#### RESEARCH DEPARTMENT OF SOCIAL POLICY AND WELFARE SERVICES

# DO WELFARE REGIMES SHAPE THE VARIANCE IN PUBLIC SUPPORT FOR REDISTRIBUTION?

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Mads Meier Jæger



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### DO WELFARE REGIMES SHAPE THE VARIANCE IN PUBLIC SUPPORT FOR REDISTRIBUTION?

Mads Meier Jæger\*

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#### ABSTRACT

Most studies on the effect of welfare regimes on public support for the welfare state find no systematic relationship between regimes and support. This paper argues that instead of the conventional approach which conceptualizes the effect of welfare regimes on public support by cross-national differences in *mean* levels of public support, welfare regimes might also shape the *variance* in welfare state support. To test this hypothesis, the paper measures welfare regimes by a range of country-level variables and uses a multilevel heteroskedastic ordered probit model to estimate the effect of these country-level variables on the variance in support for redistribution. The empirical analysis of 15 OECD countries, which is replicated on three different data sets, shows that there is only mixed evidence to support the hypothesis that welfare regimes shape the variance in public support for redistribution in a systematic way.

\* The Danish National Centre for Social Research, Herluf Trolles Gade 11, DK-1052 Copenhagen
K, Denmark. Phone: +45 33 48 08 77/fax: +45 33 48 08 33. Email: mads@sfi.dk.

#### INTRODUCTION

A leading hypothesis in welfare regime theory is that welfare regimes create systematic variation in citizens' support for the welfare state. Welfare regimes, i.e., the particular configurations of legal and organizational features in the relationship between state, market, and family in Western industrialized countries, and their social organization and stratification outcomes (Esping-Andersen 1990, 1999; Arts & Gelissen 2002), should create systematic differences in the extent to which citizens support the welfare state. The theoretical explanation behind this hypothesis is that the welfare regimes, with the prototypes being the *Social Democratic*, the *Conservative*, and the *Liberal* welfare regimes, act as socializing forces that shape citizens' political attitudes and ideological preferences.

Since the pioneering work of Coughlin (1980), a large number of comparative studies in political sociology and political science have attempted to demonstrate the link between welfare regimes and public support for welfare state principles, policies, or programs (see Papadakis & Bean 1993; Evans 1996; Svallfors 1997, 1999, 2003, 2006; Bean & Papadakis 1998; Blomberg & Kroll 1999; Edlund 1999; Gelissen 2000; Andress & Heien 2001; Arts & Gelissen 2001; Blekesaune & Quadagno 2003; Linos & West 2003; Lipsmeyer & Nordstrom 2003; Mehrtens 2004; Fraile & Ferrer 2005; Jæger 2006; Blekesaune 2007). Generally, these studies find little evidence that welfare regimes shape public support in any systematic way. Not surprisingly, Svallfors (2003: 514) concludes that '(...) it seems time to assert that attitudes to welfare policies are only to a very limited extent structured by differences in welfare regimes'.

This paper argues that it may be premature to conclude that welfare regimes do not have any impact on public support for the welfare state. All existing empirical studies analyze how welfare regimes affect *mean* levels of support for different types of welfare policies. That is, existing studies investigate if welfare regimes lead to *more or less support* for the welfare state. However, there is as second dimension of welfare attitudes that has not been analyzed in previous research: welfare regime differences in the *variance* in welfare state support. There are compelling theoretical and empirical reasons for analyzing if welfare regimes affect not only mean levels of support for the welfare state but also the variance in attitudes.

Theoretically, from the perspective of welfare regime theory it is plausible to argue that welfare regimes affect both the variance in welfare attitudes as well as mean levels of support. Consequently, welfare regimes should not only influence if countries differ with respect to citizens' overall support for the welfare state, but also how *heterogeneous* citizens' attitudes tend to be. For example, the Social Democratic welfare regime is characterized historically by strong and sustained left-wing rule and consensual politics (e.g., Korpi 1989; Esping-Andersen 1990), and if this hegemonic political tradition affects mass opinion one would expect the variance in citizens' attitudes to be smaller in this regime compared to in regime types with less hegemonic political histories; i.e., people should be *similar* in their opinions. By contrast, the Liberal welfare regime is characterized by relatively high levels of socioeconomic inequality which in turn should lead to more socioeconomic heterogeneity and thus higher variance in citizens' support for the welfare state.

Empirically, focusing on the variance rather than the mean level of support has the advantage of reducing the problem of cross-national comparability of welfare attitudes. In comparative studies

there is always a risk that individuals in different countries have intrinsically different perceptions of surveys questions (e.g., Poortinga 1989) or that they understand the scale of response variables in different ways (e.g., King et al. 2004). These problems potentially lead to biased comparisons of mean levels of welfare support across countries. By contrast, even if people in different countries have country-specific perceptions of the scale of the response variable measuring welfare state support (i.e., country 'fixed effects'), this problem does not by itself have any impact on the variance of the distribution of welfare state support. In other words, it might be empirically preferable to analyze if welfare regimes affect the variance rather than mean levels of support for the welfare state.

Based on these arguments, this paper analyzes if a range of typical welfare regime indicators, e.g., the size of the welfare state, the composition of cash benefits versus social services, decommodification and income inequality, and left-wing political power, affect the variance in support for redistribution across 15 industrialized countries. I draw on welfare regime and institutionalist theory to formulate a set of hypotheses of how differences among welfare regimes should lead to systematic cross-national differences in the variance in support for redistribution. The paper focuses on citizens' support for redistribution because, unlike support for specific welfare programs (unemployment, health, pensions, etc.) that differ substantially across countries, redistribution is one of the 'big' ideological functions of the welfare state that most citizens have an opinion on (Evans 1996; Korpi & Palme 1998).

In the empirical analysis I analyze support for redistribution across 15 industrialized countries. I replicate the empirical analysis using three different data sets: The World Values Survey (1990), the International Social Survey Programme (ISSP) Role of Government II (1996) survey, and the ISSP

Social Inequality II (1999) survey. Methodologically, I propose a multilevel heteroskedastic ordered probit model (e.g., Alvarez & Brehm 1995; Sanders 2001) to model how, controlling for a comprehensive range of individual-level socioeconomic and demographic variables and country fixed effects, the country-level welfare regime indicators affect the variance in citizens' support for redistribution. My main finding is that, across the three data sets with 15 countries, the country-level regime indicators have large effects on the variances in citizens' support for redistribution. However, these effects are not always in the hypothesized direction and my analysis, like most previous studies, provides only partial support for the hypothesis that welfare regimes shape (variation in) mass opinion in a systematic fashion.

#### THEORETICAL BACKGROUND

This section has two parts. In the first part I describe the three prototypical welfare regime types, and in the second section I present the theoretical relationship between welfare regimes and support for redistribution.

#### Welfare regimes

Welfare regime and institutionalist theory suggests that welfare states can be divided into a number of distinct empirical clusters based on their institutional characteristics and socioeconomic outcomes. The most famous clustering is that of Esping-Andersen (1990, 1999) who, based on cross-national differences in the role of the state, the market, and the family with respect to providing and allocating social welfare, divides the Western, industrialized countries into three regimes: the *Social Democratic*, the *Liberal*, and the *Conservative* welfare regime (see also Goodin et al. 1999; Arts & Gelissen 2002).

In the *Social Democratic* welfare regime the state is the main provider of social security, entitlement is based mainly on citizenship or legal residence, benefits are generous by comparative standards, and the state provides a comprehensive range of social services (in particular child and elderly care) in addition to income-replacing cash benefits. Because of its institutional organization, the Social Democratic welfare regime leads to a high level of *decommodification*, i.e. it enables citizens to uphold a socially accepted standard of living independently of labor market participation (Esping-Andersen 1990: 37).

In the *Conservative* welfare regime social insurance and the family are the primary sources of social security, and rather than providing public alternatives the state promotes a traditional male breadwinner model by subsidizing women's roles as family care providers. Corporatism is the organizing social principle in this regime type, and entitlement to the major social security programs (unemployment, sickness, retirement, etc.) is based on occupational status and labor market history rather than citizenship.

In the *Liberal* welfare regime the market is the primary provider of social security. The state plays a residual role by providing targeted and typically means-tested benefits to individuals and families who are unable to provide for themselves. Benefit generosity is poor by comparative standards, and levels of decommodification are generally low compared to the other regime types (Esping-Andersen 1990; Scruggs & Allan 2006).

Welfare regimes and support for redistribution

A crucial aspect of welfare regime theory is that welfare regimes produce and reproduce their own legitimacy. Being socially and culturally embedded institutions, welfare regimes not only comprise formal welfare state programs but also institutionalized solidarity and social belief systems (Hall 1986; Rothstein 1998; Mau 2004). Consequently, by virtue of this feature welfare regimes influence citizens' beliefs about which type of welfare state is regarded as desirable, how much redistribution is considered to be legitimate, and other 'logics of appropriateness' (March and Olsen 1989; see also Edlund 1999; Svallfors 2003). Building on this theoretical argument, most existing studies hypothesize that, given the systematic differences between welfare regimes with respect to institutional structure and total scope of the welfare state, a rank order should exist so that support for the welfare state is relatively highest in the Social Democratic regime, second-highest in the Conservative regime, and lowest in the Liberal regime (e.g., Esping-Andersen 1990; Gelissen 2000: 290; Andress & Heien 2001: 343; Arts & Gelissen 2001: 291; Jæger 2006).

#### [FIGURE 1 ABOUT HERE]

The hypothesis of a rank-ordering of the three regimes with respect to aggregate support for, in this case, redistribution is illustrated in Figure 1. The figure shows how mean levels of support for redistribution ( $\mu$ ) vary by regime type. Using the terminology in Figure 1, the hypothesis of rank-ordered mean levels of support analyzed in most existing studies can be formulated as  $\mu_S > \mu_C > \mu_L$  (where subscripts *S*, *C*, and *L* refer to respectively the Social Democratic, Conservative, and Liberal welfare regime).

Figure 1 also illustrates the second dimension on which this paper argues that welfare regimes may differ systematically: the variance in support for redistribution. As argued previously, the link between welfare regimes and support for redistribution in regime theory also concerns how regimes affect the variance in support for redistribution. For example, in the Social Democratic regime the scope of redistribution is large which means that the population is fairly socially and economically homogenous. Similarly, in the Scandinavian countries which embody this regime type, all the major political parties support the comprehensive welfare state which implies that there is little political polarization in the electorate on this issue (Korpi 1989; Esping-Andersen 1990, 1999). Consequently, the hypothesized outcome in this regime is that not only should people express high levels of support for redistribution, but they should also vary comparatively little in their opinions. By contrast, the Liberal regime redistributes less, has much more socioeconomic diversity in the population, and welfare programs tend to be more politically contested. Consequently, it is likely that there is more 'within-regime' variability in support for redistribution in this regime compared to in the Social Democratic regime. The Conservative regime, given its scope of redistribution and institutional characteristics, is likely to be located somewhere in between the Liberal and Social Democratic regimes with respect to the variance in support for redistribution.

The hypothesis of a rank-ordering of the three welfare regimes with respect to the variance in support for redistribution is also illustrated in Figure 1. The figure shows how, in addition to different mean levels of support for redistribution ( $\mu$ ), the three regimes might also differ with respect to the variance in support for redistribution. As described above, regime theory suggests that the variance in support for redistribution should vary systematically between regimes, with the variance being highest in the Liberal regime, lowest in the Social Democratic regime, and somewhere in between in the Conservative regime. Consequently, in the terminology of Figure 1, I

hypothesize that  $var_L > var_C > var_S$ . Most if not all existing studies have analyzed the link between welfare regimes and support for the welfare state by testing if  $\mu_s > \mu_C > \mu_L$ . As described in the introduction, these studies find little evidence of a rank-ordering of the regimes with respect to  $\mu$ . In the present paper I extend previous research by analyzing if  $var_L > var_C > var_S$ . This type of analysis has not previously been carried out.

#### DATA AND VARIABLES

Data

I use three different data sets in the empirical analysis: The World Values Study (WVS), the 1996 ISSP 'Role of Government II' module (ISSP96), and the 1999 ISSP 'Social Inequality III' module (ISSP99). These data sets were chosen first, because they include similar items on attitudes towards redistribution and socioeconomic variables, second, because they cover many Western, industrialized countries with different welfare regime characteristics, and third because they enable me to replicate the empirical analysis on three independent data sources. In all three data sets I analyze data from 15 OECD countries.<sup>1</sup> I use WVS data from the 1990 wave in which the item on redistribution was asked in many of the 15 countries. However, for two countries I use data from other WVS waves: For Australia the data is from the 1995 wave and for Switzerland the data is from the 1996 wave. The ISSP96 includes 13 of the 15 countries but excludes Austria and Denmark. Instead, I merge data for Austria and Denmark from the ISSP99 which also includes the

<sup>&</sup>lt;sup>1</sup> The 15 countries in my analysis are: Austria, Australia, Canada, Denmark, France, (West) Germany, Great Britain, Ireland, Italy, Japan, New Zealand, Norway, Sweden, Switzerland, and the United States.

same item on attitudes towards redistribution as the ISSP96 and the same socioeconomic variables. Finally, the ISSP99 has data on 13 of 15 countries but excludes Italy and Switzerland. Here, I merge data from the ISSP96 which includes both these countries. The sample sizes for the three data sets with 15 countries in each are 22,758 in the WVS, 21,811 in the ISSP96, and 19,838 in the ISSP99.

#### [TABLE 1 ABOUT HERE]

#### Dependent variables

As the dependent variables I include one item from the WVS and one item from the ISSP96/99 surveys that were both designed to capture respondents' attitudes towards redistribution. Means and standard deviations for both items are shown in Table 1 along with descriptive statistics for all other variables in the analysis.

In the WVS the respondents were asked: 'Now I'd like you to tell me your views on various issues. How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between'. The respondents were then asked to express their opinion on this 1-10 scale with respect to the question: 'Incomes should be made equal vs. we need larger income differences as incentives'. Blekesaune (2007) has previously analyzed this item.

In both the ISSP96 and the ISSP99 respondents were asked: 'what is your opinion on the following statement: It is the responsibility of the government to reduce the differences in income between

people with high incomes and those with low incomes'. The respondents expressed their opinion on a five-point ordered scale with the response categories: (1) 'disagree strongly', (2) 'disagree', (3) 'neither agree nor disagree', (4) 'agree', and (5) 'agree strongly'. This item has previously been analyzed by, among others, Arts and Gelissen (2001) and Edlund (2003). In all three surveys respondents answering 'don't know' were treated as missing values.

#### Explanatory variables

I use two types of explanatory variables: country-level regime type indicators and individual-level socioeconomic and demographic variables. The regime type indicators are used to explain the *variance* in respondents' support for redistribution across the 15 countries, while the individual-level socioeconomic and demographic variables are used to explain respondents' *mean* levels of support for redistribution.

#### Measuring welfare regimes

Previous studies have taken three different approaches to conceptualizing how welfare regimes affect attitudes. The first approach builds on the idea that welfare regimes should manifest indirectly in cross-national differences in welfare state support among different socioeconomic groups. Consequently, in countries resembling the Liberal welfare regime social class differences in welfare support should be large; in countries representing the Conservative regime occupational status and differences between labor market 'insiders' and 'outsiders' should explain attitudinal cleavages; and in countries close to the Social Democratic regime the public/private sector divide and gender comprise the main attitudinal divisions (e.g., Svallfors 1997, 1999, 2004; Bean & Papadakis 1998; Kaase and Newton 1998; Linos & West 2003). The second approach pools countries believed to represent the same regime type into welfare regime dummy variables and test for regime differences in welfare attitudes by means of these dummy variables (for example, the US, Australia, and Canada represent the Liberal regime; Sweden, Norway, and Denmark represent the Social Democratic regime, and so on) (e.g., Gelissen 2000; Arts & Gelissen 2001; Lipsmeyer & Nordstrom 2003). The third and most sophisticated approach uses variables measured at the country level which are believed to capture regime type characteristics (e.g., the size of the welfare state, the scope of redistribution, and political ideology) as explanatory variables of support for the welfare state (e.g., Blekesaune & Quadagno 2003; Fraile & Ferrer 2005; Jæger 2006; Blekesaune 2007).

In this paper I follow the third approach and use a range of empirical indicators to capture major structural differences between welfare regimes. However, unlike previous studies which use country-level variables as predictors of mean levels of support for the welfare state, I use these variables as predictors of the variance in support for redistribution. I include eleven country-level variables in the analysis. Eight of these variables attempt to capture important welfare regime differences with respect to the *scope* and *organization* of the welfare state, countries' political history, and stratification outcomes (Esping-Andersen 1990, 1999). The remaining three country-level variables are controls. Unless stated otherwise, all country-level variables are measured in the year in which the survey was carried out (that is, 1990 in the case of the WVS, 1996 in the ISSP96, and 1999 in the ISSP99).

The first two country-level variables concern the total size and organization of the welfare state. The first variable is *total net social expenditure as percentage of GDP*. This variable measures the country's total commitment to social security though both direct funding of *public* schemes and subsidization of *private* sector program, and the data comes from Adema (2001) and Adema and Ladaique (2005). Due to data restrictions, data is for the year 1997 for 13 out of 15 countries, 2003 for France, and missing for Switzerland. The second variable is the relative *share of benefits in kind* as proportion of total social expenditure. This variable distinguishes between the Social Democratic and Liberal welfare regimes because the former invests heavily in benefits in kind (e.g., child and elderly care), while the latter mostly spends on cash benefits. To construct this variable I use data from the OECD Social Expenditure Database (OECD 2004).

The next variables which capture countries' investments in families are *expenditure on family benefits as percentage of GDP* and *the share of family services* as proportion of total family expenditure. The first of these variables captures cross-national variation in the extent to which the state compensates the costs of a family. Theoretically, the Social Democratic and Conservative regime both invest substantially in family policies while the Liberal regime does not. The second variable distinguishes between the Social Democratic and the Conservative regime with respect to how regimes invest. While both regimes invest in the family, the Social Democratic regime does so by providing a combination of cash benefits and family services. By contrast, the Conservative regime mainly provides cash family benefits to subsidize women who are outside the labor market. Both variables were constructed using data from the OECD Social Expenditure Database (OECD 2004).

The next two political variables measure the strength of pro-welfare parties and degree of corporatism. The first indicator is *accumulated left seats* as a percentage of all seats held by all government parties from 1946 to the year of the WVS or ISSP(96/99) survey. Similar to some previous studies (e.g., Korpi 1989; Brady 2003; Brooks & Manza 2006), I include this variable as

an indicator of the historical strength of pro-welfare political parties which is believed to increase welfare state support and, through long-term promotion of pro-welfare policy and discourse, reduce the variance in support for redistribution. This data comes from the HRS database (Huber et al. 2004). The second variable is Siaroff's (1999) integration scores for the mid-1990s which is a widely used measure of measure of *corporatism*.<sup>2</sup> This index measures, among other things, the number of strikes, trade union strength, coordinated versus uncoordinated economies, how industrial conflict is resolved, and public-private interaction.

The next two country-level variables capture welfare regimes' social stratification outcomes. The first variable is *decommodification*. Originally proposed by Esping-Andersen (1990) as a key regime type indicator, this measure combines information on the coverage and generosity of unemployment benefits, sickness benefits, and pensions into a single index of countries' decommodification effort. Countries' decommodification scores are obtained from Scruggs' (2005) data base which corrects and updates Esping-Andersen's original data. The second variable is the *Gini coefficient* which is a measure of income inequality. Gini coefficients are measured in the early and mid-1990s and were obtained from the Luxembourg Income Study.<sup>3</sup> In the empirical analysis I take the natural logarithm to the Gini coefficient.

In addition to these regime-type indicators, I include three control variables measured at the country level. The first variable is Alesina et al.'s (2003) index of *ethnic fractionalization* which quantifies

<sup>&</sup>lt;sup>2</sup> Many measures of corporatism exist. However, different measures are typically fairly highly correlated (see e.g., Siaroff 1999; Molina & Rhodes 2002; Kenworthy 2003).

<sup>&</sup>lt;sup>3</sup> Gini data for Japan is from Shibuya et al. (2002) and data from Portugal is from the Index Mundi (http://www.indexmundi.com/portugal/distribution\_of\_family\_income\_gini\_index.html). Accessed June 2007.

ethnic heterogeneity within each of the 15 countries (typically the data is from a year in the 1990s). The second and third variables are, respectively, the country's *standardized unemployment rate* and actual *GDP growth*, both calculated from OECD statistics (OECD 2000, 2001).

#### Individual level variables

I also include a range of socioeconomic and demographic control variables. These are coded to conform to existing studies. Means and standard deviations are shown in Table 1.

First, I control for the respondent's sex (with a dummy variable for women) and age in years. Second, I control for gross household income. In the WVS information on household income is available in 10 intervals, whereas in the ISSP96 and ISSP99 it is available in national currencies. To ensure comparability across surveys, I standardize within-country income distributions to have mean 0 and standard deviation 1 and also include a dummy variable for respondents with missing income data. Third, I control for educational attainment measured by years of completed schooling. Again, I include a dummy variable for respondents with missing information on educational attainment. Fourth, I control for marital status with a dummy variable for respondents who are married or cohabitating (with divorced, separated and never-married respondents forming the reference group). Fifth, I control for employment status by including dummies for being employed, retired, unemployed, a student, or outside the labor market or having missing information on employment status. Finally, I control for the respondent's social class position measured by a sixcategory version of the Erikson-Goldthorpe-Portocarero (EGP) social class scheme (see Erikson and Goldthorpe 1992). The social classes are: Service class I (higher level controllers and administrators), Service class II (lower-level controllers and administrators), Routine non-manual employees, Skilled workers, Unskilled workers, and the Self-employed. I also include a dummy variable for missing information on social class position.

Empirical hypotheses

Following welfare regime theory, I expect the eight regime-type indicators to affect support for redistribution by either increasing or decreasing the empirical variance in support for redistribution.

First, I expect negative effects on the variance in support for redistribution of the four expenditure indicators: *total net social expenditure, share of benefits in kind, expenditure on family benefits*, and *share of family services*. These indicators primarily distinguish the Social Democratic from the Liberal welfare regime, and higher values on these indicators (i.e., countries being closer to the Social Democratic regime) should lead to lower variance in support for redistribution.

Second, I also expect negative effects of the political variables *accumulated left seats* and *corporatism* because, first, political socialization in the Social Democratic regime with strong leftwing hegemony should reduce the variability in citizens' support for redistribution, and second, a corporatist organization of the economy should also reduce the variance in attitudes.

Third, I hypothesize that *decommodification* has a negative effect on the variance in support for redistribution. The reason why is that countries with high levels of decommodification are socially homogenous which in turn should lead to lower variance in citizens' support for redistribution.

Fourth, I expect that *log Gini* has a *positive* effect on the variance in support for redistribution. The argument behind this hypothesis is similar to the one concerning decommodification and entails that people in highly unequal societies (typical in the Liberal welfare regime) should vary more in their support for redistribution than people in highly equal societies.

With respect to the country-level control variables, I expect a positive effect of *ethnic fractionalization* on the variance in support for redistribution because higher ethnic diversity should be associated with more heterogeneous attitudes. Higher unemployment rates should lead to lower variance in support for redistribution while higher growth should be associated with higher variance in attitudes (see also Blekesaune & Quadagno 2003; Fraile & Ferrer 2005).

#### METHODS

The aim of the empirical analysis is to explain respondents' *mean* level of support for redistribution as a function of the individual-level characteristics (and country fixed effects) and the individuallevel *variance* in support for redistribution as a function of the regime-type indicators measured at the country level. To carry out this analysis, I propose a multilevel heteroskedastic ordered probit model which allows me to simultaneously analyze both the mean and the variance in support for redistribution.

The dependent variables in the WVS and ISSP data are ordered categorical indicators, and I begin the presentation of the model from the perspective of the ordered probit model (e.g., Powers and Xie 2000). The underlying model is a linear latent response model of the form

$$y_{ic} = x_{ic}\beta + f_c + \varepsilon_{ic}, \quad \varepsilon_{ic} \square N(0,\sigma), (1)$$

where *i* designates individuals (i = 1, ..., n) in countries *c* (c = 1, ..., 15). The outcome variable  $y_{ic}$  is a latent variable measuring support for redistribution,  $x_{ic}$  is a vector of explanatory variables with regression coefficients  $\beta$ ,  $f_c$  is a country fixed effect, and  $\varepsilon_{ic}$  is a normally-distributed error term which summarizes the effect of all unobserved variables.

Equation (1) represents a multilevel model because individuals are nested within countries, and the model imposes a flexible parameterization of the multilevel structure by including country fixed effects in the means function. As is always the case with ordered probability models, I do not observe  $y_{ic}$  in the data but only its ordered categorical approximation,  $y_{ic}^*$  (the 10-point scale in the WVS and the 5-point scale in the ISSP). In the ordered probit model  $y_{ic}^*$  is linked to  $y_{ic}$  through a set of thresholds  $\tau_m$  (m = 1, ..., j) in the measurement model  $\tau_{m-1} \leq y_{ic}^* < \tau$ , m = 1, ..., j, where  $\tau_0 = -\infty$  and  $\tau_j = \infty$ .

The variance in the standard ordered probit model,  $\sigma$ , is assumed to follow the cumulative normal distribution, i.e., constant for all *i* and having the value 1. In my application, this assumption entails that respondents in all countries have the same variance in their support for redistribution. However, this assumption is not correct if, as described above, welfare regimes shape the variance in support for redistribution. Furthermore, violation of the assumption of constant error variance across all *i* leads to biased estimates of  $\beta$  (e.g., Yatchew & Griliches 1985).

To model cross-national differences in the variance of support for redistribution, I extend the ordered probit model in Equation (1) with an additional model that explicitly accounts for the varying or *heteroskedastic* individual-level error variance. This type of heteroskedastic probit model was proposed by Alvarez and Brehm (1995, 1998) and uses the following parameterization for the error variance

$$\sigma_{ic} = \exp(z_c \gamma) \,. \, (2)$$

In this model the variance in respondents' support for redistribution is a function of the eleven country-level regime characteristics in the vector z with regression coefficients  $\gamma$ . The model parameterizes the variance as  $\exp(z_c\gamma)$  because the variance must always be positive, and the effect parameters  $\gamma$  should be interpreted such that a negative coefficient for a given z variable means that with rising values of z the individual-level variance in support for redistribution decreases, whereas a positive effect means that the variance in support increases. Note that to identify the model the zvariables cannot appear in both the variance (Equation 2) and the mean (Equation 1) equations. However, by including country fixed effects in Equation 1 I allow for country-specific effects in the means function. The heteroskedastic ordered probit model is estimated by maximum likelihood by incorporating the heteroskedasticity correction defined by Equation (2) into the usual likelihood function for the ordered probit model defined by Equation (1) and is straightforward to estimate.

[TABLE 2 ABOUT HERE]

#### RESULTS

This section presents findings from the empirical analysis. I first present the results from the model for the effects of the regime type indicators on the individual-level variance in support for redistribution and then discuss the results from the means model.

Table 2 shows results from the heteroskedastic ordered probit model for support for redistribution when applied to the WVS, ISSP96, and ISSP99 data. The upper part of the table, also controlling for country fixed effects, shows the estimated effects of the individual-level demographic and socioeconomic variables on respondents' mean level of support for redistribution. The lower part of the table shows the estimated effects of the eight country-level regime type indicators and the three controls on the variance in support for redistribution. Furthermore, at the bottom of the table I present *p*-values for  $\alpha^2$ -tests for homoskedasticity; i.e., tests of the hypothesis that respondents in all countries have the same error variance ( $\sigma$ ). In all three models the hypothesis of homoskedasticity is strongly rejected which suggests that the regime type indicators significantly affect the variance in support for redistribution.

At the overall level, I find mixed support for my hypotheses regarding the effects of the regime-type indicators on the variance in support for redistribution. Table 2 shows that total *net social expenditure* has the expected statistically significant negative effect on the variance in support for redistribution in both ISSP data sets; i.e., the bigger is the total size of the welfare state the less variability there is in citizens' support for redistribution. However, contrary to my theoretical expectation net social expenditure has a positive effect on the variance in support for redistribution in both ISSP data sets; i.e., the bigger is the total size of the welfare state the less variability there is in citizens' support for redistribution. However, contrary to my theoretical expectation net social expenditure has a positive effect on the variance in support for redistribution in the WVS.

Moving on, Table 2 shows that the *relative share of benefits in kind* has the expected negative effect on the variance in support for redistribution in all three data sets. As hypothesized, there is less variability in attitudes in countries resembling the Social Democratic welfare regime in which a large proportion of social expenditure is spent on social services compared to more Liberal countries that mostly deliver cash benefits. The results for the effect on *family benefits* are less clear. I hypothesized a negative effect but find no effect in the WVS, a negative effect in the ISSP96 (as expected), and a positive effect in the ISSP99, thereby exhibiting no consistent pattern across the three data sets. My results are also mixed with respect to the effect of *share of family services* as proportion of total family expenditure. As expected, I find a highly significant negative effect in the WVS, but no effect in the ISSP96 and a positive effect in the ISSP99. Again, no clear pattern emerges.

With respect to the political variables, as expected I find significant negative effects of *accumulated left-seats* on the variance in support for redistribution in all three data sets. This finding suggests that the stronger is the tradition for left-wing political rule the lower is the variability in public support for redistribution. This result thus supports the hypothesis that the Social Democratic welfare regime which has a strong tradition for left-wing hegemony and little political conflict over redistribution, tends to 'compress' variability in citizens attitudes towards redistribution. With respect to *corporatism*, I find the expected negative effect in the ISSP96 but no significant effects in either of the two other data sets. Consequently, this result only partly follows expectations.

The social stratification variables also provide mixed support for my hypotheses. As expected, I find a negative effect of *decommodification* on the variance in support for redistribution in the WVS and the ISSP96. However, in the ISSP99 there is a large positive effect of decommodification on

the variance in support for redistribution. Furthermore, in contrast to theoretical expectations I find significant negative effects of *log Gini* in all three data sets. Since Gini levels and socioeconomic diversity are highest in the Liberal welfare regime, I expected that higher Gini levels would lead to higher variance in citizens' support for redistribution. The empirical analysis suggests that the opposite scenario is true. Several recent studies have analyzed the link between Gini levels and support for redistribution and they also reach mixed conclusions (see, Lübker 2007; Kenworthy & McCall forthcoming).

My findings from the eight regime type indicators across the three replications are mixed, and they provide no clear support for the hypothesis that welfare regimes affect the variance in support for redistribution in the expected way. In this respect, my lack of clear findings is similar to previous studies, although in this paper I analyze a new dimension of welfare attitudes than has not previously been considered.

Results from the country-level control variable are also mixed. First, I find a positive effect of *ethnic fractionalization* in the WVS, a negative effect in the ISSP96, and no effect in the ISSP99. Second, as expected I find negative effects of the *standardized unemployment* rate on the variance in support for redistribution in the WVS and the ISSP96 (and no effect in the ISSP99), thereby indicating that the variability in attitudes is smaller in countries with high levels of unemployment than in countries with low levels of unemployment. Finally, in contrast to my expectation I find negative effects of GDP growth in both ISSP data sets but not in the WVS.

With respect to the individual-level variables my results are much clearer. Generally, I find similar results across the three data sets, and my findings are largely consistent with previous studies. First,

in all three data sets I find that women support redistribution more than men. Second, I find no effect of age. Third, in all three data sets I find a negative effect of income meaning that respondents with high incomes are less likely to support redistribution than respondents with low incomes. Fourth, I also find negative effects of years of completed schooling on support for redistribution in all three data sets. Generally, individuals with high levels of education are less supportive of redistribution than individuals with low levels of education. Fifth, I find a negative effect of being married in the ISSP96 but no effect in the other two data sets. Sixth, in all three data sets I find no differences in support for redistribution more than respondents who are employed (students also appear less supportive in the ISSP99). Finally, I find substantial social class effects in all three data sets, with respondents in non-routine, skilled and unskilled working class positions being more supportive of redistribution than respondents in the service classes.

#### CONCLUSION

The aim of this paper was to re-evaluate the empirical regularity in existing research that welfare regimes do not have any systematic effect on popular support for the welfare state. In the paper I argue that existing studies analyze the impact of welfare regimes on welfare support in only one dimension: *mean* level of support. However, it is theoretically relevant and potentially empirically preferable also to analyze how welfare regimes affect the *variance* in public support for the welfare state. This second dimension on which welfare regimes might affect welfare attitudes has not previously been considered.

In the paper I use a range of welfare regime indicators measured at the country level: the total scope of the welfare state, the relative share of social services to cash benefits, the political history and organization of the welfare state, and social stratification outcomes, to analyze the variance in respondents' support for redistribution. I use a multilevel heteroskedastic ordered probit model and replicate the empirical analysis on three different data sets with 15 Western, industrialized countries. As most previous comparative studies, my findings generally provide little evidence to support the hypothesis that welfare regimes structure public opinion in a systematic way. Consequently, in addition to previous studies which show that regimes do not affect mean levels of support for redistribution, the present study shows that regimes also do not affect the empirical variance in support in any systematic way.

My findings support previous studies claiming that welfare regimes do not have any impact on public support for the welfare state. As described in the introduction, Svallfors (2003) argues that, based on the existing evidence, it may be time to stop searching for the illusive link between welfare regimes and attitudes. Similarly, Arts & Gelissen (2001) ask polemically whether the regime type in which people live really matters for their opinions? Arguably, regimes might not matter for welfare attitudes.

However, several important conceptual and empirical difficulties in this line of research should be borne in mind. First, analyzing the link between welfare regimes and public support in comparative perspective involves fuzzy both dependent and independent variables. With respect to the dependent variables, citizens' attitudes towards the welfare state are subjective assessments which are prone to measurement error from 'spur-of-the-moment' opinions or contextual influences. Furthermore, people in different countries might have different perceptions of the attitudinal questions they are asked in surveys and give culturally biased responses. With respect to the independent variables, there is currently no consensus in the literature on how to properly measure welfare regimes. Thus, also the key explanatory variable which is hypothesized to shape welfare attitudes in a systematic fashion remains fuzzy. In conclusion, fuzzy measurement of both the key dependent and independent variables might to some extent explain the inconsistent findings in the empirical literature.

Second, the large-scale data sets which are currently available for comparative research such as the WVS and the ISSP are less than ideal. Notably, there are comparatively large differences among countries with respect to how the surveys were carried out, and in some cases response rates are quite low. In this paper I have tried to deal with this problem by replicating the empirical analysis on multiple data sets which improves the validity of my findings. However, data limitations should be borne in mind when evaluating findings from existing studies on welfare regimes and welfare state support and should be dealt with in future research.

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	WVS	ISSP96	ISSP99
Individual-level variables			
Support for redistribution	4.90 (2.76)	3.33 (1.32)	3.41 (1.26)
Sex ( = female)	0.52 (0.50)	0.51 (0.50)	0.51 (0.50)
Age	44.47 (17.25)	45.69 (16.20)	45.69 (16.09)
Income	0 (1.00)	0 (1.00)	0 (1.00)
Income missing	0.17 (0.38)	0.13 (0.34)	0.10 (0.30)
Education	10.78 (5.23)	11.34 (4.33)	11.99 (5.10)
Education missing	0.10 (0.30)	0.06 (0.23)	0.07 (0.26)
Married	0.65 (0.48)	0.63 (0.48)	0.61 (0.49)
Employed	0.60 (0.49)	0.48 (0.50)	0.48 (0.50)
Retired	0.17 (0.38)	0.16 (0.37)	0.17 (0.38)
Unemployed	0.04 (0.19)	0.04 (0.19)	0.04 (0.17)
Student	0.04 (0.20)	0.05 (0.22)	0.05 (0.21)
Employment status missing	0.15 (0.34)	0.27 (0.44)	0.26 (0.44)
Service class I	0.06 (0.27)	0.08 (0.27)	0.09 (0.28)
Service class II	0.22 (0.42)	0.15 (0.36)	0.16 (0.37)
Non-routine manual	0.18 (0.38)	0.20 (0.40)	0.22 (0.42)
Skilled worker	0.25 (0.44)	0.12 (0.33)	0.11 (0.31)
Unskilled worker	0.12 (0.33)	0.08 (0.27)	0.06 (0.24)
Self-employed	0.05 (0.22)	0.05 (0.21)	0.09 (0.28)
Social class missing	0.12 (0.32)	0.32 (0.47)	0.27 (0.45)
Regime type characteristics			
Net social expenditure	0.23 (0.07)	0.22 (0.09)	0.21 (0.09)
Share of benefits in kind	0.38 (0.08)	0.38 (0.08)	0.39 (0.08)
Family benefit expenditure	1.88 (1.04)	2.13 (1.08)	2.08 (1.11)
Share of family services	0.28 (0.17)	0.31 (0.19)	0.32 (0.21)
Accumulated left seats	13.85 (10.95)	16.50 (12.28)	17.48 (0.13)
Corporatism	3.28 (0.99)	3.40 (0.96)	3.36 (0.98)
Decommodification	0.26 (0.05)	0.26 (0.05)	0.26 (0.05)
Log Gini	-1.21 (0.15)	-1.23 (0.16)	-1.22 (0.16)
Ethnic fractionalization	0.22 (0.20)	0.22 (0.21)	0.22 (0.21)
Unemployment	6.39 (2.57)	7.29 (2.67)	6.16 (2.36)
GDP growth	2.99 (2.08)	2.62 (1.78)	3.10 (1.84)
λŢ	22 759	01 011	10.029
1 <b>N</b>	22,138	21,811	19,838

*Table 1.* Descriptive statistics. Means with standard deviations in parenthesis

	WVS	ISSP96	ISSP99
Means model			
Sex ( $=$ female)	0.236 (0.033)***	0.144 (0.029)***	0.241 (0.036)***
Age	-0.001 (0.001)	-0.000 (0.001)	-0.000 (0.001)
Income	-0.206 (0.022)***	-0.272 (0.027)***	-0.306 (0.030)***
Education	-0.017 (0.004)***	-0.028 (0.005)***	-0.045 (0.006)***
Married	-0.018 (0.028)	-0.069 (0.024)**	-0.042 (0.029)
Employed <sup>a</sup>			
Retired	0.002 (0.045)	0.003 (0.042)	-0.031 (0.052)
Unemployed	0.128 (0.066)*	0.313 (0.067)***	0.389 (0.086)***
Student	0.051 (0.074)	-0.079 (0.060)	-0.192 (0.074)**
Service class I <sup>a</sup>			
Service class II	0.223 (0.053)***	0.148 (0.049)**	0.107 (0.054)*
Non-routine manual	0.389 (0.062)***	0.295 (0.054)***	0.289 (0.058)***
Skilled worker	0.437 (0.060)***	0.478 (0.066)***	0.487 (0.073)***
Unskilled worker	0.599 (0.071)***	0.526 (0.072)***	0.540 (0.085)***
Self-employed	-0.418 (0.065)***	-0.024 (0.063)	-0.087 (0.062)
Variance model			
Net social expenditure	0.897 (0.166)***	-0.813 (0.170)***	-0.505 (0.206)*
Share of benefits in kind	-1.470 (0.152)***	-0.711 (0.174)***	-0.581 (0.159)***
Family benefit expenditure	-0.036 (0.029)	-0.125 (0.028)***	0.096 (0.020)***
Share of family services	-0.284 (0.086)**	0.101 (0.075)	0.376 (0.055)***
Accumulated left seats	-0.007 (0.003)*	-0.006 (0.002)**	-0.015 (0.002)***
Corporatism	-0.002 (0.036)	-0.296 (0.028)***	-0.005 (0.025)
Decommodification	-0.977 (0.265)***	-0.588 (0.297)*	1.212 (0.302)***
Log Gini	-1.106 (0.193)***	-2.352 (0.211)***	-0.440 (0.188)***
Ethnic fractionalization	0.508 (0.065)***	-0.974 (0.104)***	-0.049 (0.077)
Unemployment	-0.012 (0.005)*	-0.043 (0.006)***	0.003 (0.006)
GDP Growth	0.015 (0.009)	-0.023 (0.006)***	-0.015 (0.005)**
<i>P</i> -value for test for	0.000	0.000	0.000
homoskedasticity			
Model log-likelihood	-47,833	-30,865	-27,396
Number of observations	21,952	20,604	18,731
Country fixed effects	Yes	Yes	Yes

*Table 2.* Results from heteroskedastic ordered probit models for support for redistribution. Parameter estimates with standard errors in parenthesis

Notes: \*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05 (two-tailed), <sup>a</sup> reference category. Models also include dummy variables for missing income, missing years of schooling, missing social class position, and other employment position. Threshold parameters not shown