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# Welfare state retrenchment: the partisan effect revisited

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# Welfare State Retrenchment: The Partisan Effect Revisited

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March 2006

Forschungsinstitut
zur Zukunft der Arbeit
Institute for the Study
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# Welfare State Retrenchment: The Partisan Effect Revisited

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# ABSTRACT

## Welfare State Retrenchment: The Partisan Effect Revisited*

This paper aims to shed light on the role of the 'ideology' of political parties in shaping the evolution of the welfare state in 18 developed democracies, by providing empirical findings on the determinants of social programs entitlements and social spending over the period 1981-1999. The paper shows that structural change is a major determinant of the extent of social protection. Our results suggest that overall spending is driven up by structural change. On the other hand, strong structural change has a negative influence on welfare entitlements measured by net replacement rates of sickness insurance or unemployment benefits. Partisan influence plays an important role in the dynamics of the welfare state. Left-wing governments strengthen the positive effect of shocks on aggregate social expenditure while right-wing governments undertake even stronger cutbacks in replacement rates as a reaction to structural change.

JEL Classification: H5, I1, J8

Keywords: welfare state, ideology, structural change

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# 1 Introduction

This paper aims to shed light on the role of the 'ideology' of political parties in shaping the evolution of the welfare state in 18 developed democracies, by providing empirical findings on the determinants of social programs entitlements and social spending over the period 1981-1999.

A number of contributions in the field of economics study the impact of welfare state institutions on economic performance (see Atkinson, 1999; Blanchard and Wolfers, 2000; Nicoletti et al., 2001; Nickell and Layard, 1999). Following the process of European integration, economists have recently shown a renewed interest toward the analysis of the changes taking place in the architectures of the welfare state (see Andersen, 2003; Bertola et al., 2001). Drawing on existing economic models (Andersen, 2002; Lizzeri and Persico, 2001; Milesi-Ferretti, Perotti and Rostagno, 2002; Persson, Roland and Tabellini, 2003; Persson and Tabellini, 1998), one can identify several factors that may help explain the evolution of the welfare state: the features of the pre-tax income distribution;[1] income volatility;[2] the social costs of taxation and the income mobility of the median voter; and the characteristics of political institutions. In this respect, Amable and Gatti (2005) present a coalition model where social groups can trade - within the political arena - income redistribution against income protection through labour market regulation; one insight of the model is that the relative political power of specific social groups within political coalitions shape welfare state institutions and their evolution following economic processes such as globalization: the decline in workers' political power is thus associated to a political equilibrium yielding weaker income redistribution and/or employment protection.

A rich body of literature within the field of political economy stresses the role

[1]Following Romer (1975), increased inequality in pre-tax earnings is considered to yield a larger political demand for redistributive policies. Recent contributions (Moene and Wallerstein, 2001) suggest that the relation between inequality and redistribution is indeed more complex and might even be non linear.

[2]Following the seminal work by Cameron (1978), income volatility is frequently related to globalization (see Rodrik, 1998; Alesina and Wacziarg, 1998). Iversen and Cusack (2000) submit that growing insecurity is due to deindustrialization. Deindustrialization increases insecurity because it exposes individuals to the risk of losing their job and having to "cross the borders" from traditional sectors (agriculture plus industry) to the service sector. The authors produce estimates including internationalization variables, partisanship variables and deindustrialization variables. They conclude that the coefficient of trade openness is statistically insignificant once appropriate control variables are included in the regression.

of political factors to explain recent and past changes in welfare state institutions (see, among others, Garrett and Mitchell, 2001; Huber and Stephens, 2001) as well as the variety of national configurations (Amable, 2003). Political partisanship, in conjunction with political institutions, is a key factor that helps understanding the features of modern welfare states: the power resources approach (Korpi and Palme, 2003) submits that the architecture of the welfare state is the outcome of distributive conflicts between socioeconomic groups; because these conflicts are solved in the political arena, partisan politics plays a crucial role in shaping their outcome.[3]

Recent developments in political economy have been marked by two major debates, the first concerning the direction and importance of changes in national welfare states, the second related to the driving factors behind welfare states' evolution. Since the 1980s, growing external and internal constraints (such as globalization, capital markets integration, and budget deficits) together with structural change (i.e. biased technological change and rising inequalities, union decline, and demographic revolution) have radically modified the situation faced by political parties in developed democracies. These *forces,* often deemed as *irresistible*, have contributed to create the basis for what Pierson (2001) designates as the era of *austerity.* As a consequence of austerity, the evolution of modern welfare states is held to have entered a new phase and is supposed to have experienced a shift from expanding to defending social entitlements. This alleged overwhelming trend is taken to be a constraint for all governments, irrespective of their partisan positions. In this respect, positions within the political economy arena differ greatly in relation to the following two questions: 1) are countries experiencing massive welfare state retrenchment or just reforms of mature welfare states in response to challenges stemming from external and internal constraints? 2) does political partisanship still play a role in the era of 'austerity'? Answers to those questions oppose, on the one side, the 'partisans' of the "new politics" of welfare states and, on the other side, the supporters of the "amended" power resources approach.

According to the "new politics" approach (Pierson, 2001), the most salient fact about recent welfare state changes is that they are surprisingly weak. Hence, institutional inertia - despite growing external and internal pressures -

[3]One should note that, within the economic literature, the role of partisanship is widely acknowledged in theoretical and empirical contributions focusing on the determinants of fiscal policy over the business cycle (Alesina and Rosenthal, 1995; Persson and Tabellini, 2000).

seems to characterize the era of austerity. To explain institutional inertia two main factors are put forward: first, welfare dismantling is a fairly unpopular policy; second, the existence of formal and informal institutional veto points prevents radical reforms (Bonoli, 2001). Pierson submits that the expansion of the welfare state has itself contributed to the fading away of traditional class divides, and given room to the emergence of "*powerful groups surrounding social programs*" (Pierson, 1996, p. 2). In this case, one should expect to find little evidence supporting the effects of partisan politics on welfare state changes since 1970. The 'amended' power resources approach raises the idea that the contemporary era of austerity is better characterized as an epoch where social citizenship rights in major insurance programs are in danger (Korpi and Palme, 2003; Allan and Scruggs, 2004).[4] Social citizenship rights are entitlements allowing individuals to share their risks more equally within the community. Crucial examples are pension and sickness programs but equally important are programs insuring individuals who are more fragile because, for instance, of their position in the labour market. The unemployment insurance scheme is one notable example. Empirical findings on the evolution of social programs entitlements are indeed few. To our knowledge only two contributions (Korpi and Palme, 2003; Allan and Scruggs, 2004) address the issue. Their results, based on the study of net replacement rates in sickness and unemployment insurance programs, seem to indicate that partisan politics still plays a role as a driving force of modern welfare states evolution. In particular, on the ground of their analysis of the British case, Korpi and Palme (2003, p. 434) identify "*a radical change in an advanced welfare state, a change carried through by a Conservative party within a constitutional structure with few veto points and in the context of a markedly weakened Labour Party and a largely defeated trade union movement*".

In spite of the growing body of literature, economists are still few to present empirical contributions uncovering the determinants of welfare states evolution. A few works have set the agenda for empirical investigations. Alesina and Wacziarg (1998) present empirical evidence pointing to the role of trade openness in determining the size of the welfare state. Alesina, Glaeser and Sacerdote (2001) raise the issue of ethnic fragmentation and racial animosity as crucial determinants of the small size of the US welfare state.

[4]These authors consider it necessary to abandon welfare state expenditure as measure of generosity. This measure is in fact sensible to the business cycle: periods of high unemployment and weak growth might in fact lead to a higher value of the welfare state effort indicator, which are not due to accrued generosity but simply to economic crisis.

Persson and Tabellini (1998) study the determinants of the size of government and the provision of public goods and find support to the claim that the size of government is smaller under presidential regimes. These results are confirmed and extended by Persson (2002). Milesi-Ferretti, Perotti and Rostagno (2002) present evidence on the relationship between proportional versus majoritarian systems and the size and composition of public spending. Moreover, the authors apply the methodology proposed by Blanchard and Wolfers (2000) and run time series regression to study the government response to shocks through fiscal spending, conditional to a set of political institutional variables. Their results indicate that proportional systems tend to show stronger fiscal reactions following economic shocks.

Building on a methodology close to the one proposed by Blanchard and Wolfers (2000), our paper aims to provide an answer to the questions as to whether and how governments' political and ideological positions shape welfare states' reactions following exogenous economic shocks. Contrary to existing empirical contributions focusing on the role of political institutions, we investigate the joint effect of economic shocks and political partisanship on the features of modern welfare states. Welfare state reactions are captured through three different dependent variables: the first one is total social security expenditure as a percentage of GDP (Armingeon *et al.*, 2004); the second and third ones are the *net* replacement rates of sickness and unemployment insurance programs proposed by Allan and Scruggs (2004). Social security expenditure is a standard indicator of an individual country's generosity in social protection and allows us to account for the effect of partisanship and shocks on the *size* of the welfare effort. Net replacement rates are more structural measures of social entitlements and enable us to explore the influence of partisanship and shocks on the *institutional structure* of the welfare state. We model shocks by constructing two structural change variables on the basis of the OECD STAN industrial database, the first one reflecting changes in industry value added shares, the second one based on changes in labour force shares across industries.

To account for political partisanship, we make use of two continuous variables, one capturing the government's ideological position in the left-right spectrum, the other one measuring the ideological gap between government and opposition as the distance between their respective positions in the left-right spectrum.[5] The rationale for the use of such a measure is that par-

[5]Both variables are built by using the PGL File Collection by Cusack and Engelhardt

ties' ideological positions have changed appreciably over the period under scrutiny, a fact that may explain why the power resources and the "new politics" approaches may *both* capture some of the substance of the evolutions under way in welfare systems. Under the pressure of economic and social changes, social groups may experience various processes of decomposition and recomposition which will have consequences for the strategy of parties seeking political support. In such circumstances, the assumption that parties classified as 'conservative' would *systematically* aim at dismantling the welfare state while parties classified as progressive would defend the welfare state may no longer be true.

In order to take into account the evolution of the position of political parties, we do not, as most studies investigating the link between partisanship and the welfare state do, take a dichotomous left/right classification but build specific partisanship variables. The advantage is that, being defined on a continuous scale, these variables allow us to account for changes, across countries and over time, in the (strategical) positioning of political party in the left-right spectrum. We are thus able to address properly the issue of the redefinition of the left-right political distribution that may have taken place since the 1980s. Our variables indicate nevertheless that the left-right ideological rift persists in spite of 'austerity'. Hence, two interesting questions follow: first, assessing to what extent such ideological rift is still relevant to understand modern welfare state evolution; and second, exploring whether the 'shocks and partisanship' combined effect acts differently on the size versus the institutional structure of the welfare state.

The paper is organized as follows. Section 2 presents some methodological remarks, i.e. our method of estimation and the definition of our data set and variables. Section 3 investigates the determinants of social expenditure by focusing on the role of government ideology. Section 4 presents a similar empirical analysis conducted on the determinants of sickness and unemployment net replacement rates. Section 5 provides some conclusive remarks and prospects for future research.

(2002).

# 2 Methodology

## 2.1 Estimation Method

One of the central questions in empirical political economy literature has been that of the interaction between the economic and the political spheres, i.e. the link between political and/or institutional variables on the one side and (macro)economic variables on the other side.

Empirical research in this area has been shaped in a remarkable way by an estimation method proposed by Blanchard and Wolfers [2000]. They used a nonlinear specification to clarify the role of a number of exogenous shocks (measured for example by TFP growth or the real interest rate) in interaction with institutional components such as employment protection, replacement rates and the role of unions in the evolution of unemployment in Europe. Their estimation supposed multiplicative interactions between shocks and institutions:

$$u_{i,t} = c_i + \left( \sum_k Y_{k,i,t} \cdot a_k \right) \cdot \left( 1 + \sum_j X_{i,j} \cdot b_j \right) + e_{i,t} \tag{1}$$

with $c_i$ being country fixed effects, $Y_{i,t}$ exogenous shocks, $X_{i,j}$ institutional variables. The idea is thus that countries will react differently to a given size shock according to their specific institutional features.

The estimation technique has been frequently adopted in a more or less modified form by a number of researchers in the domain of political economics. Persson [2002] makes use of an estimation specification based on the Blanchard-Wolfers method in order to shed light on the joint influence of economic shocks and political institutions on policy outcomes. Milesi-Ferretti, Perotti and Rostagno [2002] use the approach to estimate interaction effects between unemployment and the countries' electoral system with respect to government spending. One may find applications in political economy too: Iversen [2004] tries to explain the development of social spending while accounting for the interaction of shocks and institutional settings.

In the present paper we shall make use of a very similar specification, but for a different purpose. While these authors mainly let institutional variables interact with economic shocks, we are interested in the link between structural changes in the economy and partisanship and their common influence on the welfare state variables. The basic underlying question is thus the

following: does the government's political and ideological position have an influence on the reaction of the social welfare system to exogenous structural change?

The Blanchard-Wolfers equation is specified in levels and many subsequent papers have adopted such a specification too. Since we intend to use annual data over a period of 20 years in our estimations,[6] the problem of data stationarity arises. We ran a series of panel unit-root tests on the main variables of our data set, which led to the conclusion that most of these variables could be integrated of order 1. Therefore, testing a model in level would mean looking for cointegration relationships, interpreted as long-run relationships regarding the evolution of the welfare state. On the other hand, testing a model in difference means looking for a modeling of the 'short-run' dynamics of the welfare state.[7] For both statistical and theoretical reasons, we chose the latter option. The investigation of a long-run relationship would require some additional theoretical work in order to have a theory of the long-run determinants of the welfare systems, as well as the relevant data. The partisan and institutional influences on the size of welfare spending or the generosity of the entitlements appear as explanations for the evolution of already existing welfare systems and are thus more suited for the investigation of 'short-run' dynamics. Therefore, the basic equation underlying our estimations can be written as follows:

$$\begin{aligned}\Delta Y_{i,t} &= \alpha_i + \beta \cdot S_{i,t} \cdot (1 + \gamma \cdot I_{i,t}) \\ &\quad + \sum_j \delta_j \cdot Y_{i,t-j} + \sum_k \zeta_k X_{k,i,t} + \eta \cdot trend + \epsilon_{i,t}\end{aligned} \tag{2}$$

with $\Delta Y_{i,t}$ being the first difference of the dependent variable, $\alpha_i$ country fixed effects, $S_{i,t}$ the variable measuring structural change, $I_{i,t}$ the variable capturing partisanship, $\sum_j Y_{i,t-j}$ lagged levels of the dependent variable and $\sum_k X_{k,i,t}$ a set of control variables. The trend may either be linear or a full set of year dummies to account for unobserved year effects.

Some technical remarks are to be made on the estimation technique. First, as the use of a nonlinear estimators requires a balanced panel (while

[6] Blanchard and Wolfers [2000] use 5-year averages.

[7] Some contributions (Iversen [2004] for instance) test a model in levels without the appropriate testing procedures and are therefore plagued by the problem of 'spurious regressions'. Most of the other contributions choose a model in difference.

our panel is slightly unbalanced) we shall systematically linearize the specification. This is straightforward in the case of one shock and one political variable, for no restrictions on the coefficients are required. A simple transformation of our equation yields

$$\begin{aligned}\Delta Y_{i,t} = \alpha_i + \beta \cdot S_{i,t} + \beta \cdot \gamma \cdot S_{i,t} \cdot I_{i,t} \\ + \sum_j \delta_j \cdot Y_{i,t-j} + \sum_k \zeta_k X_{k,i,t} + \eta \cdot trend + \epsilon_{i,t}\end{aligned} \tag{3}$$

The estimated coefficient $\beta \cdot \gamma$ of the interaction term $S_{i,t} \cdot I_{i,t}$ together with the estimation of $\beta$ can be used to compute $\gamma$, which gives an estimation of how far the institution influences the reaction of the dependent variable to a shock.

Second, and as a consequence, we will be enabled to use OLS with Beck and Katz' [1995] panel corrected standard errors,[8] which, taking account of the structure of our dataset, is supposed to give us reasonable standard errors for the estimated parameters and to control the risk of overoptimistic t-statistics.[9] We shall also include in our regressions lagged levels of the dependent variable to eliminate within-autocorrelation. We systematically include fixed effects. We check for the stationarity of the residuals of our estimations using Maddala and Wu's test. Another problem is that of the potential endogeneity of the political variable used in the regressions. In these cases, we used an instrumental variables estimator[10].

## 2.2 Variables

Our estimations are based on a pooled time series cross section data set, comprising observations on 18 countries, covering the time period between

[8] Applying PCSE on an unbalanced dataset, we have to specify how missing observations shall be treated when computing the covariance matrix of the disturbances: either using only observations common to all panels, completely excluding time-periods with at least one missing observation (CASEWISE option in STATA terminology) or using observations common to the two panels used to calculate the covariance (PAIRWISE option). For highly unbalanced panels with many missing observations, the PAIRWISE option may be advisable. The chosen option is indicated with the results of our regressions. For more details on the theory see Woolridge [2002], p.578 - 581.

[9] On the issue of the choice of PCSE for time series - cross section data rather than panel data estimators (random effects model), see also Beck and Katz [2004].

[10] Instruments are lagged values of the interaction term between shock and ideology and of a shock proxy.

1981 and 1999. This dataset has been built on variables from a number of different sources which are mentioned in the appendix along with the description of the variables. Some of the indicators used in the following have been merely imported from existing data sources, others have been built on the basis of available statistics.

Regarding the variables used, the estimations made in this paper are characterized by certain improvements with respect to the estimations found in the literature. The modeling of structural change is based on an indicator built using the OECD STAN industrial database, based on the changes in the value added in different industries *(VA shocks)*.[11] For the construction of this variable we use a modification of the basic idea found in Lilien (1982) and Abraham and Katz (1986): We suppose that high structural fluctuations in both underlying values reflect exogenous economic shocks to which the economy has to adapt. These shocks (respectively this structural change) are likely to have consequences on the welfare systems, either raising the demand for social insurance or inducing pressures to downsize the welfare entitlements. Iversen and Cusack [2000] have ventured that most of the risks generated in modern industrialized societies are the product of technologically induced transformations inside national labour markets. These transformations take the form of structural change, shifts in the production structure, which increase risks for individuals. When people lose their employment, they may lose the skills they have acquired when these are not easily transferable to other firms, occupations or sectors. Structural change may not only affect the structure of employment or production but also the structure of worker representation. A decline in 'traditional sectors' parallels a decline in unionization and hence in the resistance capacity of organized labour to welfare state retrenchment. Faced with an increase in risk exposure, agents will express a demand for social protection and public risk-sharing. Unemployment benefits, but also other aspects of social protection such as sickness benefits, are ways to guarantee the status of workers by public means. Taking into account a finer structural change than just the shift of employment from manufacturing to services as in Iversen and Cusack [2000] allows to have a more precise assessment of the transformations likely to influence the process described above. Our variable on structural change is positively defined. However, it has a caveat: It may, in few rare cases, overshoot in value. This is the reason why we proceed systematically in the elimination

[11] See the appendix for a more detailed description.

of a couple of outlying values of this variable.

To account for partisanship, we propose a proxy for the government's ideological position *(Government position)*. It specifies the government's position on a left-right scale and is based on the PGL File Collection by Thomas R. Cusack and Lutz Engelhardt of the Wissenschaftszentrum Berlin für Sozialforschung. We have thus an indicator for partisanship on a yearly basis which exhibits major advantages over traditional variables. Not only can a party's vote or cabinet share in country A have quite different implications than the same vote or cabinet share in country B but also can a party, which is qualified as "left-wing" with respect to the parties on the right end of the political spectrum, be in fact not so much on the left. The same applies in reverse for conservative parties. Such an indicator has the advantage over the more traditional binary variable (left/right) often found in the literature of taking account of ideological changes even within a given party or coalition.

The shock variable and the institutional parameter may enter the estimation with their first-lag-value to take into account the potential delay with which economic variables eventually react to shocks and to political decisions.

Our choice of control variables is in line with the existing literature and reflects standard assumptions about structural welfare state determinants. To capture the effect of the size of groups that are likely to benefit from or depend on social protection, we may include OECD unemployment rates *(unemployment)* and the share of the population over 65 years of age (*Elderly People*) taken from Armingeon et al. [2004]. To take into account what is known as "Wagner's law", i.e. the positive link between GDP and public expenditure, we use the growth of GDP *(GDP growth)* in percent as a control, taken from the same source. In times of budgetary restrictions (whether self-imposed or as a consequence of stability pacts) the government's budget balance may play a role in explaining welfare state austerity, so we include alternatively the budget balance *(budget balance/GDP)* variable given by Allan and Scruggs (2004), the OECD ratio of public debt over GDB *(debt/GDP)* as well as the OECD cyclically adjusted government balance over GDP (*cycl. adjusted balance/GDP*), the latter being a good proxy for the structural deficit or surplus. Finally, we may include a variable comprising the sum of exports and imports as a percentage of real GDP *(openness)* to account for the role of economic openness. This measure has been taken from the Huber et al. [2004] dataset and is a widespread measure of the influence of globalization.

We test three different dependent variables: First, overall social security spending as a percentage of GDP taken from Armingeon et al. (2004), which is the standard indicator for a country's effort in social protection. It will allow us to draw conclusions on the *volume-effect* of government partisanship and exogenous shocks. Second and third, Allan's and Scruggs' (2004) *net* replacement rates of sickness and unemployment insurance. These variables will give us an indication of existing *structure-effects*. Furthermore, the latter two dependent variables have major advantages: First, they are fairly new and thus not very much explored, and second, they much better reflect the structural development of social protection than the gross replacement rates that have been in use in most of the literature.

# 3 Assessing welfare state retrenchment, structural change and partisan influence

## 3.1 Analyzing global social expenditure

As our study tries to identify the main factors that influence welfare state developments, we first have a look on overall welfare spending even if estimations based on social spending alone are not likely to tell us the whole story of recent welfare state development. Nevertheless, they give us a first idea on the global role of shocks or structural change on social protection, and on the strength of partisan influence in the transmission of these shocks. More precisely, we want to explore whether the partisan position influences governments' effort to cushion exogenous structural change by augmenting social security expenditure.

As mentioned above, the dependent variable (total social expenditure) enters our equation in the form of its first difference ($\Delta y = y_t - y_{t-1}$). Fixed effects are systematically included.

The OLS regression shows a positive and significant impact of the value added shock on welfare expenditure (table 1): The higher the variable *VA shock*, i.e. the stronger the structural change, the higher the rise in social expenditure. This result can at first view be understood as a support for the Rodrick [1998] argument that higher economic insecurity and increasing volatility lead to a welfare state expansion. Furthermore, the left-right ideological position of the respective governments has a significant influence on

the propagation of the shock into the sphere of social protection: The more the incumbent government is positioned at the right end of the political spectrum (the higher our indicator is), the lower is the expansionary effect of the shock. Additionally to the coefficients of *VA shock* and the interaction term we calculate the marginal effects of the shock and the marginal effect of the shock together with a shift to the left in ideology by one standard deviation in terms of our partisan variable. The first gives the marginal change in total social expenditure with respect to the shock when the partisan variable is evaluated at its mean value. The second gives an idea of what the effect of the shock is at the margin when the government is more left-wing by one standard deviation than the mean government. The results underline the findings described above: The marginal effect of the shock is positive, driving global welfare expenditures up. With a more left-wing government, the welfare expansion as a reaction to the shock more than doubles in size.[12] We also ran the same estimation with unemployment rates as an additional control. Results concerning the effect of structural change, partisanship and the budget deficit did not change much: neither the estimated coefficients, nor the associated significance level. The coefficient of unemployment, however, was weakly negative but largely insignificant.

We already pointed to the extreme variance of the employed shock proxy and its tendency to overshoot. In order to avoid problems with extreme outliers, we eliminate from our panel a couple of observations for which the *VA shock* takes extraordinarily large values[13], with the result that the significance of the interaction term rises considerably, letting signs and tendencies basically unchanged. In the course of the paper we shall systematically undertake this elimination strategy for all following estimations with this variable.

When we replace the linear time trend by unobserved year effects (Table 2), results are fairly similar to those presented above. Only the effect of strong structural change as well as the combined effect of shock and partisanship rise significantly in levels: both marginal effects more than double in size. Nevertheless, the relative importance of the influence of partisanship with respect to the the consequences of structural change stays merely the same: The marginal shock-effect together with a government which is more left-wing by one standard deviation has twice the size of the marginal effect

[12] On the interpretation of multiplicative effects see the debate in Braumoeller (2004) and Friedrich (1982).

[13] In fact we reduce the panel to observations for which the variable *VA shock* takes values under 10.

| | Yearly Change in Social Expenditure | |
|---|---|---|
| VA shock | **0.0489**** | |
| | **(2.13)** | |
| VA shock*gov-position | **-0.0023*** | |
| | **(-1.68)** | |
| Elderly People | **0.1737***** | |
| | **(3.20)** | |
| Budget Balance | **-0.1220***** | |
| | **(-3.99)** | |
| Linear Trend | **0.0489*** | |
| | ((**1.83**)) | |
| Social Expenditure (t-1) | 0.0717 | |
| | (0.70) | |
| Social Expenditure (t-2) | **-0.3628***** | |
| | **(-3.71)** | |
| Estimator | PCSE (pairwise) | |
| Eliminated extreme shocks? | no | |
| Number of observations | 284 | |
| Baltagi autocorr.-test | 0.483 | |
| Maddala | Wu | 224.325*** |
| $R^2$ | 0.38 | |
| marginal shock-effect | **0.0413*** | |
| marginal shock-effect with government more left wing by one standard-deviation | **0.0831***** | |

Table 1: Effects of structural change and partisanship on social expenditure (PCSE estimation). No outliers eliminated. t-statistics in brackets, significant coefficients (significance-level $\leq 10\%$) printed in bold.

of structural change alone. This means that having a government which is located to the left (resp. right) of the average governments of our sample by one standard deviation of our partisan variable means that the impact of the shock is increased (resp. lessened) by about 100%.

The partisan influence can be confirmed by estimations using an alternative shock variable which is constructed accordingly using inter-industry shares of labour fluctuations (evenly taken from the OECD STAN-database) instead of value added shares. We don't report detailed results here, but the signs of the coefficients of interaction terms once again indicate that shocks lead to a reduction of welfare spending when the government coalition is located on the right end of the political spectrum; the more right wing the government coalition, the stronger the welfare reducing effect of shocks.

It seems plausible to summarize, that these results constitute strong arguments in favor of the idea that ideologies keep playing a significant role in welfare state dynamics.

Table 2 shows that estimated results are stable, even if the government budget balance is replaced by its cyclically adjusted counterpart which accounts more for the purely structural effects of budget deficits or surpluses.

| | Yearly Change in Social Expenditure | Yearly Change in Social Expenditure |
|---|---|---|
| VA shock | **0.1337*** ** | **0.1291*** ** |
| | **(3.13)** | **(3.15)** |
| VA shock*gov-position | **-0.0048** ** | **-0.0043* ** |
| | **(2.12)** | **(1.89)** |
| Budget balance | **-0.0691*** ** | |
| | **(3.08)** | |
| Cycl. adj. gov. balance | | **-0.0666*** ** |
| | | **(3.36)** |
| Growth of GDP | **-0.1275*** ** | **-0.1501*** ** |
| | **(4.54)** | **(5.06)** |
| Openness | **-0.0259*** ** | **-0.0200** ** |
| | **(3.16)** | **(2.25)** |
| Social Expenditure (t-1) | -0.0273 | -0.0130 |
| | (0.36) | (0.18) |
| Social Expenditure (t-2) | **-0.1760** ** | **-0.1727** ** |
| | **(2.25)** | **(2.30)** |
| Estimator | PCSE | PCSE |
| Number of observations | 247 | 247 |
| $R^2$ | 0.64 | 0.64 |
| Baltagi autocorr.-test | 0.1677 | 0.0216 |
| Maddala & Wu | 59.154*** | 59.367*** |
| Marginal shock effect | **0.1152*** ** | **0.1128*** ** |
| Marginal shock-effect with government more left wing by one standard-deviation | **0.2052*** ** | **0.1919*** ** |

Table 2: Effects of structural change and partisanship on social expenditure (PCSE estimation)

In both cases, the effect has about the same magnitude and the same significance level. Whichever control variable is used, it is worth mentioning that the lower the budget deficit (respectively the higher the surplus), the lower are the global social expenditure. At first sight, this would mean that in the period under consideration, a higher financial margin in times of small budget deficits or even surpluses has not systematically been used for higher welfare expenditures. There is - at least in part - a mechanical explanation for this observation: Budget surpluses frequently coincide with times of economic prosperity and low unemployment, so that the number of people claiming welfare benefits is lower.

The partisan influence can be confirmed by estimations using an alternative shock variable which is constructed accordingly using inter-industry shares of labour fluctuations instead of value added shares. We don't explicitely report these results, but the signs of the coefficients of interaction terms once again indicate that shocks lead to a reduction of welfare spending when the government coalition is located on the right end of the political spectrum.

## 3.2 Analyzing sickness and unemployment benefits

The limits of comprehensive spending variables have already been mentioned: they may be driven by influencing factors that we cannot control for in a reasonably tractable way. Besides, it has been shown that overall social expenditure includes components that react in a fairly mechanical way to structural change and shocks, which may lead to higher unemployment, leading to a rise in the number of beneficiaries, boosting transfer payments and therefore overall spending, without any political intervention.[14] Last but not least, austerity and retrenchment are keywords of much of the debate on social protection in recent years (see for example Korpi [2003]), but announced cutbacks on overall spending levels may be politically dangerous. Structural cuts in benefits are thus likely to be "hidden" in subcategories of welfare expenditure.

As already mentioned above, we shall make use of two entitlement variables that have only recently been constructed by Allan and Scruggs (2004) : *net-replacement-rates* of unemployment and sickness insurance, i.e. the percentage of foregone earnings replaced by those insurances, net of taxes and other charges. They are far more precise than the gross replacement rates proposed by the OECD. Besides the fact that these data are fairly new and relatively unexplored, they have the advantage of not indicating spending volumes but being highly comparable structural measures of two important welfare state components. These variables enter our equations (analogous to what has been done in the preceding section) in the form of their one year difference ($\Delta y = y_t - y_{t-1}$).[15]

The story on the link between structural change and replacement rates would have to be told like this: Strong structural change as we measure it can be seen as the expression of an adaptative process the economy undergoes to handle globalization, deindustrialization and exogenous shocks. These phenomena may reduce governments' tax earnings, raise the number of those who claim welfare state entitlements and so put pressure on government budgets. Governments desirous to maintain budget discipline would not only cut back overall welfare spending, but also make structural reforms in the design of social programs - such as systematic reductions of replacement rates.

[14] See Pierson [1996], Korpi and Palme [2003], and for the "dependent variable problem" Green-Peddersen [2004].

[15] The very few missing values in the original replacement rate series have been filled in by linear interpolation.

| | Sickness Insurance Replacement Rate (yearly changes) | Sickness Insurance Replacement Rate (yearly changes) |
|---|---|---|
| VA shock (t-1) | **-0.3000*** ** | **-0.2382* ** |
| | **(3.35)** | **(1.75)** |
| (VA Shock * Gov. Position)(t-1) | **-0.0457*** ** | **-0.0536*** ** |
| | **(2.05)** | **(3.41)** |
| Elderly People | **0.6160** ** | 0.3942 |
| | **(2.44)** | (1.30) |
| Budget balance | -0.0915 | |
| | (1.41) | |
| Debt/GDP | | **0.0380* ** |
| | | **(1.63)** |
| Growth of GDP | 0.1082 | 0.1148 |
| | (1.26) | (1.26) |
| Unemployment | **-0.1677* ** | **-0.2064* ** |
| | **(1.86)** | **(1.91)** |
| Linear Trend | **-0.2509*** ** | **-0.2832*** ** |
| | **(5.08)** | **(5.30)** |
| RR Sickness Insurance (t-1) | **-0.2876*** ** | **-0.2698*** ** |
| | **(4.33)** | **(3.78)** |
| RR Sickness Insurance (t-2) | **-0.1552*** ** | **-0.1841*** ** |
| | **(3.30)** | **(3.73)** |
| Estimator | IV | IV |
| Number of observations | 241 | 224 |
| $R^2$ | 0.38 | 0.37 |
| Sargan | 2.633 | 3.847 |
| Wu-Hausman | 9.745*** | 10.150*** |
| Durbin-Wu-Hausman | 10.404*** | 10.870*** |
| Maddala & Wu | 47.731** | 84.544*** |
| marginal effect of shocks | **-0.3860*** ** | **-0.3134** ** |
| Marginal shock-effect with government more left wing by one standard-deviation | **0.4390* ** | **0.6687** ** |

Table 3: Effects of structural change and partisanship on sickness replacement rates (IV estimation)

Were these forces irresistible and were welfare state retrenchment without alternative, governments' reactions would be independent of partisanship: Left wing and right wing politics would both be characterized by massive welfare state cutbacks as a consequence of structural change.

The specification of our estimations are roughly the same as in the previous section. Here, structural change forces the year to year change of replacement rates of sickness insurances *down* in a statistically significant manner (table 3). However, there appears to be a time lag in the influence of shocks on replacement rates, which comes without surprise and can be explained on theoretical grounds: While overall welfare spending may react (at least in part) mechanically and immediately to structural change (e.g. through the channel of a higher number of claimants and thus higher benefit payments), replacement rates are to a large degree the result of a political decision process, which usually takes time. We used first lags of the shock proxies and the corresponding interaction term to account for this phenomenon.

| | Sickness Insurance Replacement Rate (yearly changes) |
|---|---|
| VA shock (t-1) | **-0.2897**** |
| | **(2.24)** |
| (VA shock * Gov. Position)(t-1) | **-0.0471***** |
| | **(3.42)** |
| Elderly People | **0.5918**** |
| | **(2.33)** |
| Cycl. adj. budget balance | -0.0523 |
| | (0.79) |
| Unemployment | **-0.1117** |
| | **(1.42)** |
| Linear Trend | **-0.2501***** |
| | **(5.00)** |
| RR Sickness Insurance (t-1) | **-0.2838***** |
| | **(4.24)** |
| RR Sickness Insurance (t-2) | **-0.1570***** |
| | **(3.31)** |
| Estimator | IV |
| Fixed Effects | yes |
| Number of observations | 241 |
| $R^2$ | 0.37 |
| Maddala & Wu | 46.305** |
| Sargan | 2.368 |
| Wu-Hausman | 10.638 |
| Durbin-Wu-Hausman | 11.312 |
| Marginal shock-effect | -0.3783*** |
| Marginal shock-effect with government more left wing by one standard-deviation | **0.4721*** |

Table 4: Effects of structural change and partisanship on sickness replacement rates (IV estimation) without taking GDP growth into account

The coefficient for the interaction term is significantly negative (tables 3 and 4). Structural change and an ideologically right-oriented government (which translates into high positive values of the interaction term) are associated with a relatively lower replacement rate than weak shocks or left-oriented governments. Knowing that the structural change variable has itself a significantly negative influence on the replacement rate, we can conclude that the more the government is ideologically on the right end of the political spectrum, the stronger the reduction of the replacement rate as a consequence of the shock will be. On the other hand, the presence of a left-wing government would imply that the negative effect of the shock is weakened. The marginal effects for both the structural change and the partisan effects strikingly underline this interpretation: At the margin, the effect of the shock with the partisan variable evaluated at its mean is negative, i.e. the shock itself drives down replacement rates. The marginal effect of this structural change with a government which is more left-wing by one standard deviation even turns positive. In our sample, left-wing governments reacted to shocks not with cutbacks of replacement rates, but with a rise in welfare

state generosity in order to cushion the effects of structural changes. Comparing marginal effects in tables 3 and 4 one notes that the influence of the government being (by one standard deviation) more leftwing than the mean on the marginal shock effect has two to three times the size of the marginal effect of the shock alone.

Using replacement rates of unemployment insurance, we applied basically the same estimation techniques, and results are similar to what has been found for sickness insurance replacement rates: Both coefficients (shock and interaction term) are negative, giving in principle rise to the same interpretation as for the sickness insurance replacement rate: Right-wing governments together with strong shocks lead to lower replacement rates; left-wing governments or weak structural shocks lead to higher replacement rates. Changes in the control variables do not fundamentally alter our main results and leave the significance of the interaction term estimation basically unchanged. As in previous sections, the partisan position plays a strong role in explaining the change of welfare entitlements in reaction to structural change induced by labour fluctuations.

# 4 What can be learned from the controls?

The emphasis of the econometric section of this paper clearly lies on the determination of the joint influence of structural change and political partisanship on the welfare state. However, a complete set of standard controls has been included in order to account for effects of which theory tells us that they are probably playing a decisive role in welfare state development: the unemployment rate, the share of elderly people in the population, GDP growth, public debt, government budget balance (or its cyclically adjusted counterpart), economic openness or government's ideology. As much can be learned on welfare state retrenchment from these estimations, we summarize the main findings in this section.

Before turning to the interpretation of controls that have actually been included, a comment should be made on a variable that has systematically not been excluded from our estimations: Following a stringent application of the Blanchard/Wolfers approach we estimated the joint influence of shocks and partisanship on welfare state variables. The purpose of this paper was not to estimate the influence of partisanship on its own. The latter approach has

already been at the center of a large part of the literature on welfare state retrenchment and results are generally in line with our findings. Furthermore, simply adding the partisanship variable to the list of controls would have exposed us to a serious problem of multicollinearity between the shock proxy, the partisan variable and the interaction term.

Economic openness is an explanatory factor of welfare state downsizing (tables 3 and 4). It seems as if economies relying heavily on foreign trade were in fact more vulnerable to exogenous shocks, which may force social expenditure down. Similarly, budgetary restrictions also seem to have their part in the explanation of welfare state development. As detailled above, the budget balance is negatively correlated with global welfare spending. The reason can be seen in the fact that times of low budget deficits (or even surpluses) usually coincide with a prosper economic situation, where the number of people claiming welfare state entitlements falls considerably. The effect on overall welfare expenditure is about the same for the government budget balance (in percent of GDP) as for its more structural counterpart: the cyclically adjusted government balance (in percent of GDP). The influence of these parameters on the replacement rates, however, cannot be confirmed: Tables 3 and 4 show that coefficients are marginal and highly insignificant. These findings underline that replacement rates are indeed measures for welfare state development that react much less mechanically to changes in the economic environment than global entitlement measures.

We do not find clear evidence for an effect of economic growth on replacement rates: Tables 3 shows that its influence is positive, but insignificant. On the contrary, high GDP growth rates drive global social spending down in a highly significant way (table 2). Contrary to a first intuition one should conclude from this finding, that favorable economic development does not automatically lead to higher welfare spending. Turning to the influence of public debt on replacement rates (table 3), findings are evenly surprising with a higher debt rate leading to higher replacement rates. Further research should explore these phenomena more in detail.

The size of groups of potential claimants are important factors of welfare state evolution: The share of elderly people in the population is significantly and positively linked either to global spending as well as to the replacement rates. Two explanations should be considered: Elderly people are usually claimants of welfare state entitlement in more than one branch of social security (retirement, health care). First, with a rising share of elderly people in the population welfare spending mechanically goes up (tables 1 and 2).

Second, as the elderly rely more heavily on social insurance income, they are more likely to vote for politics favoring welfare state expansion, which may explain the positive effect on the more structural variable (tables 3 and 4). Unemployment has a significantly negative effect on replacement rates without altering the influence of partisanship. The consequence of a high number of unemployed are high social expenses and strong budgetary pressures, which translate into the necessity of structural spending cuts. Together with the comparatively weak political power of the unemployed (who do not seem to have homogenous political preferences), this explains the negative effect of unemployment on replacement rates.

# 5 Conclusions and outlook

The main task of this paper was to provide an answer to the question whether partisan politics and the ideology of governments still play a role in welfare state evolution. Do left and right governments find different answers in terms of social policy to exogenous shocks ? In the present paper, these shocks were proxied by structural change in the industry shares of the value added. The interaction with a newly designed partisan variable was tested. The main results can be summarized as follows.

Structural change is itself a major determinant of the extent of social protection. Our results suggest that overall spending is driven up by structural change, which may to a large degree be the result of a mechanical rise of transfers when shocks lead to economic frictions and unemployment. On the other hand, strong structural change has a negative influence on welfare entitlements measured by net replacement rates of sickness insurance or unemployment benefits.

Partisan influence plays an important role in the dynamics of the welfare state. It does so in the direction that one would expect not only from political intuition, but also from former empirical work. Left-wing governments strengthen the positive effect of shocks on aggregate social expenditure while right-wing governments undertake even stronger cutbacks in replacement rates as a reaction to structural change.

Our paper supports previous findings underlining the role of structural change on the welfare state, but also underlines the importance of ideologies. It is well documented that partisan politics played a role in the emergence of

welfare states. It also plays a role in the current evolution of welfare systems, even in times of 'austerity' and retrenchment.

A couple of questions will have to be left for further research. While the present paper exhibited the importance of incumbents' ideology for its political reaction to shocks, the interaction between government partisanship and the ideology of the opposition should be carefully explored as one would like to have information on their mutual influence in recent welfare state development. Furthermore, in this paper we had to leave aside the relation between partisanship and diverse institutional characteristics, such as fractionalization of the political scene, vote mechanisms or the influence of social groups.

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# Appendix

### The construction of VA shock and labour shock:

The basis of their construction is constituted by two time series cross section datasets from the 2004 STAN Indicators database: Value added shares relative to the total economy (VA) and employment shares in the total economy (LAB). Let $i$ be the industy[16], $c$ the country, $t$ a time index, we compute the following indicator

[16]For each series, the following industies and sub-industries are taken into account: 1. AGRICULTURE, HUNTING, FORESTRY AND FISHING, 2. MINING AND QUARRYING, 3. Food products, beverages and tobacco, 4. Textiles, textile products, leather and footwear, 5. Wood and products of wood and cork, 6. Pulp, paper, paper products, printing and publishing, 7. Coke, refined petroleum products and nuclear fuel, 8. Chemicals excluding Pharmaceuticals, 9. Pharmaceuticals, 10. Rubber and plastics products, 11. Other non-metallic mineral products, 12. Iron and steel, 13. Non-ferrous metals, 14. Fabricated metal products, except machinery and equipment, 15. Machinery and equipment, n.e.c., 16. Office, accounting and computing machinery, 17. Electrical machinery and apparatus, nec, 18. Radio, television and communication equipment, 19. Medical, precision and optical instruments, watches and clocks, 20. Motor vehicles, trailers and semi-trailers, 21. Building and repairing of ships and boats, 22. Aircraft and spacecraft, 23. Railroad equipment and transport equipment n.e.c., 24. Manufacturing nec, 25. ELECTRICITY, GAS AND WATER SUPPLY, 26. CONSTRUCTION, 27. Whole-

$$IND_{c,t}^{VA} = \sum_i (VA_{c,i,t} - VA_{c,i,t-1})^2 \tag{4}$$

and in an similar way:

$$IND_{c,t}^{LAB} = \sum_i (LAB_{c,i,t} - LAB_{c,i,t-1})^2 \tag{5}$$

with $IND_{c,t}^{LAB}$ ($IND_{c,t}^{VA}$) being the structural change variable based on employment shares (value added shares) for year $t$ in country $c$. Taking squared differences has two major implications: First, the indices are positively defined, and second, they exhibit much variance and some values may "overshoot" for strong structural changes, leading to a risk of overinterpretation of shocks.

These two synthetic proxies for structural change show only low correlation: The correlation coefficient is 0.1105 for both series. Taking lags into account does lead to significant differences. However, elimininating the most extreme values from the series drives the correlation coefficient up to 0.3007. Nevertheless we state that the two variables are proxies for two different sorts of shocks - one may be seen as taking place in product markets, the other in the labour market.

**The construction of the Government Position Variable**

We have constructed *Government Position* on the basis of a 2002 version of the PGL File Collection by Thomas R. Cusack and Lutz Engelhardt of the Wissenschaftszentrum Berlin für Sozialforschung. Their dataset provides variables for numerous political parties reflecting the relative frequency of statements in party manifestos on characteristic economic and non-economic political topics such as *Keynesian demand management*, *peace* or *decentralization*. From this voluminous list of variables, we have chosen a subset in

sale and retail trade; repairs, 28. Hotels and restaurants, 29. Transport and storage, 30. Post and telecommunications, 31. Financial intermediation, 32. Real estate activities, 33. Renting of machinery and equipment and other business activities, 34. Public admin. and defence; compulsory social security, 35. Education, 36. Health and social work, 37. Other community, social and personal services, 38. Private households with employed persons.

Ignoring truncation errors and missing categories, value added and labor shares of these subgroups add up to 100%.

order to construct a useful indicator. In that sense, our indicator for a left-right positioning of a party includes the relative frequencies of statements on: Governmental and Administrative Efficiency, political authority, free enterprise, incentives, economic orthodoxy, welfare state limitation, traditional morality (positive statements), law and order, labour groups (negative statements), military (positive statements). Those frequencies are summed up and have a positive influence on the indicator, rising up its value. We substract (lowering the indicator's value) relative frequencies of statements on: market regulation, economic planning, Keynesian demand management, controlled economy, nationalization, Marxist analysis, social justice, welfare state expansion, traditional morality (negative statements), social harmony, positive statements on labour groups, underprivileged minority groups, military (negative statements). The resulting indicator gives us a positioning of parties on a positive-negative scale, higher values standing for more right-leaning parties. However, its absolute value is difficult to interpret precisely, but it it very useful for intertemporal and inter-country comparisons. For a multi-party government (which is a frequent political constellation), the indicator is the vote-weighted mean of the indicators' of all governing parties.

Let $i$ be the country in question, let $r = 1...n$ be the governing parties in parliament, let $s_r$ be the respective last election share of votes, let $C_{rL}, L = 1...m$ be the values of left characteristic variables for party r and $C_{rR}, R = 1...k$ be the values of right characteristic variables for party r, then Government position (GP) can be written as:

$$GovernmentPosition = \frac{1}{n}\sum_{r}\left[(\sum_{R} C_{rR} - \sum_{L} C_{rL})s_r\right]$$

**List of control variables**

| Name of Variable | Explication | Source |
|---|---|---|
| Elderly People | Share of the population of 65 years of age and older | Armingeon et al. [2004], missing values linearly interpolated |
| Budget Balance | General Government Balance (in percent of GDP) | Allan and Scruggs [2004] |
| Growth of GDP | Growth of GDP, change in percent from previous year | Armingeon et al. [2004] |
| Openness | Sum of Exports and Imports as a percentage of current GDP | Huber et al. [2004] |
| Unemployment | Unemployment Rates, standardized as far as possible, according to OECD criteria | Armingeon et al. [2004] |
| Debt/GDP | Public Debt as a percentage of GDP | OECD |
| Cycl. adj. budget balance | cyclically adjusted budget balance as a percent of GDP | OECD |