles of the welfare state. Especially in the case of support for further redistribution, the expected attitudinal cleavages between members of different occupational groupings, employment sectors, income levels and of diverging political convictions were found. In the case of support for government responsibility for providing a decent standard of living I found much less variation in attitudes, with the only significant variable of particular interest being subjective health. Maybe support for a decent standard of living is not a political issue as much as a moral issue to which most people basically agree that the state should claim some responsibility. Substantively, this finding also suggests that support

for redistribution and government responsibility for provision of a decent standard of living constitute qualitatively different dimensions of support for welfare state policies (Bonoli, 2000). Therefore, it may be mixing 'apples and oranges' to merge redistribution and 'basic income' items into an additive 'government intervention index', as is often done in the empirical literature (e.g. Svallfors, 1997; Andress and Heien, 2001; Linos and West, 2003).

As a final analysis of validity, I exploit the longitudinal data structure and estimate cross-sectional probit models for both dependent variables and for both waves. The results of these models are shown in appendix Table 2. In theory, one would expect, first, that the cross-sectional models provide the same overall results as the panel models, and, second, given the short spacing between the waves and the identical sample of respondents, that there is little variation in the parameter estimates when comparing the cross-sectional models for the two dependent variables for wave 1 and wave 2. As is evident from the table, results for the income reduction item are not too dissimilar from the FM-CV panel model (although I do not find the negative effect for pensioners and the positive effect of having children), whereas for the decent standard of living item the cross-sectional models give completely misleading results (I observe 'false' significance for a number of variables and miss the 'true' effect of subjective health). Furthermore, with respect to longitudinal similarity in the effects of the explanatory variables, I applied Chow (1960) type tests to investigate whether the parameter estimates were identical in waves 1 and 2 in both cross-sectional models. As reported in appendix Table 2, I find that the parameter estimates did not differ significantly with respect to the redistribution item ($\chi^2_{15} < 15.80$, with p-value = 0.3955), but were significantly different for the decent standard of living item ($\chi^2_{15} < 56.70$, with p-value = 0.0000). This suggests that for the decent standard of living item the effect of the explanatory variables was not stable over a 2-year period in the identical sample of respondents. This finding should be seen as an indication of poor validity of the cross-sectional models.

5. Conclusion and discussion

The aim of this article was to study what makes people support the principles of the welfare state. Two main theoretical perspectives, one relating to the self-interest of the individual, the other to the political ideology and values of the individual, have been proposed in the literature as causal explanations. Unfortunately, as existing empirical studies have relied exclusively on cross-sectional data, causal interpretations of which socio-economic and ideological variables affect welfare state attitudes have been hard to sustain. In the article, I improve upon the existing literature by introducing longitudinal data, thereby adding a temporal in addition to the cross-sectional dimension to the study of welfare attitudes. These types of data, in conjunction with proper econometric methods, have the advantage of enabling correction for unobserved individual traits affecting people's opinions on public responsibility for welfare provision, thereby enabling a more substantiated analysis of what actually determines people's attitudes towards public responsibility for welfare provision.

Using data from a Canadian two-wave longitudinal study and items relating to support for increased redistribution and government responsibility for providing a decent standard of living for everyone, it was found that both the self-interest and political ideology explanations have some empirical plausibility. In the analysis of support for redistribution, results indicate that people in regular employment and who have high incomes, i.e. self-sustained workers and core taxpayers, hold especially negative attitudes towards redistribution, while people with children who are entitled to family and child benefits are more supportive than those without children. Similarly, when analysing support for government responsibility for providing a decent standard of living for everyone, it turns out that people in poor health express higher support for this proposition compared to those whose health condition is good.

These findings all support the argument of the self-interest perspective. In addition, some evidence in favour of the political ideology thesis was also identified, as those who support left-wing political parties also have a higher probability of supporting redistribution compared to individuals with a more rightist political preference. However, I did not find any additional significant effects of either this variable nor the Conservative party scale in any of the other analyses. This fact underscores that the present analysis does not yield strong support for the political ideology perspective. However, as discussed earlier, owing to the short time-span between the two interview waves, the data utilized here are less suited for testing this perspective. Arguably, better data are required to test the political ideology thesis in greater detail.

An important general finding arising from this analysis is that although it is hardly possible to offer completely convincing 'causal' evidence of what makes people support the welfare state, then the nature and quality of the data utilized and sensitivity of the methods used are of great importance. Longitudinal data are hugely beneficial when analysing attitudinal phenomena which are intrinsically volatile, as these types of data provide an extra dimension of information on individual response behaviour which may be utilized to obtain much more accurate estimates of the parameters of interest. In the article, I have gone to some length to develop the econometric model and demonstrate the weaknesses of traditional cross-sectional data in these respects. Indeed, it turned out that the cross-sectional models for government responsibility for providing a decent standard of living, due to the impact of unobserved individual heterogeneity, gives a completely misleading picture of which variables affect the probability of expressing support for this statement. In addition, the parameter estimates in this model were not stable in the sample over a period as short as 2 years.

Finally, two limitations in the present study and some avenues for future research should be mentioned. First, being a single-country study, the extent to which the empirical findings may be generalized beyond the Canadian case is unknown. The comparative literature indicates that self-interest and political ideology motivations for supporting the welfare state vary across countries due to different institutional settings, opportunity structures and policy legacies (e.g. Svallfors, 1997; Gelissen, 2000; Andress and Heien, 2001; Arts and Gelissen, 2001). Although self-interest and political values are fairly fundamental motivational forces, a challenge for future research would be to examine, in greater detail and across countries, variations in their impact on support for the welfare state. Second, in this study I only investigate two comparatively 'crude' dimensions of support for the political principles of the welfare state. However, there is much evidence to suggest that the ways in which people perceive and evaluate the welfare state are very complex (van Oorschot and Komter, 1998; van Oorschot, 2002). This fact may suggest that empirical research faces a 'dependent variable' challenge caused by the difficulty of creating exhaustive dependent variables (some authors resolve to creating composite indices or use latent variable methods, although, as mentioned earlier, these are often comprised from quite heterogeneous attitudinal dimensions). Certainly, this study does not solve this important problem.

Appendix Table 1 *Analysis of panel attrition*

Year	Full national sample 2000/2001		Panel sample	
Dependent variables:			Mean	SD
Q: 'The government must do more to reduce the income gap between rich and poor Canadians . . .'				
Agree (percent agree)	0.76	0.43	0.75	0.37
Q: 'ONE, The government should see to it that everyone has a decent standard of living, OR, two, the government should leave it to the people to get ahead on their own . . .'				
Agree (percent agree)	0.55	0.50	0.55	0.41
Self-interest				
Employed	0.63	0.48	0.63	0.44
Retired*	0.17	0.38	0.20	0.38
Unemployed	0.06	0.23	0.05	0.17
Student*	0.06	0.23	0.04	0.16
Other employment status	0.08	0.27	0.08	0.24
Public sector	0.27	0.45	0.26	0.38
Private sector*	0.40	0.49	0.35	0.40
Sector unknown/ambiguous	0.33	–	0.39	–
Income decile	5.75	2.48	5.79	2.21
Subjective health*	2.36	1.07	2.24	0.69
Children (1 = yes)*	0.69	0.46	0.74	0.42
No. of children*	1.74	1.67	1.93	1.68
Political ideology				
Liberal party scale	0.31	0.75	0.34	0.57
Conservative party scale*	0.27	0.71	0.31	0.56
Controls				
Level of education*	5.43	2.10	5.68	2.05
Married/cohabiting	0.58	0.69	0.64	0.46
Size of residential area*	2.28	0.89	2.22	0.90
Gender (= male)	0.45	0.50	0.43	0.49
Age*	44.39	16.23	45.94	15.76
Instrumental variable: Province				
Newfoundland	0.05	0.22	0.06	0.23
Prince Edward Island	0.05	0.22	0.06	0.24
Nova Scotia	0.05	0.22	0.06	0.24
New Brunswick	0.05	0.21	0.05	0.23
Quebec*	0.20	0.40	0.11	0.31
Ontario*	0.22	0.41	0.23	0.42
Manitoba*	0.09	0.30	0.11	0.31
Saskatchewan*	0.09	0.30	0.11	0.31
Alberta*	0.10	0.30	0.11	0.31
British Columbia	0.10	0.30	0.10	0.30

* Panel sample mean is significantly different from 2000/2001 full-sample mean at $p < 0.05$ (using *t-/f-tests*).
Source: Equality, Security, and Community 2000/2001 NPS full sample and panel sample.

Appendix Table 2 *Cross-sectional probit models of support for statement that the government should(1) reduce income differences between rich and poor and (2) provide a decent standard of living for everyone. Parameter estimates with standard errors in parentheses*

Dependent variable	Reduce income differences		Provide decent standard of living	
	2000/2001	2002/2003	2000/2001	2002/2003
Self-interest				
Employed	0	0	0	0
Retired	–0.08 (0.09)	–0.10 (0.11)	0.03 (0.11)	0.10 (0.11)
Unemployed	0.15 (0.16)	0.19 (0.16)	0.37 (0.14)**	0.25 (0.14)#
Student	0.21 (0.17)	0.42 (0.23)#	0.21 (0.15)	0.21 (0.21)
Private sector	0	0	0	0
Public sector	0.24 (0.07)***	0.29 (0.08)***	0.17 (0.07)**	0.14 (0.08)#
Income decile	–0.04 (0.01)**	–0.06 (0.01)***	–0.03 (0.01)*	–0.06 (0.01)***
Subjective health	0.01 (0.03)	0.05 (0.04)	0.10 (0.03)**	–0.01 (0.04)
Children (ref. = no)	–0.01 (0.10)	0.07 (0.10)	0.10 (0.10)*	0.06 (0.09)
No. of children	0.01 (0.03)	–0.03 (0.02)	–0.03 (0.03)	–0.01 (0.02)
Political ideology				
Liberal party scale	0.10 (0.04)*	0.09 (0.04)*	0.04 (0.04)	0.01 (0.04)
Conservative party scale	0.02 (0.04)	0.08 (0.04)*	0.05 (0.04)	0.08 (0.04)*
Controls				
Level of education	–0.05 (0.02)**	–0.03 (0.02)*	0.00 (0.02)	0.02 (0.02)
Married/cohabitating (ref. = single)	–0.09 (0.07)	–0.10 (0.07)	–0.09 (0.07)	–0.08 (0.07)
Size of residential area	–0.04 (0.04)	–0.09 (0.04)**	–0.02 (0.03)	0.03 (0.03)
Gender (= male)	–0.05 (0.07)	–0.10 (0.07)	–0.22 (0.06)***	–0.23 (0.06)***
Age[a]	–0.01 (0.03)	0.01 (0.03)	–0.14 (0.03)***	–0.12 (0.03)***
Intercept	1.29 (0.21)***	1.19 (0.21)***	0.69 (0.19)***	0.93 (0.19)***
Test for equality of regressions coefficients for 2000/2001 and 2002/2003 models				
χ^2	15.80		56.70	
DF	15		15	
p-value	0.3955		0.0000	
Pseudo R^2	0.02	0.04	0.04	0.05
Model log-likelihood	–1,086	–1,155	–1,350	–1,352
N	2,055	2,068	2,055	2,068

# $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, $p < 0.001$. [a] Parameter estimate and standard error multiplied by 10.
Source: Equality, Security, and Community panel study, 2000/2001 and 2002/2003 waves, national sample.

Notes

This article was presented at the 'Changing Welfare Architectures' conference, 24–25 January 2005, at Gl. Vraa Castle, Tylstrup, Denmark. I am grateful to Professor Richard Johnston from the University of British Columbia for granting me access to the 'Equality, Security, and Community' panel data set. Furthermore, the article has benefited from comments from Olli Kangas, Niels Ploug, Anders Holm, Søren Winter, Nabanita Datta Gupta, Signe Hald Andersen, Cecilie Dohlmann Weatherall, as well as useful suggestions from two anonymous referees from *Acta Sociologica*.

1. Both dependent variables used here come close in meaning and semantics to several 'standard' items included in large-scale, cross-national surveys, such as the International Social Survey Programme (Role of Government and Social Inequality modules), the European Values Study, the Eurobarometer surveys and the recent European Social Survey.
2. Other available options were the New Democratic Party, the Reform Party and the Bloc Quebecois.
3. This assumption also applies to multi-level models (which are a special formulation of the random-effects model) but is rarely tested in practice in the literature (this assumption is not discussed in Gelissen (2000), Arts and Gelissen (2001) or Blekesaune and Quadagno (2003)). If dependencies exist between the observed variables and the random effect or the stochastic error term then severe bias may arise (see Ebbes et al., 2004).
4. In practice, the finite mixture model is estimated by increasing the number of latent classes until a point when the likelihood function no longer improves. At this point, non-parametric maximum likelihood estimates are obtained. In my models, two latent classes were used. In fact, a three-class solution provided a slightly better fit, but given the already considerable complexity of the FM-CV model it was extremely difficult to achieve model convergence with three latent classes. As a consequence, the two-class model is presented here. In addition, I do not present the results of the concomitant variable part of the model (which in this case is comprised from a binary logit model regressing the probability of membership of latent class 1 on the explanatory variables plus the instrumental variable with latent class 2 as the reference category), since this aspect of the model is of secondary importance here. However, these results are available upon request from the author.
5. As mentioned previously, existing empirical findings on pensioners' attitudes towards welfare state policies are mixed. Unfortunately, direct comparisons of effects across studies are difficult because of different dependent variables and countries used. Some studies generally find pensioners to be more in favour of redistribution and government spending than are those in regular employment (see Svallfors, 1999, 2003, 2004; Gelissen, 2000); others find negative effects in individual countries (Papadakis and Bean (1993) and Bean and Papadakis (1998) for Great Britain; Andress and Heien (2001) for East Germany; Linos and West (2003) for Norway), while yet other cross-national studies find no systematic differences between the attitudes of pensioners and other occupational groups (Papadakis and Bean, 1993; Bean and Papadakis, 1998; Blomberg and Kroll, 1999; Arts and Gelissen, 2001).

References

Alber, J. (1984) 'Versorgungsklasse im Wohlfahrtsstaat', *Kölner Zeithschrift für Soziologie und Sozialpsychologie* 36: 225–51.

Andress, H.-J. and Heien, T. (1999) 'Explaining Public Attitudes towards the German Welfare State using Structural Equation Models'. Paper presented at the 'Conference on Recent Trends and Methods of Social Stratification Research', Potsdam, Germany, 20 April and 1–2 May 1999.

Andress, H.-J. and Heien, T. (2001) 'Four Worlds of Welfare State Attitudes? A Comparison of Germany, Norway, and the United States', *European Sociological Review* 17: 337–56.

Arts, W. and Gelissen, J. (2001) 'Welfare States, Solidarity and Justice Principles: Does the Type Really Matter?', *Acta Sociologica* 44: 283–99.

Bean, C. and Papadakis, E. (1998) 'A Comparison of Attitudes Towards the Welfare States in Different Institutional Regimes, 1985–1990', *International Journal of Public Opinion Research* 10: 211–36.

Bertrand, M. and Mullainathan, S. (2001) 'Do People Mean What They Say? Implications for Subjective Survey Data', *American Economic Review* 91: 67–72.

Blekesaune, M. and Quadagno, J. (2003) 'Public Attitudes Toward Welfare State Policies. A Comparative Analysis of 24 Nations', *European Sociological Review* 19: 415–27.

Blomberg, H. and Kroll, C. (1999) 'Do Structural Contexts Matter? Macro-sociological Factors and Popular Attitudes towards Public Welfare Services', *Acta Sociologica* 42: 320–35.

Bonoli, G. (2000) 'Public Attitudes to Social Protection and Political Economy Traditions in Western Europe', *European Societies* 2: 431–52.

Chow, G. C. (1960) 'Tests of Equality between Sets of Coefficients in Two Linear Regressions', *Econometrica* 28: 591–605.

Dayton, C. M. and Macready, G. B. (1988) 'Concomitant-Variable Latent Class Models', *Journal of the American Statistical Association* 83: 173–8.

Derks, A. (2004) 'Are the Underprivileged Really That Economically "Leftist"? Attitudes Towards Economic Redistribution and the Welfare State in Flanders', *European Journal of Political Research* 43: 509–21.

Ebbes, P., Böckenholt, U. and Wedel, M. (2004) 'Regressor and Random-Effects Dependencies in Multilevel Models', *Statistica Neerlandica* 58: 161–78.

Edlund, J. (1999) 'Trust in Government and Welfare Regimes: Attitudes to Redistribution and Financial Cheating in the USA and Norway', *European Journal of Political Research* 35: 341–70.

ESC Technical Documentation (1999) *Equality, Security and Community (ESC) Wave 1, Data Collection. Technical Documentation*. Toronto: Institute of Social Research, York University.

Esping-Andersen, G. (1990) *Three Worlds of Welfare Capitalism*. Cambridge: Polity Press.

Esping-Andersen, G. (1999) *Social Foundations of Postindustrial Economies*. Oxford: Oxford University Press.

Feldman, S. and Zaller, J. (1992) 'The Political Culture of Ambivalence: Ideological Responses to the Welfare State', *American Journal of Political Science* 36: 268–307.

Gelissen, J. (2000) 'Popular Support for Institutionalised Solidarity: a Comparison Between European Welfare States', *International Journal of Social Welfare* 9: 285–300.

Goul-Andersen, J. (1993) 'Sources of Welfare-State Support in Denmark: Self-Interest or Way of Life?', in E. J. Hansen, S. Ringen, H. Uusitalo and R. Erikson (eds) *Welfare Trends in the Scandinavian Countries*, pp. 49–60. New York, NY: M. E. Sharpe.

Greene, W. H. (2003) *Econometric Analysis*. Upper Saddle River, NJ: Prentice Hall.

Halaby, C. N. (2004) 'Panel Models in Sociological Research: Theory into Practice', *Annual Review of Sociology* 30: 507–44.

Halman, L. and Nevitte, N. (eds) (1996) *Political Value Change in Western Democracies*. Tilburg: Tilburg University Press.

Hasenfeld, Y. and Rafferty, J. A. (1989) 'The Determinants of Public Attitudes Toward the Welfare State', *Social Forces* 67: 1027–48.

Heckman, J. J. and Singer, B. (1984) 'A Method for Minimizing the Impact of Distributional Assumptions in Econometric Models for Duration Data', *Econometrica* 52: 271–320.

Hoel, M. and Knutsen, O. (1989) 'Social Class, Gender, and Sector Employment as Political Cleavages in Scandinavia', *Acta Sociologica* 32: 181–201.

Jacoby, W. G. (1994) 'Public Attitudes toward Government Spending', *American Journal of Political Science* 8: 336–61.

Jæger, M. M. (2006) 'Welfare Regimes and Attitudes Towards Redistribution: the Regime Hypothesis Revisited', *European Sociological Review* 22.

Kaase, M. and Newton, K. (1998) 'What People Expect from the State: plus ca change . . .', in R. Jowell, J. Curtice, A. Park, L. Brook, K. Thomson and C. Bryson (eds) *British – and European – Social Attitudes. The 15th Report*, pp. 39–56. Aldershot: Ashgate.

Kangas, O. E. (1997) 'Self-Interest and the Common Good: The Impact of Norms, Selfishness and Context in Social Policy Opinion', *Journal of Socio-economics* 26: 475–94.

Lepsius, M. R. (1979) 'Soziale Ungleichheit und Klassestrukturen in der Bundesrepublik Deutschland', in H. U. Wehler (ed.) *Klassen in der Europäischen Sozialgeschichte*, pp. 166–209. Göttingen: Vandenhoeck and Ruprecht.

Linos, K. and West, M. (2003) 'Self-Interest, Social Beliefs, and Attitudes to Redistribution', *European Sociological Review* 19: 393–409.

Lipsmeyer, C. S. and Nordstrom, T. (2003) 'East versus West: Comparing Political Attitudes and Welfare Preferences Across European Societies', *Journal of European Public Policy* 10: 339–64.
McLachlan, G. and Peel, D. (2000) *Finite Mixture Distributions.* New York: Wiley.
Nordlund, A. (1997) 'Attitudes Towards the Welfare State in the Scandinavian Countries', *Scandinavian Journal of Social Welfare* 6: 233–46.
Papadakis, E. (1992) 'Public Opinion, Public Policy and the Welfare State', *Political Studies* 15: 21–37.
Papadakis, E. (1993) 'Class Interests, Class Politics and Welfare State Regime', *British Journal of Sociology* 44: 249–70.
Papadakis, E. and Bean, C. (1993) 'Popular Support for the Welfare State: a Comparison Between Institutional Regimes', *Journal of Public Policy* 13: 228–54.
Pettersen, P. A. (2001) 'Welfare State Legitimacy: Ranking, Rating, Paying. The Popularity and Support for Norwegian Welfare Programmes in the Mid 1990s', *Scandinavian Political Studies* 24: 27–49.
Pöntinen, S. and Uusitalo, H. (1988) 'Stability and Change in the Public Support for the Welfare State: Finland 1975–1985', *International Journal of Sociology and Social Policy* 8: 1–25.
Roller, E. (1992) *Einstellungen der Bürger zum Wohlfahrtsstaat der Bundesrepublik Deutschland.* Opladen: Westdeutscher Verlag.
Sihvo, T. and Uusitalo, H. (1995) 'Economic Crises and Support for the Welfare State in Finland 1975–1993', *Acta Sociologica* 38: 251–62.
Svallfors, S. (ed.) (1995) *In the Eye of the Beholder. Opinions on Welfare and Justice in Comparative Perspective.* Umeå: Scandbook.
Svallfors, S. (1997) 'Worlds of Welfare and Attitudes to Redistribution: a Comparison of Eight Western Nations', *European Sociological Review* 13: 233–304.
Svallfors, S. (1999) 'Political Trust and Attitudes Towards Redistribution. A Comparison of Sweden and Norway', *European Societies* 1: 241–68.
Svallfors, S. (2004) 'Class, Attitudes and the Welfare State: Sweden in Comparative Perspective', *Social Policy and Administration* 38: 119–38.
Taylor-Gooby, P. (1999) 'Markets and Motives', *Journal of Social Policy* 28: 97–114.
Taylor-Gooby, P. (2001) 'Sustaining State Welfare in Hard Times: Who Will Foot the Bill?', *Journal of European Social Policy* 11: 133–47.
Van Oorschot, W. (2002) 'Individual Motives for Contributing to Welfare Benefits in the Netherlands', *Policy & Politics* 30, 31–46.
Van Oorschot, W. and Komter, A. (1998) 'What Is It That Ties . . . ? Theoretical Perspectives on Social Bond', *Sociale Weterschappen* 41: 5–21.
Wedel, M. (2002) 'Concomitant Variables in Finite Mixture Models', *Statistica Neerlandica* 55: 362–75.
Wooldridge, J. M. (2002) *Econometric Analysis of Cross-Section and Panel Data.* Cambridge, MA: MIT Press.

Biographical Note: Mads Meier Jæger is a PhD student at the Department of Sociology, University of Copenhagen, and the Danish National Institute of Social Research. His research interests include welfare attitudes, social mobility and applied econometrics. He has published or has publications forthcoming in *inter alia European Sociological Review, Social Policy and Administration,* and *Governance.*
Address: The Danish National Institute of Social Research, Herluf Trolles Gade 11, DK-1052 Copenhagen K, Denmark. [email: Mads@sfi.dk]