

# The Diffusion of Welfare Policy – Applying Spatial Econometrics to Comparative Social Policy

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**Author:**

Carina Schmitt

Collaborative Research Centre

Transformations of the State

University of Bremen

Linzerstr. 9A

28359 Bremen

Germany

Email: [carina.schmitt@sfb597.uni-bremen.de](mailto:carina.schmitt@sfb597.uni-bremen.de)

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## **I. Introduction**

The financial crisis has particularly illustrated that countries in a globalized world are highly interrelated and the policy choice of one country is influenced by the strategies and decisions of other governments. In times of economic interconnectedness, transnational networks, high speed communication and transportation, policy diffusion becomes more and more relevant (Jahn 2006: 407; Weyland 2006). At the beginning predominantly related to economic policy, diffusion processes currently affect many policies. It is highly assumable that welfare state changes and social policy reforms are also not purely driven by domestic factors (Weyland 2005).

By now, the quantitative comparative social policy research has focused on the influence of national factors such as party differences or budget constraints, when explaining the timing and the extent of welfare state policy. In recent years, scholars emphasize international factors to be relevant for the explanation of the extent of welfare efforts. However, one central drawback of existing empirical studies is that interrelationships and interconnectedness among countries as one central aspect of globalization is not considered. Globalization is typically measured at the national level what implicates the assumption that governments choose social policy strategies independently from each other (Jahn 2006).

However, it is plausible to argue that governments emulate the strategies adopted by neighboring countries, follow the peer pressure of their reference group or learn from successful reforms in other countries and therefore that policy diffuses among countries. Is this also applicable to changes of welfare policy? Do politicians proactively scan the international environment and search for promising external models? Or are they attracted to certain foreign experiences depending on their geographic and cultural proximity?

This paper applies spatial econometrics methods to comparative social policy to model those spatial interdependences. Spatial econometrics allows analyzing whether social policy has diffused among nations and which countries have influenced each other and why (Fingleton and Le Gallo 2008). Welfare state changes in terms of social expenditure for 21 OECD countries in the period between 1980 and 2007 are used as an example. By estimating spatial maximum likelihood and spatial OLS regressions, the paper answers the following questions. First, has social policy diffused across the OECD-world? Second, which are the main diffusion mechanisms? Third, has the importance of spatial interdependences increased over time? And finally does the relevance of policy diffusion depend on national characteristics?

In order to answer these questions, the article is organized as follows. I commence with a brief literature review on the determinants and diffusion of welfare policy. In section 3, the theoretical perspective and the hypotheses are derived. Section 4 describes the data and the applied method. In section 5, the empirical findings are presented. Section 6 summarizes the main findings of the paper.

## **II. Welfare State Development**

The first international comparative studies emphasised national factors to be relevant for national welfare efforts. Path dependency, the institutional context, domestic politics and socio economic problem pressures were seen as crucial in explaining welfare policy variation in the comparative research on social policy. Social expenditure dynamics can be explained by catch up processes, the development of unemployment and population ageing as well as political constraints (Huber and Stephens 2001; Swank 2002; Kittel and Obinger 2003)

Current studies highlight the importance of international factors such as globalization for the explanation of social expenditure dynamics (Jahn 2006). According to the efficiency hypothesis, the pressure of globalization leads to a cutback of social expenditure in order to reduce costs and to keep up with the international economic competition (Garrett and Mitchell 2001). In contrast, the compensation hypothesis assumes an increase of social expenditure since globalization causes a need for social compensation to those who are affected by the market pressure (Hays, Ehrlich et al. 2005). However, the common way to analyse the impact of globalization is to include measurements such as the foreign direct investments and the trade openness (the sum of imports and exports) as a percentage of the GDP in the regression models (Garrett and Mitchell 2001; Swank 2002; Kittel and Obinger 2003). These indicators as measurements at the level of the nation state treat countries as acting independently from each other and therefore neglect spatial interdependencies as one central aspect of globalisation. Other studies focus on convergence processes with respect to the welfare state (Alber and Standing 2000; Bouget 2003; Adelantado and Calderón 2006; Starke, Obinger et al. 2008). However, detecting convergence does not answer the question what drives the process to become similar and which are the channels through which convergence takes place.

In recent years, some scholars explicitly turn themselves towards diffusion mechanisms. For example Weyland (Weyland 2005; 2006) shows for reforms of the pension and health care systems in 4 Latin American countries that certain decision heuristics explain the geographical clustering and wavelike progression of the welfare state reforms. Gilardi et al. (2009) demonstrate for the adoption of hospital financing reforms in the OECD world that policy change is more likely when the existing policy is ineffective and when the experience of other countries suggests that the reform leads to the desired results. Gilardi (2010) analyses diffusion processes with regard to unemployment benefits retrenchment in OECD countries. According

to his results policy makers do not learn equally. Left parties imitate unemployment policy if it leads to lower unemployment rates and right parties if it is associated with electoral success. Volden and Cohen (2008) examine emulation and learning with regard to the temporary assistance for needy families as one aspect of welfare policy across American states. They state that rather based on diffusion across geographic neighbors, policies spread to states with similar political leanings and similar budgetary constraints. Brooks (2007) shows for 71 developing and industrialized countries that the policy diffusion of pensions reforms are mediated through the characteristics of a policy innovation and country attributes such as wealth (Brooks 2007).

With regard to the literature on the determinants of social policy, several drawbacks exist. First, the vast majority of the studies emphasise domestic and external factors as driving and structuring welfare efforts and they assume that governments implement policies independently from each other. International factors such as globalisation are predominately treated as national phenomena. The analysis of interrelationships between countries or groups of countries is still at the beginning. Spatial interdependence, if considered at all, is generally seen as a nuisance. Second, the majority of the small number of studies which analyse diffusion mechanisms of public policies are limited to tax policy or liberalization and privatization (Basinger and Hallerberg 2004; Elkins and Simmons 2005; Swank 2008; Meseguer 2009). Social policy as one field of policy diffusion has been hardly considered so far. Third, overall, the empirical findings of the very few studies that do exist on the diffusion of social policy are ambiguous and remain far from drawing a clearly defined picture and, typically, focus on just one channel of diffusion, such as 'learning' and the importance of the mediating factors remains unclear.

### III. Theory and Hypotheses

The basic assumption of spatial interdependencies is that political actors do not implement policies independently from each other since their policy choice is influenced by the choices made by others (Dolowitz and Marsh 2000; Franzese and Hays 2007). Arguably, experts and government officials commonly consider foreign models, principles or experiences when preparing their own decisions. Those interdependencies among countries may lead to the diffusion of policy strategies. Diffusion in this context means a process by which the adoption of a certain policy in one or more countries leads to policy changes in other countries (Strang 1991).<sup>1</sup> Diffusion tends to occur in waves. Usually it starts within a few countries and then it picks up steam as large numbers of nations or states jump on the bandwagon (Weyland 2006).

What drives the diffusion of social policy? Several diffusion mechanisms exist such as learning from success and emulating policy trends. Policy learning implies that political actors are aware of the impact of certain policies (May 1992: 333). Governments scan the available information and evidence on the failure and success of certain policy strategies and follow those countries in which policy decisions appear to produce results (Lee and Strang 2006). A “foreign model may (...) offer a ready-made answer to ill-defined domestic pressure for ‘change’ and ‘innovation’” (Simmons and Elkins 2004: 174) and therefore provides information about the costs and the benefits of a certain policy strategy. In the case of emulation, governments may imitate the dominant policy fashion within a group of similar and closely related countries (Simmons and Elkins 2004; Elkins and Simmons 2005). Linked together through intense communication networks, governments follow the policy mainstream of the relevant reference group in order protect their reputation, win

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<sup>1</sup> In this paper, diffusion is treated as a process and not as an outcome (Elkins and Simmons 2005; Holzinger and Knill 2005).

favour in this group and “avoid the stigma of backwardness” (Simmons and Elkins 2004; Meseguer 2009: 27). The application of a certain policy by many others might serve “as information that this might be the best thing to do” (Holzinger and Knill 2005: 784).<sup>2</sup>

The probability of whether governments will learn from each other or emulate the policy of related countries should vary with the intensity of communication between two countries and therefore with the availability of information. Governments can only pay attention to information at hand. The availability of information and the intensity of communication might depend on various factors.

First of all, neighborhood and regional effects are usually pronounced since geographical proximity can define the connectivity of countries (Simmons and Elkins 2004; Weyland 2006). Countries located in the same neighborhood typically demonstrate a large exchange of information, as neighbouring countries are directly accessible to each other. Policy change enacted next door has particular immediacy and therefore availability. Hence, neighbors are assumed to influence each other more strongly than countries located on different sides of the globe (Weyland 2006; Simmons, Dobbin et al. 2008).

Second, the so called ‘Families of Nations’ which share specific patterns of geographical, linguistic or cultural attributes are likely to share specific patterns of policy outcomes (Castles 1993). Cultural propinquity in the form of a common language, religion or heritage is a “highly plausible explanation for policy emulation” (Simmons and Elkins 2004: 175). It facilitates communication and

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<sup>2</sup> Emulation and leaning mechanisms can neither be theoretically nor empirically separated in an accurate way and the “outcome of social learning may look very similar to that of emulation” (Ikenberry 1990: 103). A macro-quantitative test only allows the channels of diffusion to be tested but not the rationales on which the decisions are based. However, the identified patterns can provide the basis for a comprehensive micro foundation of the particular underlying motivations in the decision-making processes which can be helpful in refining the subsequent macro level analysis.

enhances the possibilities for sharing information. It is likely that political actors mimic the policy trend within their cultural reference group encompassing countries with the same cultural roots (Lenschow, Liefferink et al. 2005; Lee and Strang 2006: 889). For example, the 'English speaking Family' has other background characteristics and historical similarities than the 'Continental Family' or the 'Scandinavian Family' (Castles 1993; Obinger and Wagschal 2001).<sup>3</sup> Cultural proximity will give salience to a new foreign model and policymakers will tend to study it closely. Policy diffusion should occur to a greater extent within one family of nation.

Third, a reference group can also be economically defined and intense communication networks may also be established by private and business actors who channel communication. "Business people may transmit ideas about the appropriate economic policy by looking to the experiences of the countries with which they have especially intense trading contacts" (Simmons and Elkins 2004: 175). A government will especially take the policies of trading partners into account "because of the close communication (learning through communication) and dependency (control through resource dependence) between those countries" (Jahn 2006: 408). Against this background, the following hypotheses can be derived

H1) Social policies diffuse across countries.

H2) Countries adopt the policy of other countries located in their geographical proximity.

H3) Countries adopt the policy fashion dominant within their family of nation.

H4) Governments implement the policy of their most important trading partners.

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<sup>3</sup> The families are categorized according to Castles (1993)', Castles and Obinger (2008) and Obinger and Wagschal (2001). Namely the 'English Speaking Family' including Canada, the United Kingdom, USA, Australia and Japan, the 'Continental Family' (Austria, Germany, France, Belgium, Netherlands, Switzerland, Italy, Ireland), the 'Scandinavian Family' (Denmark, Sweden, Norway, Finland), and the 'Peripheral Family' (Spain, Portugal, Greece) are distinguished.

Furthermore, at the beginning of the observation period in the 80s, policy diffusion should have been of less importance since social policy has likely been a domestic policy field predominantly influenced by the national political and socio economic context. With increasing cross national exchange of information due to improvements in communication and transportation, spatial international interdependencies should have become more and more relevant (Weyland 2006: 2). Hence, it is highly plausible that social policy diffusion gains in importance from the nineties on.

H5) The importance of diffusion mechanisms has increased over time.

Beside of these main hypotheses, hypotheses about interaction effects can be derived. First, many political decision makers are in the same transnational networks that influence choices at the national level. The most important supranational network is the European Union. EU membership may foster policy diffusion and promotes the policy harmonization in the European Union. EU social policy actively encourages learning processes through the Open Method of Co-ordination (OMC). It is argued that diffusion mechanisms should be of higher importance within the European Union.

Furthermore, the importance of diffusion should be mediated through country attributes such as economic austerity (Brooks 2007). The possibility to adopt new policy changes is lower with a high level of national socioeconomic pressure. In socioeconomically challenging times, the welfare efforts are for the most part determined by domestic needs. When the policy choices of governments have to be geared to a high unemployment rate, restrictive budgetary constraints or economic austerity, the receptiveness of international trends and therefore the importance of international factors such as diffusion should be relatively low (Jahn 2006).

This leads to the following hypotheses about factors assumed to mediate the diffusion process.

H6) Social policy is assumed to diffuse to a greater extent within the European Union.

H7) Diffusion mechanisms especially take place in times of low national socioeconomic pressure.

#### **IV. Method and Data**

In order to test the theoretical hypotheses about the diffusion of welfare policies, the dependent variable is measured by the annual change in social expenditure as a percentage of GDP for 21 OECD countries for the period from 1980 to 2005 (OECD 2008).<sup>4</sup>

The basic assumption of this paper is that social policy clusters across space. Spatial econometrics offers an appropriate set of techniques to model such interdependencies (Anselin 1988; 2003). In general, spatial interdependencies can be modelled in two ways. First, spatial error models treat the spherical interdependence as a nuisance and relegate it to the stochastic component of the regression model. Standard error estimates are corrected to account for non-spherical disturbances. Spatial error models assume that the interdependencies of Y are related to common unmeasured variables in nearby countries (Beck, Gledditsch et al. 2006: 31). Second, spatial interdependencies can be modelled by including a spatial term as a regressor

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<sup>4</sup> 2 Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, the United States.

(spatial lag model) (Fingleton and Le Gallo 2008). Since I explicitly focus on different diffusion mechanisms among the OECD countries in this paper, I use spatial lag models.<sup>5</sup>

The model can be expressed as follows

$$(1) \quad \Delta Y = \rho W_{ij,t} y_{i,t} + X_{i,t} \beta + \varepsilon_{i,t}$$

where the dependent variable  $\Delta Y$  is the annual change in social expenditure as a percentage of the GDP.  $\rho$  is a spatial autoregressive coefficient and  $W_{ij,t} y_{i,t}$  the weighted average of the dependent variable (spatial lag which is labelled *DIFFUSION* in the regression models). The spatial weight matrix  $W_{ij,t}$  ( $N \times N \times T$ ) reflects the relative connectivity of each country  $i$  on every other country  $j$  at time  $t$ . The effect on a focal country  $i$  is then a weighted sum of outcomes across countries  $j$  (Lee and Strang 2006).  $X$  is a  $k$  set of exogenous right hand side variables.

Since we do not know whether social policies in different countries influence each other simultaneously or with a time lag, models including instantaneous spatial lags are estimated in a first step (table 1) and in a second step time-lagged spatial interdependencies are analysed (table 2). Furthermore, to test whether diffusion gain in importance over time, I estimate interactions between the spatial lag and a period dummy for the 80s (*DIFFUSION80*) and for the 90s (*DIFFUSION90*).

The estimation of instantaneous spatial interdependencies causes several methodological problems. Since the spatial lag on the right hand side of the equation is a weighted average of the left hand side variable, spatial OLS estimations are

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<sup>5</sup> Spatial interdependencies are additionally checked with several diagnostic tests on restricted non spatial-OLS residuals. Moran's  $I$  as the most common diagnostic measure indicates spatial autocorrelation in the error term. In addition, several Lagrange multiplier tests were performed. The robust as well as the standard Lagrange multiplier test (Anselin et al 1996) suggest applying spatial lag models.

inconsistent and affected by simultaneity bias. The spatial lags are endogenous and covary with the residuals (Lacombe 2004; Franzese and Hays 2007). To deal with this problem, I estimate spatial maximum likelihood models (Franzese and Hays 2007; Franzese and Hays 2008; Hays 2009). Spatial maximum likelihood estimation provides consistent and asymptotically efficient parameter estimates in case of instantaneous interdependencies (Franzese and Hays 2007; Fingleton and Le Gallo 2008; Franzese and Hays 2008). The models with a temporally-lagged spatial lag are not affected by simultaneity bias and can therefore be estimated by spatial OLS regressions.

The models applying spatial OLS regression are likely to be afflicted with several pitfalls. To rule out autocorrelation, the residuals were regressed with an auxiliary OLS regression on all independent variables including the lagged residuals. The coefficients are significant and indicate first order autocorrelation. Therefore the models are estimated with autoregressive disturbances. In addition, I performed an augmented Dickey-Fuller test to check for stationarity. The null hypothesis of non-stationarity can be rejected for the change of social policy spending. Multicollinearity was checked with pair wise correlations of the independent variables which, however, do not indicate severe problems in any of the model specifications. To cope with unobserved heterogeneity, I estimate country fixed effects models.

When estimating spatial lag models the weighting matrix must be carefully specified. In order to test the hypotheses, I use several different weighting matrices to generate the theoretically informed spatial lags. The baseline model weights the welfare policy of all other countries equally (model I). To test the hypothesis of policy diffusion among countries located in close geographical proximity, the social policy is weighted by the inverse distance between the capitals (model II). The spatial lag indicating the affiliation to the same family of nation is a binary variable which is expressed by the number one if two countries belong to the same family of nation

(model III). The affiliation to a specific family of nation was assigned according to Castles and Obinger (2008) (q.v. Castles 1993; Obinger and Wagschal 2001). Weighting the welfare policy with the ratio of imports from the influencing country to all imports received by the influenced country allows a check on whether trading partners adopt similar policies (model IV). Following the spatial econometrics literature, I row standardize all weighting matrices to sum one for each row.

The hypotheses 5 to 7 are tested by estimating interaction effects between the spatial lag and the respective variable. The importance of diffusion within the European Union is measured by an EU-membership dummy (H5). The rate of unemployment and the level of GDP national capture a potential mediating effect of the socioeconomic pressure on the impact of diffusion. The interaction effects are estimated via cross products. To avoid problems of multicollinearity, all variables (except the dummy variables) have been centred before building the cross products.

In all models the following control variables are included which are considered to be relevant for social policy making in comparative social policy research: I test for beta convergence and catch-up effects by integrating a first order temporally lagged level of social expenditure. This variable maps different degrees of welfare state maturation which, in turn, results from cross-national differences in the timing of welfare state consolidation. To capture the level of economic development, the GDP per capita is used. It is argued that social expenditure reflects the country's level of economic development (Wilensky 1975). The theoretical assumption is that rising economic wealth should lead to higher expenditure. Since social spending is sensitive to the business cycle, we also use the annual rate of economic growth as a control. Social spending should decline in periods of economic booms and vice versa. The demographic situation of a country, likewise a variable emphasized by functionalist accounts, is measured by the elderly population (65+) as a percentage of the total population. I expect this to have a positive impact on spending since the

graying society affects the largest components of social security expenditure. The change in the level of unemployment as a percentage of the civilian labor force is a measure of social needs. I thus expect a positive impact on spending. The index of constitutional structures compiled by (Henisz 2010) measures institutional impacts on welfare state development. High values of this indicator denote high institutional barriers for policy change so that a negative coefficient is expected. The influence of leftist parties which typically have a strong pro-welfare state orientation – is measured by the percentage of cabinet seats held by this party. Finally, trade openness of the economy is taken into account. In accordance with the compensation argument (Hays, Ehrlich et al. 2005), a positive impact on social spending is expected. The measurement of all variables is described in detail in Table A1.

## **V. Empirical Analysis**

The results in table 1 modelling instantaneous spatial lags strongly support that social policy has diffused among the OECD-world. Both the coefficients of DIFFUSION80 and particularly DIFFUSION90 are highly significant. Moreover, the findings corroborate that the importance of diffusion intensively increased over time. However, the results of model II weighting the social policy with the distance between the capitals does not perform better than the baseline model I. Countries in close geographical proximity do not influence each other to a greater extent. The results are similar for model III. The assumption that diffusion takes place within the families of nations is not sustained empirically. The coefficient is less substantive than in the baseline model. This also holds true for model IV. The diffusion of welfare effort seems not dependant on economic interconnectivity.

**Table 1: Determinants of social expenditure growth – Instantaneous effect of diffusion**

	I	II	III	IV
	EQUAL	DISTANCE	FoN	TRADE
LEL	-.078***(.024)	-.080***(.023)	-.079***(.024)	-.080(.023)
TRADE <sub>t-1</sub>	-.013**(.005)	-.013**(.005)	-.013**(.005)	-.012*(.005)
ΔTRADE <sub>t-1</sub>	.003(.009)	.004(.009)	.004(.009)	.002(.009)
FDI <sub>t-1</sub>	1.71e-05(.008)	-.001(.008)	-.001(.008)	-.001(.008)
Δ FDI <sub>t-1</sub>	-.007(.009)	-.007(.009)	-.007(.009)	-.007(.009)
EU	.165(.160)	.177(.158)	.181(.162)	.180(.159)
GDP <sub>t-1</sub>	1.00e-05(1.64e-05)	9.69e-06(1.62e-05)	4.09e-06(1.64e-05)	2.61e-06(1.61e-06)
ΔGDP <sub>t-1</sub>	-.046(.024)	-.043(.024)	-.045(.024)	-.043(.024)
DEBT <sub>t-1</sub>	-.002(.003)	-.002(.003)	-.002(.003)	-.002(.003)
Deficit <sub>t-1</sub>	.139(.014)	.010(.014)	.007(.014)	.011(.014)
LEFT <sub>t-1</sub>	.001(.001)	.001(.001)	.002(.010)	.001(.001)
POLINST <sub>t-1</sub>	-1.71*(.707)	-1.72*(.698)	-1.63*(.714)	-1.64*(.699)
UNEMPLOYMENT <sub>t-1</sub>	-.100***(.022)	-.096***(.022)	-.108***(.022)	-.100***(.022)
Δ UNEMPLYOMENT <sub>t-1</sub>	.128**(.045)	.121**(.044)	.126**(.045)	.121**(.044)
ELDERLY <sub>t-1</sub>	.144***(.043)	.142***(.042)	.127**(.043)	.139**(.042)
DIFFUSION80	.420**(.135)	.360**(.120)	.064(.084)	.358***(.118)
DIFFUSION90	.535***(.081)	.534***(.073)	.334***(.059)	.522***(.076)
N	504	504	504	504
R (WALD CHI)	153.50***	144.89	151.42	150.45

Notes: \*p<0.05, \*\*p<0.01, \*\*\*p<0.001; the fixed effects are suppressed to conserve space. Autoregressive disturbances are indicated.

The results for the control variables are mainly in line with the theoretical expectations. A high level of unemployment leads to a low increase of social expenditure. However, an increase of the unemployment rate determines highly the need for social transfers and therefore leads to high annual changes. Moreover, the coefficient of the variable *ELDERLY* indicates that the older the population the higher the need for welfare policy and the higher the annual point changes of social expenditure. Furthermore the results for the lagged expenditure level indicate a catch up effect. Welfare state laggards spend more on social policy schemes than mature welfare states. A restrictive institutional arrangement hampers the expansion of the

welfare state. The results for the trade variable sustain the efficiency hypothesis. The more open the economy in terms of import and exports the lower the annual change of social expenditure. Even though the coefficients for DEBT and DEFICIT are not statistically significant, the coefficient in relation to the standard error is relatively high and nearby the threshold for the conventional significance level indicating that a high level of public debt reduces the possibilities for extensive social spending while a high annual deficit, offers the opportunity for governments to use social policy measures as a fiscal stimulus. With respect to socio-economic variables, GDP growth has a negative effect on annual social spending. The other variables are far from being substantive and significant.

In table 2, the models are estimated with time lagged diffusion variables.

**Table 2: Determinants of social expenditure growth – Time lagged effect of diffusion**

Dependent Variable	I EQUAL	II DISTANCE	III FoN	IV TRADE	V EQUAL – EU	VI EQUAL - GDP	VII EQUAL - UNEMPL
LEL	-.165***(.033)	-.166***(.033)	-.168***(.034)	-.169***(.033)	-.162***(.033)	-.160***(.032)	-.162***(.033)
TRADE <sub>t-1</sub>	-.014*(.007)	-.015*(.007)	-.017*(.007)	-.013(.007)	-.013(.007)	-.014*(.007)	-.014*(.007)
ΔTRADE <sub>t-1</sub>	.009(.010)	.009(.010)	.010(.010)	.008(.010)	.008(.010)	.008(.010)	.009(.010)
FDI <sub>t-1</sub>	-.004(.010)	-.003(.010)	-.002(.001)	-.003(.011)	-.004(.010)	.008(.010)	.003(.010)
Δ FDI <sub>t-1</sub>	-.006(.010)	-.006(.010)	-.007(.010)	-.006(.010)	-.006(.010)	-.007(.010)	-.006(.010)
EU	.131(.230)	.137(.231)	.170(.234)	.135(.231)	-	.132(.227)	.144(.232)
GDP <sub>t-1</sub>	-1.40e-06(2.47e-05)	6.06e-07(2.47e-05)	2.03e-06(2.51e-05)	3.56e-06(2.46e-05)	1.15e-06(2.40e-05)	4.97e-06(2.43e-05)	-3.28e-07(2.48e-05)
ΔGDP <sub>t-1</sub>	-.043(.029)	-.042(.029)	-.046(.029)	-.040(.029)	-.044(.029)	-.045(.028)	-.041(.029)
DEBT <sub>t-1</sub>	1.33e-05(.005)	-.0001(.005)	-.0004(.005)	.0002(.005)	-.0002(.005)	.002(.001)	.0004(.005)
DEFICIT <sub>t-1</sub>	-.006(.019)	-.005(.019)	-.004(.019)	-.006(.019)	-.004(.019)	-.006(.019)	-.008(.019)
LEFT <sub>t-1</sub>	.001(.001)	.001(.001)	.001(.001)	.002(.001)	.001(.001)	.001(.001)	.002(.001)
POLINST <sub>t-1</sub>	-2.41**(.920)	-2.41**(.922)	-2.45**(.932)	-2.31*(.922)	-2.40**(.926)	-2.56**(.907)	-2.37**(.919)
UNEMPLOYMENT <sub>t-1</sub>	-.116***(.032)	-.117***(.032)	-.121***(.033)	-.116***(.033)	-.110***(.031)	-.118***(.032)	-.115***(.033)
Δ UNEMPL <sub>t-1</sub>	.094(.054)	.102(.055)	.119*(.055)	.101(.054)	.086(.054)	.088(.054)	.0110*(.055)
ELDERLY <sub>t-1</sub>	.201***(.062)	.206***(.062)	.211***(.063)	.210***(.063)	.200**(.063)	.169**(.062)	.195**(.063)
DIFFUSION80 <sub>t-1</sub>	-.511*(.200)	-.355*(.171)	-.164(.145)	-.389*(.169)	-.284(.254)	-.330(.226)	-.487*(.198)
DIFFUSION90 <sub>t-1</sub>	.349**(.125)	.255*(.114)	.109(.088)	.348**(.119)	.356*(.181)	.394**(.125)	.368**(.126)
DIFFUSION80 <sub>t-1</sub> X MEDIATOR					-.574(.392)	5.48e-05(3.19e-05)	-.071(.042)
DIFFUSION90 <sub>t-1</sub> X MEDIATOR					-.014(.234)	4.46e-05** (1.75e-05)	-.053(.029)
N	462	462	462	492	462	462	462
R (WALD CHI)	7.27***	6.91***	6.38***	7.17***	6.97***	7.18***	6.87***

Notes: \*p<0.05, \*\*p<0.01, \*\*\*p<0.001; the fixed effects are suppressed to conserve space. Autoregressive disturbances are indicated.

The results for the diffusion variables reveal several interesting aspects. In line with the theoretical assumptions, the coefficient of DIFFUSION90 is positive and highly significant. Policy diffusion was especially relevant in times of globalization and high international communication. Surprisingly, the diffusion variable displays a negative sign for the eighties. In the eighties, social policy seemed to be a national phenomenon which was not affected by diffusion processes.

Moreover, as in table 1, the models including the diffusion variables weighted with the geographical proximity (model II), the belonging to a specific family of nation (model III), as well as the intensity of bilateral trade (model IV) did not improve the model fit in comparison to the baseline model. Therefore, further channels over and above the analysed ones have to be relevant for the diffusion of welfare efforts.

In model V to VII interaction effects via cross products were estimated. When the interaction effect shows the same sign as the main effect, the effect of the main variable is strengthened while the reverse sign indicates that the main effect is weakened. The results for the interaction effect in model V do not corroborate the assumption that diffusion is of stronger relevance within the European Union. The coefficients are highly insignificant. The effect of the diffusion variable does not vary between EU members and Non EU members. The effect of the diffusion variable remains stable. By contrast, the findings in model VI and VII analysing whether diffusion is mediated through national characteristics support the hypothesis. In the nineties where diffusion is of great relevance, the positive sign for the interaction term between the level of GDP and DIFFUSION90 points out that the main effect, i.e. the effect of the diffusion variable, is significantly fostered with increasing economic prosperity. The negative sign for the interaction term between the level of unemployment and DIFFUSION90 means that the main effect is weakened with increasing levels of unemployment. Countries with low national socioeconomic pressure seem to be particularly receptive for diffusion processes. The results for the control variables sustain the findings of table 1.

In sum, four empirical findings stand out. First, diffusion does matter with regard to welfare policy. Second, the importance of diffusion processes does not depend on economic interrelationships nor on geographical or cultural proximity. Third, diffusion is of greater relevance in the nineties. Fourth, the importance of diffusion is mediated through national characteristics. Countries with low national socioeconomic pressure seem to be more receptive for international influences.

## **VI. Conclusion**

In this article, I argued that social policy is not purely the result of domestic political and socioeconomic driving factors. In a globalized world where trans- and supranational networks, communication and the exchange of information gain in importance, national political decision making processes do not occur independently from each other. International policy fashions as well as the information about policy alternatives through the experiences made by other countries fuel global diffusion processes. Cross national interdependencies become more and more relevant. Therefore, it is highly important to take international diffusion processes into account when analyzing social policy dynamics.

By now, the comparative social policy research widely treated governments as acting independently from each other and neglected interdependencies among countries. International factors were measured via common external shocks or variables at the national level such as the foreign direct investments or the sum of exports and imports in relation to the GDP. Only few existing empirical studies explicitly consider spatial interdependencies.

In this paper, I have addressed this question by analyzing whether social policy cluster across space and which are the main diffusion mechanisms. Social expenditure data of 21 OECD countries in the period during 1980 until 2005 was used as an example. Spatial econometrics offers an appropriate set of instruments to analyze such spatial interdependencies. The empirical findings clearly support the assumption that diffusion processes are highly relevant for the explanation of social policy development from the nineties onwards. Furthermore, it can be shown that the impact of diffusion is mediated through national characteristics such as national wealth. In times of economic prosperity and therefore low national socioeconomic pressure, social policies are oriented to international concerns on a bigger scale. Furthermore, several different diffusion mechanisms such as geographical proximity or economic partnership were distinguished. However, the results do not indicate that policy makers give more attention to examples that are geographically closer, cultural more similar or economically stronger related. Diffusion processes might take place through other channels, for example, through learning from best practice. Governments might tend to emulate policies of those countries in which policy strategies have the same objectives and seemingly realized the intended outcomes.

To sum up with Gilardi et al. (2009): "Diffusion matter for the development of the welfare state and studying national reforms as if they were independent of each other (the implicit assumption of the overwhelming majority of the studies) is becoming increasingly implausible" (p. 570). However, the results also reject that domestic factors in a globalized world are of no relevance at all. In fact, domestic, international and diffusion variables have to be taken into account simultaneously to understand the outputs of welfare policy decision making.

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**Table 1. Operationalization and data sources**

Variable	Description	Source
Dependent variable	Growth rate of total social expenditure as a percentage of GDP	OECD, Social Expenditure Database (2008)
DIFFUSION80	Interaction variable between the lagged dependent variable and a period dummy for the 80s	Own assessment
DIFFUSION90	Interaction variable between the lagged dependent variable and a period dummy for the 90s	Own assessment
LEL	Lagged social expenditure level as a percentage of GDP at t-1	OECD, Social Expenditure Database (2008)
TRADE	Openness of the economy, measured as total trade (sum of imports and exports) in current prices as a percentage of GDP	Penn World Table 6.2 (Heston, Summers et al. 2006)
FDI	Net inflows of foreign direct investment as a percentage of GDP	World Bank, Development Indicators (2006)
EU	EU membership (1=yes; 0=no)	Own assessment
GDP	Real GDP per capita	United Nations Statistics Division, National Accounts (2009)
GROWTH	Growth of real GDP	OECD, Factbook (2009)
DEBT	Gross government debt (financial liabilities) as a percentage of GDP	OECD, Economic Outlook (2008)
DEFICIT	Annual deficit (government primary balance) as a percentage of GDP	OECD, Economic Outlook (2008)
LEFT	Cabinet composition: left-wing parties as a percentage of total cabinet posts, weighted by days	Comparative Political Dataset (Armingeon, Gerber et al. 2009)
POLINST	POLCONIII: Index of political constraints which estimates the feasibility of policy change. For details see Henisz (2002)	Henisz (2010)
UNEMPLOYMENT	Unemployed as a percentage of civilian labour force	OECD, Employment and Labour Market Statistics (2008)
ELDERLY	Population aged 65 and over as a percentage of the total population	OECD, Employment and Labour Market Statistics (2008)