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# Interdependent Learning from Policy Success: Contextual Diffusion of Active Labour Market Policies

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## **Abstract**

Active labour market policies (ALMP) have become an important part of modern welfare states. Instead of offering income compensating benefits in case of unemployment, ALMPs aim at preventing the loss of job in the first place or at helping unemployed and inactive persons to a quicker (re-)entry at the labour market. However, different welfare states have established ALMPs to a varying degree. This paper analyses in which ways diffusion based on interdependent policy learning explains the activation turn of labour market policies in the OECD countries during the last three decades. Specifically, we ask whether governments adapt labour market policy strategies that have proven successful, that is, perform well in increasing labour market participation and preventing unemployment. We argue that labour market activation is likely to diffuse across the OECD countries via learning from successful policies because most of them are confronted with similar pressures caused by changing labour markets, austerity problems of traditional social insurance programs, and a general turn towards a more pro-active welfare model. At the same time, activation policies are pursued by international organizations and policy networks which offer a platform for exchange on successful policy strategies. By applying error correction models using spatial Prais-Winsten regressions for analyzing the diffusion of ALMPs in 21 OECD countries from 1991-2010, we find evidence of interdependent policy making and learning from successful policies. However, learning-related diffusion of ALMPs is conditional to the institutional context of the type of welfare state and fortified by international joint coordination. The findings attest to the importance of the institutional framework for interdependent policy making and further endorse the plea for explicitly considering the relevance of time-invariant or slowly changing institutional contextual factors in the study of interdependent policy learning.

**Keywords:** Policy diffusion, spatial modeling, conditional policy learning, active labour market policy

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# 1 Introduction

Within the transformation of welfare states of OECD countries in past decades, active labour market policies (ALMP) have marked a corner stone of what has been called the “activation” or “social investment” turn (Bonoli 2013; Morel, Palier & Palme 2012). While passive labour market policies (PLMP) aim primarily at social protection and income replacement via unemployment insurance or assistance schemes, ALMPs represent an important tool for raising labour market participation and combatting unemployment. ALMPs consist of different tools like training, employment incentives, and job creation schemes (Bonoli 2010, 2013). As with active social policies in more general, ALMPs are seen as a promising approach for challenges arising from deindustrialization and concomitant structural changes in employment, with which all Western democracies are confronted. Activation strategies have also been strongly promoted by international organisations, particularly by the OECD since its Jobs Study (1994) and by the EU with the implementation of the European Employment Strategy (EES) in 1997. ALMPs were first implemented in the Nordic welfare states, but gradually intensified by deindustrialization, they have gained ground in all OECD countries. However, the tools of activation, the level of spending on ALMPs in absolute terms and the relation of passive and active labour market policy spending in particular as well as the timing of the turn varies greatly across the OECD countries (Bonoli 2010, 2013). Alike, the effectiveness of ALMPs varies remarkably, depending of the type of activation program. In general, though, there is some evidence of the positive effect of activating unemployed (Kluve 2010; Martin 2014).

With the increasing importance of ALMPs, a large body of literature on the political economy of ALMPs has emerged (e.g. Armingeon 2007; Bonoli 2010, 2013; Swank 2011; Tepe & Vanhuyse 2013; van Vliet & Koster 2011; Vlandas 2013). The socio-structural transformations of deindustrialization feature rather a necessary but not sufficient condition (Bonoli 2013:7), but the variance of the labour market activation turn is ascribed to both domestic politics and international factors. Several authors recognize the potential importance of international factors, and diffusion processes in particular, for labour market reforms, but only few empirical studies so far explicitly study the impact of diffusion processes on ALMPs in a macro-comparative setting (Casey & Gold 2005; Franzese & Hays 2006; Kemmerling 2007; Swank 2011; Visser 2009). The empirical evidence of diffusional impacts is mixed. On the one hand, economic interests and externalities channeled via interdependencies between economic competitors and neighboring countries seem to be associated with domestic labour market strategies to some extent (Swank 2011). Franzese and Hayes, in turn, find that the subsidiarity principle of the EES results in free-riding on the ALMPs of neighboring countries (Franzese & Hays 2006; Kemmerling 2007). On the other hand, there is surprisingly little evidence of interdependence-based learning effects despite the similarity of the socioeconomic pressures for adequate labour market policy solution across the OECD countries *and* the soft coordination and coercion mechanisms pursued by supranational organizations and the EES in particular (Bonoli 2013; Casey & Gold 2005; Kemmerling 2007; Visser 2009). Of the early contributions, van Vliet and Koster (2011) as well as Armingeon (2007) find evidence for positive effects of the EES and mutual learning on the activation turn in LMPs. However, a macro-comparative analysis of diffusion dynamics of ALMPs which can be linked to learning from successful policies is still lacking. This is clearly a research desideratum which we explicitly address in this paper.

This study focuses on the effects of interdependent policy learning on the diffusion of active labour market policies in the OECD countries. In particular, we ask whether governments learn

from labour market policies of other countries that have proven successful. By success, we mean good performance in increasing labour force participation and in preventing unemployment in accordance with the expressed goals of activation programs. Theories of policy learning stress that learning and concomitant (non-)adaption is always contextual and thus conditional on the domestic and international framework within which the policymakers operate (cp. Gilardi 2010; Weyland 2007; Meseguer 2009).<sup>1</sup> We therefore develop a model where policy learning is conditional on both the observation of success and the institutional domestic and international context. Our results show, that policymakers do learn from successful ALMPs, but mainly within welfare regimes, that is, in a similar institutional setting and legacy. Additionally, the European Employment Strategy as international coordination initiative to support ALMPs is a powerful amplifier of learning processes. The study thus not only contributes to explaining the activation turn of OECD labour markets, but also to recent scholarship on conditional spatial interdependence in policy-making based on learning (Dolowitz & Marsh 2000; Gilardi 2010; Gilardi, Füglistner & Luyet 2009; Neumayer & Plümper 2012; Volden 2006; Wasserfallen 2014). To our knowledge, there are no other studies utilizing spatial regressions so far combining a condition of policy learning and institutional context in the spatial matrix  $w$ .

We proceed by first discussing the theoretical rationale behind the assumption of policy learning as a mechanism for diffusion of ALMPs in section two. Drawing on the scholarship on interdependent policy-making, we develop hypotheses on from what governments may learn and how their decisions to adapt experiences in connected abroad may be filtered by the institutional context. Section three presents the operationalization of the dependent and the independent variables and the methodological decisions. The empirical results of the analyses are discussed in section four. We close by summing up the argument and discussing the broader implications of the results in the conclusion.

## 2 Interdependent Learning, Institutional Contextualization and Labour Market Policy Change: The Theoretical Argument

There is a broad scholarly consent about the fact that policy makers are not only affected by their domestic environment when making decisions, but also by policies, ideas and institutions in connected countries (Graham, Shipan & Volden 2013; Maggetti & Gilardi 2014; Shipan & Volden 2012). The process of the spread of ideas, reforms and institutions across countries, which is accelerated by the increasing interaction patterns in the era of globalization, is captured by the theoretical concept of spatial interdependence, leading to diffusion. Diffusion may result from geographic, cultural, institutional or otherwise defined proximity via four main mechanisms; competition, learning, emulation and coercion (Braun & Gilardi 2006; Elkins & Simmons 2005; Gilardi 2013; Jahn 2006; Shipan & Volden 2008; Shipan & Volden 2012; Simmons & Elkins 2004).

In case of labour market policy change, the question whether activation policies spread across borders based on learning is particularly interesting in the OECD countries. Learning is most commonly defined as a process in which policy makers use the experience of others to update their beliefs on the consequences of policies (Dobbin, Simmons & Garrett 2007; Dolowitz & Marsh 2000; Gilardi 2010; Meseguer 2004, 2006, 2009). From the rationalist perspective, policy makers who decide under uncertainty about the ultimate consequences of policies “engage in a purposive

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<sup>1</sup> This is also true for further mechanisms of policy diffusion, see e.g. Neumayer & Plümper 2012.

search for information about possible results of policies, observing vicarious experiences” (Me-seguer 2009:18). Consequently, governments as rational (Bayesian) learners update their previous beliefs about the expected outcomes of certain policies abroad and adopt successful policies. Different contextual factors can thereby be crucial for the intensity of learning. From the diffusion approach perspective, dense interaction patterns due to historical, cultural or political commonalities or economic exchange between countries amplify and enable learning, thus potentially leading to diffusion of policies.

So far, diffusion and in particular diffusion by learning was only rarely considered in the ALMP literature (for quantitative approaches, see Franzese & Hays 2006; Helmdag 2015; Hays, Kachi & Franzese 2010; Swank 2011); for qualitative approaches, see Casey 2009; Visser 2009). However, the results of these studies are contradictory. Some empirical studies show that neighboring countries benefit from ALMP efforts in other countries in the EU and these countries are intended to free-ride on other countries efforts (Franzese & Hays 2006; Hays, Kachi & Franzese 2010). As a result, diffusion occurs but is driven by free-riding. Yet other studies find a positive relationship between competition-driven diffusion and ALMPs which is filtered by the interaction of domestic and international factors (Swank 2011). The role of learning in ALMP diffusion has gained only little attention, although there is some evidence on interdependent policy learning in passive labour market policies (Gilardi 2010).

We start by the assumption that ALMPs are likely to diffuse across OECD countries, because most of them are confronted with similar pressures caused by structural changes in the labour market and budgetary constraints in financing their welfare systems. Simultaneously, there is an increasing interaction density among the OECD countries in general (Swank 2011). Of course, such functional pressures do not per se imply similar policy solutions or convergence, but they constrain a necessary condition for the spread of ALMPs (Bonoli 2013) and make monitoring other countries’ solutions more likely. This assumption also entails that policy makers are rational actors despite their ideological background and partisan affiliation, pursue the common goal of increasing labour market participation and learn from successful measures in other countries (Volden 2006; Weyland 2007).

The role of international organizations in promoting certain policies is also crucial for diffusion. On the one hand, internationally coordinated action offers a platform for development and dissemination of policy solutions and tools. Learning from the experience of others is easier in an environment of shared knowledge and joint action. On the other hand, international organizations and coordinated action also forms social norms and thus pushes social learning of adequate measures and esteemed goals (Hall 1993; Sabatier 1988; Checkel 2005; Radaelli 2008). In case of ALMPs, the implementation of the European Employment Strategy (EES) in 1997 which was later manifested in the Open Method of Coordination clearly offers an institutional frame for promoting ALMPs in the EU member states, thus additionally reinforcing diffusion of ALMP policies (Franzese & Hays 2006; De la Porte & Jacobsson 2012; van Vliet & Koster 2011).

Because of the similar problem pressure and the concomitant reforms in most of the OECD welfare states in past few decades and the amplifying role of the EU, the OECD and the World Bank in promoting active social and labour market policies, learning is probably the most powerful mechanism of interdependence affecting social and labour market policies in general and ALMPs in particular (Armingeon 2007; De la Porte & Jacobsson 2012). Specifically, in search for suitable policy tools, governments are likely to learn from their peers, especially if their policy reforms have led to intended outcomes (Volden 2006; Gilardi 2010; Gilardi, Füglistner & Luyet 2009). In

case of ALMPs, positive outcome performance can be defined as increasing the labour market participation rate - bringing not only the unemployed, but also the so far inactive segments of the working age population like homemakers, women in particular, and disabled in the labour market. This reflects the goals of the activation strategy even more adequately than reducing unemployment alone. A shift from passive towards active LMPs in country *j* leading to increasing labour market participation thus indicated a success of the policy from which other countries *i* may learn. This leads to our first hypothesis:

*H1. Governments learn from the success of ALMPs in increasing labour market participation in other countries and adjust their own policies accordingly.*

Furthermore, we should find particularly strong evidence of the diffusion of labour market activation in the EU countries participating in the EES, as it offers a forum of exchange, institutionalized assessment and evidence-based recommendations:

*H2. Learning from the success of ALMPs is amplified by membership in the EES.*

Even in a highly interdependent setting, countries are not likely to learn similarly from all countries and not even from all successful countries, though. According to Franzese and Hays, countries are more likely to learn from other countries with cultural or demographic similarities, since these factors are more crucial than (geographic) proximity (Franzese & Hays 2006:184). Interdependence is not uniform among the units of analysis and therefore, newer approaches to policy diffusion account for contextual and conditional factors which filter and modify the impacts arising from interdependence (Neumayer & Plümper 2012; Wasserfallen 2014; Jahn et al. 2014b). In case of labour market policy diffusion, the type of welfare state sets institutional frame and policy legacy which potentially conditions and filters impacts coming from abroad. Therefore, we account for the potential impact of the institutional setup of the welfare states as a potentially important context factor in our analysis. In case of ALMPs and social policy in more general, we argue that policy makers are more likely to learn from members of the same welfare regime. First, welfare regimes originate from similar socio-cultural roots, so that the same argument which is often used in the diffusion literature, namely that families of nations feature a particularly dense and effective interaction patterns, applies here. Common socio-cultural roots, in turn, amplify diffusion processes. Second and more importantly, countries in the same welfare regime share the same kind of institutional setting and organizational principles of social and labour market policies, building the legacy on which activation policies fertilize (Esping-Andersen 1990, 1999). Rational learning from policy measures which have proven effective in a similar institutional framework is more likely than learning from policy success in completely different settings (Casey & Gold 2005; Meseguer 2005, 2006; Radaelli 2004). This applies for both simple learning from the policies in general within the same welfare regime and for learning from the success of peers in the same regime. As Meseguer puts it “governments learn rationally but from close, successful performers” (Meseguer 2006:57). This leads to the following hypotheses:

*H3a. Diffusion of ALMPs by learning is more likely within than across welfare regimes.*

*H3b. Diffusion of ALMPs by learning from success is more likely within than across welfare regimes.*



## 3 Data and Methods

### 3.1 Dependent Variable

The focus of our argument lies within the spatial interdependencies of the adaption of active labour market policies. In contrast to passive LMPs, which grant income replacement in case of unemployment with differing conditions and levels of cash benefits within unemployment insurance and assistance schemes, ALMPs seek to push unemployed persons back to the labour market. We use the most commonly used measure of ALMPs, public expenditure on ALMPs per unemployed (constant 2000 US\$ PPP) as our key dependent variable. Because we are interested in the growing importance of ALMPs, we look at the change rate. The data stems from the OECD.stat database and includes expenditure on several different types of ALMPs: public employment services and administration of activation programs, direct job creation, employment incentives targeted at employers, job-rotation and job-sharing measures, start-up incentives, supported employment and rehabilitation, and training.<sup>2</sup>

There is considerable variance both in the level and the change of ALMP expenditure in the 21 OECD countries from 1991 until 2010 (Table 1). The country with the highest ALMP spending per unemployed (the Netherlands) spends around 17 times as much as the laggard countries Greece and the United States in 2010. Level differences are great between the different welfare regimes, too: The Scandinavian welfare states show highest investment in ALMPs, followed by the Bismarckian welfare states. However, trends in ALMP spending diverge across the Scandinavian welfare states, Sweden having declined its ALMP investment radically while other countries have further increased their spending. Most of the Bismarckian countries are catching up with higher levels, whereas ALMP spending has been decreasing in most the Anglo-Saxon countries. ALMP remains mostly marginal in the Southern European welfare states. Importantly for the following analysis, EU countries participating in the EES show significantly higher levels of ALMP spending and the increase has been higher, too.

While there has been a slight general trend towards more spending on ALMP per unemployed in the OECD countries (from 6281 USD in 1991 to 6945 USD per unemployed in 2010), the shift from passive to active labour market policy instruments is not linear in most of the countries when considering the relation of ALMPs to PLMPs. Australia, Austria, Denmark, France, Netherlands and Spain witness a continuously increasing importance of ALMPs relative to PLMP. In other countries, increases in the emphasis on ALMPs have been altered again with decreasing importance (Ireland, Italy, New Zealand, Norway, Sweden, Switzerland). We thus find some support for the alleged activation turn with regard to labour market policies even if the relationship between ALMPs and PLMPs is dynamic and deferred in most cases (cp. Bonoli 2013; Hemerijck 2013). But have ALMPs proven effective in increasing labour market participation, that is, have they been successful? Notwithstanding the fact that changes in employment rates can be traced back to multiple factors, 74 per cent of increases in ALMP expenditure coincide with subsequent increases in employment rates in our sample (68 per cent when taking non-shifts and non-increases into account). In times of economic recession like the one at the beginning of the 1990s or the most recent crisis around 2008, less increases in ALMP expenditure were implemented and yet where implemented, they proved less effective in enhancing employment. In general, ALMPs thus prove successful to a moderate extent in our measure in general, which conforms to more differentiated

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<sup>2</sup> The relative importance of ALMPs in the labour market policy mix is of course of interest, when the “activation turn” is in focus of the analysis.

findings about the effectiveness of ALMP programs (cp. Kluve 2010; Martin & Grubb 2001; Martin 2014). The presence of success is an important precondition for the empirical proof of our argument on interdependent learning.

**Table 1: Descriptive statistics of ALMP expenditure in 21 OECD countries from 1991—2010.**

	Mean	SD	Start	End	Diff
<b>Bismarckian</b>					
Austria	8315.54	2655.40	5763.99	13342.30	7578.31
Belgium	9151.66	2848.00	6949.41	13477.96	6528.55
France	7186.28	1016.47	5646.81	7987.02	2340.21
Germany	7460.93	1729.09	10121.39	7819.23	-2302.16
Netherlands	22255.51	9611.54	10259.34	19493.44	9234.10
Switzerland	8834.62	2839.56	6722.79	5424.65	-1298.15
<i>Total</i>	10534.09	6877.24	7577.29	11257.43	3680.15
<b>Anglo-Saxon</b>					
Australia	3975.08	957.68	1687.09	4335.99	2648.90
Canada	3011.11	292.63	2890.90	2481.06	-409.84
Ireland	9069.02	4015.47	3305.64	5339.25	2033.61
Japan	3548.17	1298.21	6578.57	2697.99	-3880.58
New Zealand	3656.69	899.49	2774.60	2043.19	-731.41
United Kingdom	3315.79	1311.53	2630.52	2681.59	51.08
United States	2131.49	479.97	1943.98	1170.55	-773.43
<i>Total</i>	4101.05	2718.88	3115.90	2964.23	-151.67
<b>Scandinavian</b>					
Denmark	17276.72	6625.17	4389.91	17462.69	13072.78
Finland	5896.29	1401.90	7589.24	7795.04	205.80
Norway	15092.46	2481.07	10816.66	11747.86	931.20
Sweden	14880.20	5537.23	32540.82	10835.35	-21705.47
<i>Total</i>	13286.42	6261.79	13834.16	11960.24	-1873.92
<b>Southern</b>					
Greece	1101.75	390.80	1288.00	1085.00	-203.00
Italy	3571.60	1608.55	1799.29	3291.28	1491.99
Portugal	3842.84	1258.94	4035.54	2700.19	-1335.35
Spain	2940.66	1590.03	2174.47	2634.20	459.73
<i>Total</i>	2864.21	1674.89	2324.32	2427.67	103.34
<i>Non-EES</i>	5930.73	4805.62	5704.84	5922.85	218.01
<i>EES</i>	9443.82	7561.13	7035.31	8281.75	1246.44
<i>Total</i>	7453.07	6387.27	6281.38	6945.04	663.66

Notes: Expenditure per unemployed, in US\$ (year 2000) at constant prices and PPPs. Welfare regime classification taken from Ferrera (1996). Source: OECD, own calculations.

## 3.2 Independent Variables

### (a) Spatial lags

In quantitative studies, spatial interdependence and thus diffusion impacts are most commonly modeled by means of a spatial lag variable based on a theoretically defined proximity matrix indicating the interdependence of the units (Franzese & Hays 2004, 2008). In order to examine whether learning by success can explain changes of ALMP expenditure, we generate a spatial lag variable which takes the success of the better performing countries (and in a second step their proximity) into account. Success, which is expressed in a dummy variable, is given, when a country a) has increased its expenditure on ALMPs and b) subsequently achieved an increase in labour market participation rate in the following year. In the first spatial lag variable (*Overall success*) we use a matrix operationalizing success of every given country as weighting matrix. We assume that learning from success is a rather fast process, as policy makers have the possibility to monitor policy changes in other countries in “real-time” and the need to find solutions to higher labour

market participation is pressing (Swank 2011). We therefore construct the spatial lag by assuming a lag of one year for both the effect of increases in ALMP to realize in changes in employment rates and later in the model again a lag of one year for other countries government to learn from this and adjust their ALMPs.

In a second step, we account for the assumption expressed in hypotheses 3a and 3b that proximity of the units determines from *whom* governments learn. The most likely spatial clustering for our policy in focus is related to the context of welfare regimes and we therefore generate a spatial lag where countries learn from their peers within the same welfare regime (*Within welfare regimes*). Here the connectivity matrix is coded 1 for membership in the same welfare regime (assignment in Social Democratic, Conservative, Liberal and Southern European regimes based on Esping-Andersen (1990) and Ferrera (1996). Japan and Switzerland are ambiguous in their attachment to one of the welfare regimes; following the classification by Huber and Stephens (2001) and Armingeon (2007), we attach Japan to the Liberal regime and Switzerland to the Conservative one. In a third step we then combine both connectivity criteria and generate a spatial lag on the basis of the success and the regime matrix (*Success within welfare regimes*). The rationale behind this variable is to measure learning from successful ALMP policies of peer countries belonging to the same welfare regime.

#### *(b) European Employment strategy*

The EES with its peer-review system of labour market programs is an important institution in promoting successful ALMP measures that previously have been proven effective in other countries.<sup>3</sup> To capture if countries within our sample participate in the EES, we include a dummy variable for countries participating in the EES, beginning in 1997. This variable plays an important role in conditional diffusion of ALMP, as we point out later in the description of the specification of a multiplicative model.

#### *(c) Control variables*

To capture the functional pressures by business cycles and resulting growth and decline of employment, we include GDP per capita as well as unemployment ratios into our models. Additionally, we also include the employment ratio, since it is an important indicator for overall employment and possible gender bias in labour market participation. We also include the degree of deindustrialization into our models. It is measured by an indicator introduced by Iversen and Cusack (2000), and is operationalized by the result of 100 minus the sum of manufacturing and agricultural employment as a percentage of the working age population. We expect the socio-economic control variables to explain an ample amount of differences in ALMP expenditure, because of the functional relationship of spending for ALMPs and economic performance. In order to account for the anticipated effects of partisan government, we include a variable measuring the government position on a left right axis (Jahn 2011a; Jahn et al. 2014a). Contrary to a variable simply measuring strength of a particular party in government, this measure is time-variant, sensitive to political systems of countries, and portrays changes of ideology far more accurate. Additionally, we also include the distance of the veto player into our analysis to model possible domestic institutional constraints (Jahn 2011b; Tsebelis 2002). The variable captures the policy distance of the agenda and the ideologically furthest (yet relevant) veto player for policy bargaining. Since the literature is divided on the impact of partisanship on preferences of ALMP spending, we expect

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<sup>3</sup> The OECD has also actively promoted ALMPs, but the impact of its recommendations is less evident than that of the EU (Armingeon 2007). Due to our case selection of solely OECD member states, we cannot account for OECD effects, though.

no incisive influence of ideology on ALMP spending. Likewise, we expect little inhibiting impact from veto players on ALMP spending.

### 3.3 Regression Model

In order to test our hypotheses, we analyze 21 OECD countries<sup>4</sup> from 1991 until 2010 with an error correction model (Beck & Katz 2011; DeBoef & Keele 2008; Podesta 2006). The estimation of the coefficients is conducted with Prais-Winsten regressions with panel specific autocorrelation structure and panel corrected standard errors. This ensures that the errors of the coefficients will be unbiased and unaffected by panel specific characteristics.

The multiple regression models contain the lagged level of the dependent variable  $\alpha_1$ , differences and lagged levels of the independent variables represented by the vector  $X^k$ , a structural break term  $\beta_1$  that subsumes all countries participating in the EES after the year 1997, spatial lag variables representing different forms of operationalizations of learning via different weighting matrices  $\kappa w$ , and additional interaction terms  $\beta_l$  and  $\beta_m$  that represent the arithmetic product of the structural break term and the spatial lag variables. Furthermore, we include unit fixed effects  $\beta_d$  to control for unaccounted panel specific dynamics. These specifications result in the following equation:

$$\Delta Y_{i,t} = \alpha_0 + \alpha_1 Y_{i,t-1} + \beta_1 \text{Structural break (SB)} + \sum \beta_k \Delta X_{i,t}^k + \sum \beta_k X_{i,t-1}^k \\ + \beta_l \text{SB} \times \kappa w_i \Delta y_{j,t} + \beta_m \text{SB} \times \kappa w_i y_{j,t-1} + \sum_{d=1}^{n-1} \beta_d \text{Panel dummies} + \varepsilon_{i,t}$$

where  $i$  is a country at a specific time  $t$  which is influenced by the policy reforms in another country  $j$ . The spatial lag variable has three different functional forms that represent the assumed nexuses of learning formulated in our hypotheses that will be tested in our models: i) Diffusion of ALMP expenditure via overall success, ii) diffusion of ALMP expenditure within welfare regimes, and iii) diffusion of successful ALMP reforms within welfare regimes.

## 4 Results

To test our theoretical propositions, we estimate seven models, which are presented in Table 2. In each of the models the same set of exogenous control variables is included to test the hypotheses on diffusion of ALMP. Our models exhibit acceptably high levels of explained variance, since our dependent variable measures differences of the dependent variable. The root mean squared error, which represents the standard deviation of the differences between predicted values by the model and empirical values, also has considerably low values. Regarding the estimated coefficients as well as their standard errors, our results remain robust against alternative model specifications (see Appendix tables A2-A3).

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

**Table 2. Diffusion of ALMP expenditure in 21 OECD countries from 1991—2010.**

	<i>Dependent variable: <math>\Delta</math> ALMP per unemployed (in year 2000 US-Dollars, ppp.)</i>						
	Base model	Diffusion: Overall Success		Diffusion: Within welfare re-gimes		Diffusion: Successful measures within welfare regimes	
	Model 1	Model 2a	Model 2b	Model 3a	Model 3b	Model 4a	Model 4b
ALMP per unemployed <sub>t-1</sub>	-0.331*** (0.054)	-0.334*** (0.051)	-0.333*** (0.051)	-0.378*** (0.057)	-0.385*** (0.057)	-0.332*** (0.049)	-0.333*** (0.048)
<b>Economic parameters</b>							
$\Delta$ GDP per capita	0.341* (0.169)	0.378* (0.162)	0.404* (0.159)	0.299* (0.157)	0.323* (0.152)	0.426** (0.155)	0.456** (0.152)
GDP per capita <sub>t-1</sub>	-0.007 (0.059)	-0.010 (0.055)	-0.007 (0.055)	-0.004 (0.054)	-0.019 (0.052)	-0.023 (0.056)	-0.024 (0.055)
$\Delta$ Unemp. rate in %	-1097.227*** (133.494)	-1068.753*** (129.585)	-1046.104*** (129.636)	-1038.106*** (130.447)	-999.013*** (129.636)	-1033.169*** (128.779)	-1001.092*** (127.925)
Unemp. rate in % <sub>t-1</sub>	-320.703** (97.756)	-263.962** (95.561)	-254.506** (93.486)	-270.642** (92.945)	-262.826** (91.795)	-257.741** (95.258)	-254.582** (93.989)
$\Delta$ Civ. emp. ratio	-492.168*** (127.985)	-488.023*** (125.635)	-484.420*** (125.297)	-471.553*** (120.247)	-441.418*** (119.066)	-516.292*** (122.764)	-494.020*** (122.829)
Civ. emp. ratio <sub>t-1</sub>	-133.860* (68.832)	-122.181* (63.665)	-113.501* (63.754)	-91.459 (61.774)	-58.942 (66.868)	-111.712* (66.857)	-97.299 (68.196)
$\Delta$ Deind.	48.513 (200.186)	51.499 (197.615)	75.971 (198.036)	40.662 (199.053)	93.961 (193.190)	66.002 (194.134)	81.033 (192.065)
Deind. <sub>t-1</sub>	131.966* (75.025)	71.368 (77.117)	69.776 (75.705)	48.788 (80.194)	77.151 (75.903)	82.216 (76.709)	98.287 (75.796)
<b>Domestic politics parameters</b>							
$\Delta$ Govt. LR	3.763 (22.630)	-0.330 (21.843)	-2.517 (22.336)	-1.703 (21.045)	-3.141 (20.835)	4.018 (21.344)	1.834 (21.682)
Govt. LR <sub>t-1</sub>	-11.961 (21.464)	-12.486 (21.255)	-11.584 (21.337)	-17.508 (20.808)	-15.999 (20.417)	-11.208 (20.864)	-11.507 (20.722)
$\Delta$ Veto player (LR)	-18.799 (13.816)	-14.694 (14.455)	-13.337 (14.548)	-4.099 (13.878)	-7.726 (13.621)	-11.115 (14.143)	-13.563 (14.088)
Veto player (LR) <sub>t-1</sub>	-35.956* (15.661)	-28.950* (15.197)	-28.464* (15.014)	-18.936 (15.121)	-22.284 (14.530)	-28.135* (14.948)	-31.196* (14.537)
<b>Diffusion parameters</b>							
EES		807.111* (337.199)	61.148 (692.692)	1230.085*** (368.849)	438.513 (399.735)	891.071** (321.823)	342.020 (430.079)
<i>Spatial lag variables</i>							
$\Delta$ SL		0.066* (0.032)		0.016 (0.079)		0.049** (0.017)	
SL		0.056 (0.043)		-0.171** (0.059)		0.047* (0.022)	
$\Delta$ SL (pre-EES)			0.026 (0.039)		-0.089 (0.101)		0.026 (0.023)
$\Delta$ SL (post-EES)			0.115** (0.044)		0.186* (0.105)		0.071*** (0.021)
SL (pre-EES)			0.008 (0.053)		-0.215** (0.069)		0.011 (0.030)
SL (post-EES)			0.110* (0.060)		-0.131** (0.049)		0.082** (0.027)
Constant	2407.856 (4719.733)	5861.079 (4303.728)	5522.722 (4286.687)	6738.146 (4408.841)	2766.824 (4476.804)	4817.109 (4626.027)	2624.052 (4812.127)
N	420	420	420	420	420	420	420
Adj. R2	0.456	0.477	0.479	0.485	0.491	0.489	0.491
RMSE	1466.3	1452.8	1453.5	1431.7	1425.3	1443.5	1441.1
No. of panels (countries)	21	21	21	21	21	21	21
Panel length (years)	20	20	20	20	20	20	20

Note: Prais-Winsten regression estimates with panel-specific autocorrelation structure and panel corrected standard errors (in parentheses). Unit fixed effects included, but not shown.  
\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01, \*\*\*\* p < 0.001

The first model serves as our base model and solely estimates the impact of domestic political, economic, and institutional variables on ALMP expenditure. As we can see, differences in ALMP spending are mainly influenced by variables representing economic constraints, with about a third of the disturbance corrected in the following year, as can be seen with the help of the parameter measuring previous levels of the dependent variable (the so-called long-run multiplier). Short-term factors such as GDP growth, unemployment rate, and civilian employment ratio have remarkable impact on the equilibrium of ALMP spending. Increasing growth of GDP opens up opportunities for policy reforms and emphasis on expanding active measures. In turn, when in recession, expenditure for ALMPs decreases and rising unemployment rates reflect the economic pressure on spending profiles of overall active and passive LMP, with spending on compensating benefits being emphasized in these times of economic recession. When looking at the development of overall employment we can observe that countries with preceding increases of employment ratios cut expenditure on ALMPs. Furthermore, the negative effect of employment ratios can also be observed for the long-term parameter in the models, although with far lesser certainty. This indicates that there is a reciprocal dynamic of employment ratios and active measures: when the former are increasing, the need for the latter decreases, and vice versa. Factors representing

domestic politics bear little explanatory potential for ALMP expenditure change. Left governments are associated with more change in ALMP spending which is in line with conventional partisan theory of welfare state development, but the effect is insignificant. Institutional barriers to policy change, in contrast, have a slightly significant effect; where ideological distance among veto players of the political system is high, change in ALMP expenditure is low and *vice versa*. Both effects point to the controversial politics of ALMPs and active social policies in more general (Bonoli 2013; cp. also Beramendi et al. 2015). In the remaining models we gradually test our hypotheses on the effects of interdependent learning from success and the contextual role of welfare regimes. The following models 2a and 2b test whether governments learn from the success of ALMP policies in general and, as a consequence, adjust their own policies accordingly. A row-standardised spatial lag variable considering successful policy measures of all countries in the sample is therefore included in this model. The results show that overall success within all countries exerts a positive influence on ALMP expenditures in the short-term and countries thus adjust the levels of their ALMP spending towards successful countries as proposed in hypothesis H1. When looking at the effect of overall success separated by our structural break, we can see that in the phase after the initiation of the EES the short- and long-term effect become significant. Participation in EES thus amplifies the learning-effect as expected in hypothesis H2.

In accordance with hypothesis H3a, we test whether governments learn from other countries in the same welfare regime in models 3a and 3b. Instead considering all countries in the sample, the included spatial lag variable exclusively contains the row-standardized spatial lag within each welfare regime. As we can see, diffusion within welfare regimes occurs, but the negative algebraic sign indicates divergence in the long run. When looking at the model estimating the additional interaction of diffusion and the EES, the picture gets even more detailed: in the pre-phase of the EES, countries within the same welfare regime diverged in respect of their ALMP expenditure; however, after the establishment of the EES this diverging trend still persists, but becomes remarkably weaker (in terms of the slope of the coefficient). Furthermore, short-term differences indicate a slight trend of convergence after the establishment of the EES.

Finally, to test our final and main hypothesis H3b, models 4a and 4b test if successful policies and the affiliation to a welfare regime are part of a sufficient condition that influences ALMP expenditure in a country by integrating a conditional spatial lag variable. These models show that there is empirical evidence of diffusion of successful ALMP policies within welfare regimes. Moreover, this effect is strongest (and statistically significant) when including the structural break variable. The inclusion of that multiplicative term shows that diffusion of successful ALMP measures in the short-term and long-term is particularly important in the phase after the EES was established. The results thus confirm our preposition phrased in hypothesis H3b and bear evidence on the role of both domestic institutional framework – in this case the type of the welfare state – and the institutional attachment to international policy coordination.

## 5 Conclusion

The main finding of this paper is that diffusion of labour market policy activation via learning is indeed evident in modern welfare states since the beginning of the 1990s. Policy makers learn from the success of activation policies in increasing labour market participation in other countries. This effect is even more evident in countries which participate in the EES, which has the purpose of evaluating labour market measures and recommendation of successful measures to other participating policy makers. Thus, in line with assumptions of bounded learning, learning is

contextual: policy makers are more likely to adapt ALMPs when they have proven successful in similar institutional welfare architecture. Referring to the experience of other countries in the same welfare regime bears advantages which directly affect the payoffs of a policy change. Selective learning makes it easier to estimate the consequences of a policy within the specific institutional and even cultural setting. Given the similar institutional nexus of labour market and social policies as well as the similar levels of ALMP spending within welfare regimes, monitoring the shifts and their effects in peer countries offers policy makers some certainty about the consequences of changes in LMP effort at a similar starting level. Additional to the conditionality of interdependent policy making, the results thus also support the view that policy makers actually follow rationality rather than bounded rationality in their action (cp. Meseguer 2009; Weyland 2007). Furthermore, a simple emulation of foreign concepts seems unlikely in this case, since there are subtleties in the institutional arrangements of different countries even if they feature the same welfare regime (Casey & Gold 2005). Our findings strengthen both the view of the role of interdependence and also path dependency of welfare policy change resulting from the institutional context of the welfare regimes (Pierson 2001; Jahn et al. 2014b). Regarding the different operationalizations and functional forms of our spatial lag variables that accounted for institutional framework as well as previous successful policies, our analysis demonstrated that it is important to account for the theoretical concept within the construction of the variables (Gilardi 2016; Neumayer/Plümper 2016). In our study, a mere accounting of geographical proximity when constructing spatial lag variables would not have resulted in variables capturing the dynamics of learning from successful policies within and without similar institutional frameworks.

Furthermore, our results give further evidence on the importance of international coordination and intergovernmental organizations in policy learning. The EES powerfully fortifies diffusion of successful ALMP policies, regardless of whether we observe change in spending levels for ALMPs or the levels as such. The EES framework may, first, foster exchange on experiences, solutions and best practices and thus increase the information which policymakers can access to in search for solutions in their own country. Second, the coordinated action also promotes social norms and thus promotes social learning and – eventually – paradigmatic change of social policy. A further socialization-related aspect not considered further in this study is that intergovernmental organizations may also play a crucial role in competition-driven diffusion by setting limits to the extent of competition that is considered acceptable. Although this argument was developed with regard to tax policies (Gilardi & Wasserfallen 2016), it may also apply for free-riding dynamics of interdependence of labour market policy (cp. Franzese & Hays 2006).

While the results give rather strong evidence on the diffusion dynamics of ALMPs in the OECD countries, our use of ALMP expenditure as the dependent variable bears some shortcomings. Since activation policies at labour markets comprise of very different tools (Bonoli 2013; Martin 2014), a more detailed look at which tools actually diffuse and which of the ALM policies are more prone to learning dynamics would be desirable. Different tools would also require different measures of success. However, we are still largely lacking such detailed data over time and across countries on ALMPs. Case studies would complement our macro-comparative results and, moreover, also deepen our understanding on how exactly policymakers learn, how they evaluate success and how and when they update their prior beliefs.

In general, the results of this study attest to the importance of the institutional framework for interdependent policy making and thus further endorse the plea for explicitly considering the relevance of time-invariant or slowly changing institutional contextual factors in the study of policy diffusion (cp. Neumayer & Plümper 2012; Wasserfallen 2014). The assumptions of contextuality

should thereby be modelled in our measures of spatial dependency (cp. Gilardi 2016; Neumayer/Plümper 2016). Regarding the developments within the time-series analyzed in this study, the results emphasize the continuing relevance of the welfare regime types. Although we do not consider political outcome effects of labour market policy reforms in this analysis (cp. Gilardi 2010), the significant effect of policy learning from successful policy outcomes of peers featuring similar institutional and cultural settings may also imply that policy makers monitor and anticipate the political acceptance of similar moves and their consequences in similar welfare states. Both policy and political outcomes should therefore be accounted for when analyzing diffusion by learning. Finally, our findings point out the potential of international tools like the EES in intensifying learning from best practices. The direct and conditional effects of such “amplifier” institutions should be included in the future study of policy diffusion in a more explicit way. Case studies of the spread of specific policies may deepen our understanding of the dynamics of learning in an institutionally constrained environment.

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## Appendix

**Table A1. Descriptive statistics dependent and independent variables of 21 OECD countries from 1991—2010.**

Variable	N	Mean	SD	Min	Max
<b>Dependent variable</b>					
Δ ALMP	420	-47.26	2159.01	-18118.58	10233.40
ALMP <sub>t-1</sub>	420	7500.32	6615.33	349.53	45657.17
<b>Economic parameters</b>					
Δ GDP per capita	420	512.66	850.11	-3562.70	3082.09
GDP per capita <sub>t-1</sub>	420	34957.15	7832.64	19910.96	61460.47
Δ Unemp. rate	420	0.07	1.14	-3.32	6.71
Unemp. rate <sub>t-1</sub>	420	7.35	3.56	0.47	24.17
Δ Civ. emp ratio	420	0.15	1.24	-5.80	5.76
Civ. emp ratio <sub>t-1</sub>	420	67.90	8.16	45.65	89.05
Δ Deindustrialisation	420	0.50	0.39	-0.62	2.54
Deindustrialisation <sub>t-1</sub>	420	78.25	5.90	57.66	89.69
<b>Domestic politics parameters</b>					
Δ Govt. LR	420	-0.04	3.37	-17.55	20.99
Govt. LR <sub>t-1</sub>	420	2.74	5.78	-13.63	23.69
Δ Veto player (LR)	420	0.00	4.11	-21.93	27.22
Veto player (LR) <sub>t-1</sub>	420	6.54	6.61	0.00	32.63
<b>Spatial lags</b>					
Δ Overall success	420	-89.23	2835.43	-12229.54	8135.71
Overall success <sub>t-1</sub>	420	7330.65	2526.32	1324.38	15121.72
Δ Within welfare regimes	420	-38.71	1183.45	-4764.99	3583.80
Within welfare regimes <sub>t-1</sub>	420	7562.74	4792.50	1148.83	21821.71
Δ Success within welfare regimes	420	-384.30	6285.31	-44303.21	20319.39
Success within welfare regimes <sub>t-1</sub>	420	6173.51	6089.21	0.00	44303.21

Sources: OECD, PIP (Jahn et al. 2015), own calculation.

**Table A2: Diffusion of ALMP expenditure in 21 OECD countries from 1991—2010 (unit and period effects included).**

	<i>Dependent variable: <math>\Delta</math> ALMP per unemployed (in year 2000 US-Dollars, ppp.)</i>						
	Base model	Diffusion: Overall Success		Diffusion: Within welfare regimes		Diffusion: Successful measures within welfare regimes	
	Model 1	Model 2a	Model 2b	Model 3a	Model 3b	Model 4a	Model 4b
ALMP per unemployed <sub>t-1</sub>	-0.273*** (0.056)	-0.263*** (0.056)	-0.263*** (0.056)	-0.298*** (0.060)	-0.300*** (0.061)	-0.275*** (0.055)	-0.278*** (0.055)
<b>Economic parameters</b>							
$\Delta$ GDP per capita	0.694*** (0.190)	0.694*** (0.192)	0.694*** (0.192)	0.664*** (0.186)	0.660*** (0.184)	0.712*** (0.183)	0.718*** (0.183)
GDP per capita <sub>t-1</sub>	0.004 (0.052)	0.014 (0.056)	0.014 (0.056)	0.007 (0.057)	0.002 (0.058)	0.006 (0.055)	0.005 (0.055)
$\Delta$ Unemp. rate in %	-863.370*** (145.463)	-838.885*** (152.083)	-835.396*** (150.811)	-842.029*** (148.215)	-824.300*** (149.156)	-833.630*** (148.771)	-812.129*** (148.277)
Unemp. rate in % <sub>t-1</sub>	-195.042+ (107.273)	-187.267+ (109.762)	-186.671+ (108.719)	-176.381 (108.411)	-171.054 (107.992)	-194.127+ (110.292)	-194.766+ (109.965)
$\Delta$ Civ. emp. ratio	-443.938** (138.668)	-461.898*** (139.083)	-460.042*** (139.269)	-460.480*** (138.343)	-441.946** (139.646)	-481.337*** (139.620)	-461.944*** (140.370)
Civ. emp. ratio <sub>t-1</sub>	-68.924 (74.902)	-84.273 (70.386)	-83.212 (69.924)	-62.757 (71.001)	-52.235 (73.418)	-79.998 (73.487)	-72.065 (73.741)
$\Delta$ Deind.	-17.651 (216.409)	-2.346 (214.366)	-6.348 (214.967)	-91.219 (219.746)	-68.202 (215.349)	-41.959 (218.294)	-32.093 (216.819)
Deind. <sub>t-1</sub>	115.119 (106.210)	76.713 (122.137)	75.035 (121.660)	28.620 (124.090)	43.980 (123.376)	71.082 (120.133)	88.664 (121.030)
<b>Domestic politics parameters</b>							
$\Delta$ Govt. LR	-5.908 (22.706)	3.709 (23.167)	3.439 (23.815)	-10.769 (21.916)	-11.690 (21.873)	-6.210 (22.278)	-9.584 (22.731)
Govt. LR <sub>t-1</sub>	-12.114 (19.329)	-10.259 (19.417)	-9.863 (19.796)	-14.459 (19.490)	-12.417 (19.771)	-9.845 (19.665)	-9.660 (19.986)
$\Delta$ Veto player (LR)	-27.272+ (16.374)	-20.379 (15.980)	-20.142 (16.261)	-16.870 (15.634)	-18.207 (15.625)	-18.793 (15.789)	-20.295 (15.853)
Veto player (LR) <sub>t-1</sub>	-37.605** (13.526)	-28.965* (12.906)	-29.382* (13.076)	-27.449* (12.200)	-30.961* (12.447)	-28.227* (12.271)	-31.038* (12.115)
<b>Diffusion parameters</b>							
EES		638.473+ (384.620)	533.228 (855.965)	759.521+ (405.255)	495.876 (377.224)	636.611+ (378.386)	268.601 (464.156)
<i>Spatial lag variables</i>							
$\Delta$ SL		-0.002 (0.220)		0.020 (0.092)		0.027 (0.021)	
SL		0.332 (0.378)		-0.112+ (0.066)		0.027 (0.025)	
$\Delta$ SL (pre-EES)			-0.013 (0.236)		-0.065 (0.136)		0.004 (0.031)
$\Delta$ SL (post-EES)			0.012 (0.205)		0.120 (0.105)		0.052* (0.024)
SL (pre-EES)			0.323 (0.389)		-0.134+ (0.080)		0.001 (0.037)
SL (post-EES)			0.336 (0.364)		-0.109+ (0.057)		0.046+ (0.025)
Constant	-2830.886 (5489.872)	-1997.997 (7521.433)	-1879.342 (7610.030)	4173.206 (6230.684)	2488.259 (6418.620)	1419.353 (5926.112)	-396.207 (6353.882)
N	420	420	420	420	420	420	420
Adj. R2	0.439	0.446	0.443	0.444	0.443	0.440	0.440
RMSE	1617.2	1607.3	1611.5	1610.4	1612.0	1615.1	1615.0
No. of countries	21	21	21	21	21	21	21
Avg. panel length	20	20	20	20	20	20	20

Note: Prais-Winsten regression estimates with panel corrected standard errors (in parentheses). Unit and period fixed effects included, but not shown. + p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001.

**Table A3: Diffusion of ALMP expenditure in 21 OECD countries from 1991—2010 (all fixed effects excluded).**

	<i>Dependent variable: <math>\Delta</math> ALMP per unemployed (in year 2000 US-Dollars, ppp.)</i>						
	Base model	Diffusion: Overall Success			Diffusion: Within welfare regimes		Diffusion: Successful measures within welfare regimes
	Model 1	Model 2a	Model 2b	Model 3a	Model 3b	Model 4a	Model 4b
ALMP per unemployed <sub>t-1</sub>	-0.131** (0.041)	-0.145*** (0.040)	-0.147*** (0.040)	-0.155*** (0.041)	-0.151*** (0.040)	-0.151*** (0.040)	-0.150*** (0.039)
<b>Economic parameters</b>							
$\Delta$ GDP per capita	0.440** (0.157)	0.467** (0.157)	0.476** (0.154)	0.460** (0.165)	0.477** (0.163)	0.550*** (0.154)	0.564*** (0.152)
GDP per capita <sub>t-1</sub>	0.040+ (0.024)	0.036 (0.023)	0.037+ (0.022)	0.030 (0.021)	0.031 (0.023)	0.032 (0.021)	0.037+ (0.021)
$\Delta$ Unemp. rate in %	-	-	-	-	-	-	-
	1129.883*** (138.305)	1109.840*** (132.852)	1090.658*** (133.247)	1105.010*** (137.995)	1065.855*** (137.082)	1063.890*** (133.394)	1037.896*** (133.660)
Unemp. rate in % <sub>t-1</sub>	-39.528 (43.843)	-8.557 (41.891)	-11.703 (39.546)	-24.637 (43.333)	-15.049 (42.759)	6.071 (42.317)	6.225 (41.673)
$\Delta$ Civ. emp. ratio	-599.953*** (129.813)	-593.152*** (128.913)	-590.253*** (127.848)	-562.340*** (129.394)	-540.612*** (131.015)	-604.457*** (128.425)	-590.247*** (128.287)
Civ. emp. ratio <sub>t-1</sub>	-30.938 (24.176)	-6.119 (24.432)	-7.131 (23.196)	-12.187 (24.835)	-9.333 (24.504)	1.567 (23.401)	-0.555 (22.895)
$\Delta$ Deind.	-35.403 (203.747)	-30.198 (199.359)	-23.133 (199.032)	-15.831 (207.134)	18.355 (203.900)	20.798 (198.123)	14.110 (195.812)
Deind. <sub>t-1</sub>	13.685 (19.728)	-0.305 (18.976)	3.330 (17.772)	0.309 (18.906)	0.903 (18.520)	1.465 (18.045)	0.925 (17.652)
<b>Domestic politics parameters</b>							
$\Delta$ Govt. LR	-6.867 (24.568)	-9.361 (23.969)	-9.828 (24.420)	-1.777 (24.651)	-3.422 (24.625)	-6.414 (24.043)	-8.932 (24.134)
Govt. LR <sub>t-1</sub>	-21.238 (18.530)	-24.360 (18.020)	-21.748 (17.779)	-18.113 (18.346)	-14.697 (17.962)	-23.997 (17.803)	-22.378 (17.366)
$\Delta$ Veto player (LR)	-4.504 (16.021)	0.263 (16.192)	0.543 (16.131)	-2.232 (15.690)	-5.636 (15.499)	0.811 (15.879)	0.051 (15.830)
Veto player (LR) <sub>t-1</sub>	20.285 (16.027)	25.851+ (15.619)	25.071 (15.373)	16.306 (15.477)	11.272 (14.887)	21.261 (15.739)	21.072 (15.504)
<b>Diffusion parameters</b>							
EES		661.430** (233.563)	-112.257 (693.614)	626.930* (249.092)	587.396 (386.404)	664.055** (228.902)	380.230 (320.884)
<i>Spatial lag variables</i>							
$\Delta$ SL		0.036 (0.035)		0.009 (0.086)		0.042* (0.017)	
SL		-0.005 (0.049)		0.047* (0.027)		0.037* (0.020)	
$\Delta$ SL (pre-EES)			-0.014 (0.044)		-0.101 (0.118)		0.018 (0.024)
$\Delta$ SL (post-EES)			0.099* (0.048)		0.178+ (0.108)		0.065** (0.021)
SL (pre-EES)			-0.054 (0.060)		0.041 (0.043)		0.012 (0.029)
SL (post-EES)			0.050 (0.067)		0.045+ (0.025)		0.055* (0.024)
Constant	838.701 (1769.018)	1.302 (1750.013)	114.233 (1671.069)	442.303 (1786.409)	75.386 (1765.801)	-859.761 (1668.598)	-733.634 (1629.201)
N	420	420	420	420	420	420	420
Adj. R2	0.343	0.358	0.362	0.357	0.361	0.365	0.366
RMSE	1594.3	1578.1	1577.6	1578.8	1576.3	1570.9	1571.4
No. of countries	21	21	21	21	21	21	21
Avg. panel length	20	20	20	20	20	20	20

Note: Prais-Winsten regression estimates with panel-specific autocorrelation structure and panel corrected standard errors (in parentheses). + p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001.

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