

The Changing Impact of the EU on its Member States' Environmental Performance: A Quantitative Study of the Agenda Setting Power of the EU

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A great part of the research on the EU's environmental policy reaches the conclusion that the EU has carved out a role as an international environmental actor in its own right. This conclusion is based on studies which remain on the level of concepts, policies and policy instruments, relying predominately on case studies and do not compare the achievements of the EU member states with those of other highly advanced democracies.

In order to estimate the environmental achievements of the EU, this paper draws on a large-scale project of 21 OECD countries (including EU and non-EU countries) that focuses on outcomes (environmental performance). Within the framework of an Agenda Setting Power Model (ASPM) the environmental position of the EU is analyzed by looking at the decision-making process within and among EU institutions and their ideological misfits with member states and the impact of domestic veto players. The paper analyzes the period from 1980 to 2012 and discovers significant shifts in the impact of the EU, particularly after the years of the Maastricht Treaty and during the recent economic crisis at the end of the first decade of the new millennium.

Introduction

The EU's environmental policy emerged in the early 1970s and has since been supported by seven Environmental Action Programs. The primary reason for the introduction of a common environmental policy was the concern that diverse environmental standards could result in trade barriers and competitive distortions in the Common Market (Johnson and Corcelle 1989). Different national standards for emission levels, environmental effects of products and the process of production may have posed significant barriers to the free trade of these products within what was then called the Economic Community (EC). Another driving force fostering the EU's emerging environmental policy was the increasing international politicization of environmental problems and the increasing awareness that environmental degradation is transnational in character and does not stop at national borders. As a consequence, a supranational organization such as the EU would be well-suited to coordinate the reduction of pollution on a global level. Finally, in the formative period environmental policy has not been a hard policy field and therefore has been less strongly in the focus of national interests, allowing the European administration room to maneuver. In this light it is no surprise that the EU has been very active in drafting and deciding on regulations and directives concerning environmental issues.

The EU's engagement in environmental matters has led a great part of the research on the EU's environmental policy reaching the conclusion that the EU has carved out a role as an international environmental actor in its own right (Weale et al. 2000; Selin and VanDeveer 2015). This conclusion is based on studies which remain on the level of concepts (ecological modernization), policies and policy instruments (Spaargaren and Mol 1992; Baker et al. 1997; Knill and Lenschow 1998), relying predominately on qualitative case studies (Zito 2000). Two caveats are implicit when interpreting the impact of EU's environmental engagements in most established studies. First, there is the issue that the EU's endeavors in environmental policy are seldom set in context. That leads to the problem that one is not able to compare the impact of the EU to countries which are not EU member states. Haverland (2005, 2) stresses this methodological issue as the "variation problem" in EU research, which occurs when EU member states are not contrasted with non-EU member states. In a macro-comparative study of EU and non-EU countries the verdict regarding the impact of the EU's environmental efforts is less enthusiastic: the EU's effect on environmental policies "...is not as dominant as one would expect" (Holzinger et al. 2008, 180). The other caveat of most established studies lies in the fact that they analyze policies but not their actual effects in member states. Looking not only at concepts and policies but also at outcomes shows that there are severe implementation problems concerning how individual member states perform. Transposing EU directives into domestic laws and introducing regulations may simply be window dressing that is far removed from actual political action. These implementation problems have been acknowledged in the literature (Jordan 1999; Kellow and Zito 2002; Mastenbroek 2005; Scharpf 2006; Toshkov 2011) but little effort has been made to analyze these effects in studies comprised of more than a handful of cases (for an exception see Börzel et al. 2010).

It has been acknowledged in the literature that the EU is not an independent actor which is able to implement the policies it decides upon. By definition, EU politics is multilevel politics. Implementation as well as setting environmental standards is strongly dependent on the positions and willingness of member states. Even if the European Commission has the exclusive right to propose environmental

legislation and is even able to ensure implementation of environmental rules, member states are able to influence policy proposals by their legislative status in the European Council as well as through several informal rules. The influence of the member states, however, does not cede at the European level. This fact has been acknowledged in studies which analyze the policy process as a multilevel process (Scharpf 2006). In this view at least two levels are relevant: first, the interlinkage between the EU and its member states, and secondly, the interlinkage between the EU and domestic actors within its member states which might oppose the initiatives of the EU. Both these aspects will be taken into account in this study when analyzing the impact of the EU on the environmental performance of its member states. The former aspect will be analyzed as the ideological misfit between the EU and the national governments of its member states and the latter aspect will be analyzed in terms of the interrelationship between the EU and domestic veto players.

These aspects will be analyzed over three periods: from 1980 to 1993 as a period when the EU had a minor impact on its member states, from 1994 to 2007 when the Maastricht Treaty entered into force, and finally from 2008 to 2012 when the economic crisis left its mark on the policy preferences of political actors.

Approach, Concepts, and Hypotheses

The approach of this study is an agenda-setting-power model (ASPM) which builds on two key features of the political process: ideological positions of actors and the institutional setting in which they are embedded. Tsebelis and Rasch (2011, 2) remind us that these two elements are fundamental for empirical research:

“...agenda setting power depends not only on the institutional features of a political system...but also on the ideological positions...of different actors. ...[A]n approach that combines the institutional characteristics of a political system with the positions of different actors enables the researcher to understand new policy positions the political system may adopt.”

Furthermore, the ASPM is an interactive model of the political process for macro-comparative studies (Jahn 2016b). The ASPM identifies an agenda setter which mobilizes its resources to change the status quo. In parliamentary democracies governments are normally the most important agenda setters. However, in the context of this analysis the EU is considered as the agenda which aims to change environmental policy in the direction of its favorite preference.

The agenda setter, however, is constrained by other actors who also wish to realize their preferences. These actors funnel, moderate, support, or otherwise shape the political process. These actors may be called veto players (Tsebelis 2002). That means that the political process is interactive where agenda setter and veto players exercise effective political pressure which initiate public-policy-making responses which in turn affect policy choices and finally change ...outcomes.

Research on veto players predominantly focuses on the obstructing character of veto players: veto players “...will ‘lock’ a country to whatever policies they inherited...” (Tsebelis 2002, 204). However, veto players may also support or even reinforce policy change. Although the reinforcing impact of veto

players seems to be counterintuitive at first, there is a substantial body of literature postulating that veto players promote instead of hinder policy change initiated by agenda setters. In the view of formal analysis, Gehlbach and Malesky (2010) demonstrate that many veto players may prefer a full reform when other actors with special interests prefer a partial reform that is less effective. That, in turn, has the consequence that many veto players promote a more comprehensive policy change than when there are none or few veto players. In the context of environmental politics, Roller (2005, 252) finds that, concerning the generation of municipal waste, a high number of veto players leads to better results than a low number. She interprets this finding as follows: “This indicates that informal negotiation democracies generally produce better policy performance than informal majoritarian democracies...” (see also Immergut and Orłowski 2013, 213) This finding is in line with the general conclusion that consensus democracies are the “gentler and kinder” societies (Lijphart 2012).

In empirical terms the ASPM requires identifying both: first, ideological positions of agenda setters and veto players and second, institutional settings. In environmental studies, many claim that the conflict in society is between the environment and economic growth and this constitutes a new ideological dimension. This green-growth dimension most clearly determines the degree to which environmental performance changes (Knill et al. 2010; Jensen and Spoon 2011). Others claim that environmental issues do not constitute a basically new phenomenon for highly industrialized democracies and can therefore be dealt with within established politics. If disagreement exists, it will be translated into the left versus right dimension which is the guiding semantic of politics in many policy fields (McDonald and Budge 2005; Benoit and Laver 2006; Warwick 2006). It is therefore necessary to consider both policy dimensions for the analysis of environmental performance.

For the identification of political ideologies I use the party manifesto data because they are time and country sensitive (Budge et al. 2001; Klingemann et al. 2006; Volkens et al. 2013). In contrast to most other indices from party manifestos, I deductively create informed indices for both the environmental dimension and the left-right dimension. These indices take into account that ideological positions are different in various countries and over time (for the left-right (LR) dimension see Jahn 2011; 2014 and for the green-growth (GG) dimension Jahn 2016b).

In order to apply the ASPM I need to identify the aggregated position of *the* EU. For this I have to take into account the complex decision-making process involving various institutions. The day-to-day political process is determined by the intra- and inter- decision-making processes of the European Commission, the Council of Ministers and the European Parliament. However, the European Council “[...] sets the guidelines and objectives for the Commission and monitors how the Commission implements these guidelines” (Hix and Høyland 2011, 32) and will therefore also be taken into account. Furthermore, there have been many changes of the EU’s decision making process most importantly the changes following the Single European Act (SEA) (entered into force 1 July 1987), the Treaty on European Union (Maastricht Treaty) (1 November 1993), and the Treaty of Amsterdam (1 May 1999). That means that I change the institutional model during the Luxembourg Compromise, the Co-Decision I Procedure, and the Co-Decision II procedure.¹

¹ For the detailed operationalization see Jahn and Düpont 2015.

Veto player analysis takes a specific form in the multi-level EU context. First, there is an ideological misfit between the EU-position, on the one hand, and the positions taken by the governments of the EU-member states, on the other. In analytical terms Börzel and Risse (2003) outline that when member states adopt EU standards in polity, politics, and policy (they call this process Europeanization), they have to overcome misfits between the individual member states and the EU. Bringing this insight into macro-comparative analysis suggests that EU membership may improve environmental performance in countries which are environmental laggards, but at the same time, the same EU policy may obstruct improvements in environmental performance in other states. In order to estimate the final net-effect of the EU on the environmental performance of its member states, it is necessary to compare the environmentally relevant positions of the EU with the environmentally relevant positions of the member states.²

For the positions of the member states I use the positions of the domestic government in each country. The difference between the EU position and the positions of the member states' agenda setters is the ideological misfit.³ As an indicator of its impact I use an index which builds on the range of the ideological positions of the two member states which are most ideological distant. Conceptually the index is consistent with Tsebelis' operationalization of veto players but instead of a time-invariant policy positions I use the time-variant index which has also been used for the EU positions.

The second aspect focuses on the veto function of domestic political actors with regard to EU initiatives. In this context I analyze the domestic veto players which have been shown to have a large effect on compliance among individual member states (Bailey 1999; Börzel 2000; Grant et al. 2000; Knill and Lenschow 2000; 2003; Börzel et al. 2010). Even if the EU has high environmental aspirations, the member states might not implement EU regulations and directives effectively. One reason is the misfit between EU positions and the positions of member state governments. However, even if this misfit is overcome, domestic actors are able to challenge the impact of the EU at the level of domestic politics. This interaction has been claimed as important in the literature (Börzel and Risse 2003) but has never been analyzed in a process analysis in macro-comparative politics. Therefore, the domestic veto players' reactions to changes in EU positions are analyzed in this study. Domestic veto players involve not only the national level but also the subnational level because the index also contains elements of subnational politics such as the veto power of second chambers (Jahn 2010).

In order to estimate the conditional impact of the EU an interaction model is applicable. That means that the impact of the EU can only be estimated in relation to the misfits with the member states and the domestic veto players. However, this interaction can be rather complex. As outlined above the relationship between the EU as an agenda setter and the political constrains (here the misfits of governments and domestic veto players) can be contentious. That means that the EU tries to move policies into its preferred direction but that political constrains try to prevent this move. However,

² Mastenbroek (2005, 1109–10) shows that misfits may delay the political process for laggards as well as for leaders. For the latter she refers to the inappropriate and delayed transposition in Germany because the suggested directive would have meant a lowering of Germany's standards.

³ There are other relevant misfits such as institutional and administrative misfits or policy misfits. However, I remain within the framework of this study by focusing on the ideological misfits despite that the other misfits are certainly important. Analyzing them as well would have extended the scope of this study too much.

national governments and veto players can also support the initiative of the EU. In the context of EU politics one may assume that a consensus style of politics is dominant because most of the time the EU strives for a broad consensus in its policies. All these reflections may lead to the following hypotheses concerning the interaction between the EU, on the one hand, and member state governments and domestic veto players, on the other.

Hypothesis (1): Environmental performance is the result of the interaction between the EU position and ideological misfits with member states. It is of either the contentious (i) or - even more likely - consensus (ii) type.

Hypothesis (2): Environmental performance is the result of the interaction between the EU position and domestic veto players. It is of either the contentious (i) or consensus (ii) type.

All in all the perspective taken in the analysis comes close to what qualitative studies suggest to be crucial to understanding “European environmental governance” which “... is the interaction of the European, national and subnational levels, and the comparative politics and policies of the member states” (Weale et al. 2000).

The interactive effect implies direct impacts of agenda setters and veto players. Therefore four axillary hypotheses can be formulated. First, a shift to the green and/or the left position on the part of the EU as a driver of the improvement of environmental performance in the member states.

Hypothesis (A1): A move to green positions has a positive effect on the environmental performance of EU member states.

Hypothesis (A2): A move to the left has a positive effect on the environmental performance of EU member states.

Hypothesis (A3): The greater the ideological misfit between EU and member state positions, the lower the environmental performance of EU member states.

Hypothesis (A4): The greater the ideological range among domestic veto players, the lower the environmental performance of a country.

In addition to analyzing the impact of ideological positions, I take an institutional perspective by analyzing environmental institutionalization in EU politics because this may support the findings of the analysis based on policy positions. Even if there is a whole range of environmental policy instruments which can be applied by the EU to various effects, the two most effective legal acts for improving the environmental performance of EU member states are regulations and directives (Knill and Liefferink 2007, 2). The former is a binding legislative act and must be applied in its entirety across EU member states. In general, the member states prefer directives over regulations which give more discretion to individual member states (Jordan and Tosun 2013, 258).

Hypothesis (3): Increases of environmental regulations and directives have a positive impact on the environmental performance of EU member states.

EU politics has frequently changed its institutional rules and EU reforms strengthened the EU position against its member states. These changes may result in substantial period effects. Such period effects have been identified in the literature by describing that the EU started very enthusiastically in the 1970s but environmental engagement lost momentum in the 1980s, only to increase again in the 1990s and in the first decade in the new millennium (Knill and Liefferink 2013; Delreux and Happaerts 2016). In their empirical analysis of the convergence of environmental policy, Holzinger et al. (2008, 180) conclude by reporting the correlation between EU membership and policy convergence that the "...general impact of EU membership is strongly positive for the 1970s (.326) and, to a lower degree, for the 1990s (.165), but weak for the 1980s (.062)." These period effects are also essential when analyzing the interaction between the EU position and the political constraints in the context of EU politics. Explaining those period effects in analytical terms I assume that the Maastricht Treaty has been a watershed in EU politics in that it strengthened the EU position. That would mean that from 1980 to 1993 the EU had a minor impact on member states. The impact of the EU position, on the one hand, and of the ideological misfit and the veto players, on the other, as well as the interaction between the former and the two latter are assumed to be insignificant in this period. That is in contrast to 1994 through 2007 when the Maastricht Treaty was in force and environmental policy became an independent policy field in the EU. In addition, the Maastricht Treaty gave the EU the mandate to intervene in the domestic policies of member states. I assume that in this period the impact of the EU is most relevant. It is more an open question as to what impact the EU has during the economic crisis after 2008. On the one hand, the EU may reinforce its environmental engagement during the crisis and its impact on improving environmental performance may intensify. On the other hand, the EU may return to the bread and butter issues and neglect environmental concerns altogether.⁴ Particularly in the left-right dimension this may lead to a return to productionist politics. These considerations lead to three hypotheses dealing with period effects whereby the two latter hypotheses are counter hypotheses:

Hypothesis (4): The period from 1994 to 2007 is the period where the impact of the EU on the environmental performance of its member states is strongest.

Hypothesis (5): The period from 2008 to 2012 (economic crisis) is characterized by the EU's stronger engagement in environmental matters which results in a stronger impact of the EU on the environmental performance of its member states.

Hypothesis (6): The period from 2008 to 2012 (economic crisis) is characterized by the EU's weaker engagement in environmental matters which results in a weaker impact of the EU on the environmental performance of its member states.

⁴ It is also a possibility that the EU is willing but unable to improve or maintain environmental performance in its member states during the economic crisis.

Data and Methodological Issues

The analysis is conducted with 21 established OECD countries shown in Table 1 – 14 EU member states and seven non-member states – from 1980 to 2012 when data have been available for the outcome variables.

As dependent variables I use two aspects of environmental performance: water pollution and country specific environmental performance. Water pollution summarizes indicators which loaded on one factor when analyzing 14 environmental issues (Jahn 2016b). The issues are river and lake water pollution as well as the use of fertilizers. The other index considers country specific environmental degradation. As Scruggs (2003, 29) notes in his comprehensive study of environmental performance of highly industrialized societies: “Some [indicators] may have greater salience in particular countries”. This is certainly true. The use of water resources, for instance, is more important in countries with water scarcity, effectively meaning that water abstraction and water pollution in rivers and lakes is a more relevant issue in the Mediterranean countries where water is scarce, compared to Scandinavia or Canada where the water supply is abundant. In contrast, countries with a cold climate may be more dependent on clean energy production than countries in moderate climates because of high heating requirements which in turn imply atmospheric emissions. In order to conduct an analysis which takes different aspects of the dependent variable into account, I draw from the concept of contextualized comparison. Locke and Thelen (1995; 1998, 11) define contextualized comparison as “... a strategy which self-consciously seeks to address the issue of equivalence by searching for *analytically equivalent* phenomena – even if expressed in substantively different terms – across different contexts.” Analytically that means that I use different indicators for each country depending how relevant they have been in the early 1980s (Cherchye et al. 2007). The set of pollutants of this index may be called the established national pollutants or Country Specific Environmental Performance (CSEP). Political actors such as the EU and national governments may be very aware of these environmental issues and may strive to improve their environmental record concerning these pollutants. However, CSEP is also deeply ingrained in the production structure of a country and therefore may be resistant to change.

In order to conduct an analysis utilizing contextualized comparison, I identify the major environmental problems in each country through comparing the standardized scores for eleven indicators of environmental pollution. I use those three pollutants with the highest national scores between 1980/2. In order to obtain an index of country specific environmental performance, I add up the three most salient national pollutants and standardize the final index. Table 1 gives an overview of the three most important environmental issues in the 21 OECD countries analyzed in this study.

Table 1: Country Specific Environmental Issues (1980-82)

<i>Country</i>	<i>Most Important</i>	<i>Second Important</i>	<i>Third Important</i>
Australia	VOC	CO	NOx
Austria	CO	VOC	SOx
Belgium	Rivers	Fertilizer	SOx
Canada	CO	SOx	Nuclear
Denmark	Lakes	SOx	NOx
Finland	SOx	NOx	Nuclear
France	Rivers	VOC	CO
Germany	Rivers	SOx	CO ₂
Greece	SOx	Rivers	CO
Ireland	SOx	Fertilizer	CO
Italy	Lakes	SOx	Water
Japan	Fertilizer	Rivers	Water
Netherlands	Fertilizer	Lakes	Rivers
New Zealand	Waste	CO	SOx
Norway	VOC	Fertilizer	CO
Portugal	Rivers	Water	SOx
Spain	Lakes	SOx	Rivers
Sweden	CO	SOx	Nuclear
Switzerland	Fertilizer	VOC	CO
United Kingdom	Rivers	SOx	Nuclear
United States	CO	NOx	Water
All	SOx	CO	Lakes

For most countries atmospheric emissions are the most relevant country specific issues. As expected, in all Mediterranean countries, water issues rank high on the agenda. Another group of countries have very intensive agricultural production and, in turn, a high consumption of fertilizer, contributing to river and/or lake pollution. These countries are above all Belgium, Ireland, the Netherlands, Switzerland and Japan. Finally, other countries have radioactive waste as an important issue of environmental degradation.

Aside from the variables which concern the EU or the interplay with domestic actors, other variables have been taken into account as control variables which have been shown in other studies to have substantial impact on environmental performance. First of all, the strong positive impact of corporatism on environmental performance has already been found by pioneering macro-comparative studies (Crepaz 1995; Jahn 1998). Most prominently, Scruggs (1999; 2001; 2003) advocates this relationship. Although corporatist arrangements were established to solve macro-economic problems, he claims that “[c]orporatist institutions contribute positively and strongly to environmental policy performance...” (Scruggs 2003, 160). In order to analyze the impact of corporatism on environmental performance I use a new time-variant index of corporatism (Jahn 2016a).

Other studies show that the stronger the environmental movement mobilization, the more profound the impact on environmental policies and environmental performance (Rucht 1999; Giugni 2004). In their four country study Dryzek et al. (2003) demonstrate that the strength of the movements explains the degree to which countries move toward becoming a “Green State.” I therefore include the strength of environmental movements as a control variable into the model (for details see Jahn 2016b; 2017).

As further control variables I use economic growth and energy supply. The former variable is attributed a large impact on environmental performance. However, the causal mechanism is disputed. Some see a linear relationship between environmental degradation and growth. Others assume exactly the opposite and postulate that growth leads to a cleaner environment. Others, in the tradition of ecological modernization theory, assume that the impact of growth may have changed from a variable with a positive relationship to variable which reverses its sign of impact (Environmental Kuznets Curve; EKC).

There are some methodological issues which are specific to this study. As a standard model I use an OLS or Prais-Winsten regression with panel corrected standard errors and a first difference dependent variable where the independent variables are basically included as first difference and as level (Beck and Katz 1995; de Boef and Keele 2008). More specific to this study is the use of optimized time lags and the presentation of interactive models. In contrast to most established studies I do not use a t-1 standard time lag for the variables. Instead I use optimized lags which are time and country specific. Plümpert et al. (2005) suggest testing various time lags in order to identify an optimized time lag for each variable. “Though the optimization of lags is certainly time consuming, it is absolutely essential in first difference models” (Plümpert et al. 2005, 344).⁵ However, instead of identifying optimized lags for each variable individually, I search for the most efficient model by giving all variables a range of time lags. In a simulation all possible time lags are checked and the best fitted model is then selected.

In order to handle the issue of changes over time I use fully interactive models in that I interact all variables with a period split (dummy). This allows for comparing the impact of the variables before and after the split. In order to analyze the three periods, I use two models: the first model includes the years from 1980 to 2007 and splits the period in 1994. This leads to a period of early EU politics from 1980 to 1993 and a period covering the EU politics after the Maastricht Treaty until the economic crisis (1994-2007). The second model uses the period from 1994 to 2012 and a split in 2007. This model enables the analysis of, on the one hand, the period under the Maastricht Treaty (identical to the post-split period of the first model) and the impact of the variables in times of the economic crisis from 2007 to 2012. Identifying the interaction between the EU position, on the one hand, and the misfits with the position of the governments of the member states and the domestic veto players, on the other, leads to three-way interactive models. The results of these interaction effects will be shown with marginal effect plots.

⁵ Technically, one may remark that optimized lags lead to overfit models. This is of course partially true because it is an inductive method which fits the data to the model. However, using a standard t-1 lag is even more biased. Optimized lags identify the time lags of the variables in theoretically defined directions and sequences. This fact together with the applied practice that five variables are simultaneously optimized limits the risk of overfitting. Empirically, it also shows that not all variables with optimized lags are significant. This clearly shows that the procedure does not create significant results in any circumstance. Furthermore, when optimizing lags in opposite directions, significant results are generally only found in one direction.

Equation 1 summarizes the included variables and the applied time lags of the basic model without interaction terms.⁶

$$\begin{aligned}
 \Delta Y_{it} = & \alpha_0 + \beta_0 Y_{it-1} & (1) \\
 & + \beta_1 \Delta EUPOS_{it1-5} + \beta_2 EUPOS_{it=\Delta EUPOS-1} \\
 & + \beta_3 \Delta EUMISFIT_{it1-5; \leq \Delta EUPOS} + \beta_4 EUMISFIT_{it=\Delta EUMISFIT-1; \leq \Delta EUPOS} \\
 & + \beta_5 \Delta VETOPLAYER_{it0-4; \leq \Delta LAS \& \leq \Delta EUPOS} + \beta_6 VETOPLAYER_{it=\Delta VETOPLAYER-1} \\
 & + \beta_7 \Delta EUREG_{it1-4} + \beta_8 EUREG_{it=\Delta EUREG-1; \leq \Delta EUPOS} \\
 & + \beta_9 \Delta EUDIR_{it2-6} + \beta_{10} EUDIR_{it=\Delta EUDIR-1; \leq \Delta EUPOS} \\
 & + \beta_{11} \Delta CORPORATISM_{it1-4} + \beta_{12} CORPORATISM_{it=\Delta CORPORATISM-1} \\
 & + \beta_{13} ENVMOV_{it1-5; \geq \Delta LAS} \\
 & + \beta_{14} GROWTH + \beta_{15} GDI_{it-1} \\
 & + \beta_{16} \Delta Energy + \beta_{17} \Delta Energy_{it-1} \\
 & + \beta_{yi} \text{ YEAR EFFECTS} + \epsilon_{it}
 \end{aligned}$$

This equation applies to Table 2 and the tables in the Appendix. Coefficients 16 and 17 have only been calculated for the models with CSEP as dependent variable. For the marginal effect plots in Figures 2 and 3 the interaction terms $\Delta EUPOS * \Delta EUMISFIT$ and $\Delta EUPOS * \Delta VETOPLAYER$ have been added.

Findings

In order to obtain a general overview of the impact of the variables included in the model I first present the results of the basic model without interactive terms. In a second step I show the findings of the interaction terms which are basic to the ASPM.

Results of the Basic Model

I first interpret the basic model without interactive terms. This is necessary because including interactive terms in the equation does not allow the interpretation of coefficients as effects even for the variables not interacted in the model (Kam and Franzese 2007, 19–22). Most astonishing is the rejection of Hypothesis A1, that the mobilization of green positions has a significant impact on changes of environmental performance. In contrast the mobilization of left positions of the EU has some significant effects. Consequently, the focus here within this paper is on the left-right dimension and the green dimension will only be referred to occasionally. Additional information and all results for the green dimension can be found in the Appendix.

⁶ Sometimes lags have also been adjusted according to the time lags of domestic legislative agenda setters which are not included in the models because of their inconclusive impacts.

Table 2: Structural Break Models for Water Pollution and Country Specific Environmental Performance in the Left-Right Dimension

Variable	Water Pollution				Country Specific Environmental Performance (CSEP)			
	(Model 1)		(Model 2)		(Model 3)		(Model 4)	
	Pre-break 1980-1993	Post-break 1994-2007	Pre-break 1994-2007	Post-break 2008-2012	Pre-break 1980-1993	Post-break 1994-2007	Pre-break 1994-2007	Post-break 2008-2012
Lagged Level Dependent Variable	-0.035*** (0.009)	-0.021 (0.011)	-0.021 (0.012)	-0.010 (0.021)	-0.028* (0.014)	-0.022 (0.018)	-0.022 (0.019)	0.011 (0.031)
ΔEU Regulations/Directives	0.017 (0.037)	-0.102** (0.033)	-0.102** (0.037)	-0.090* (0.041)	-0.085 (0.072)	-0.027* (0.011)	-0.027* (0.011)	0.003 (0.010)
EU Regulations/Directives	0.024 (0.036)	-0.069 (0.041)	-0.069 (0.044)	-0.046 (0.057)	0.051 (0.040)	-0.014 (0.011)	-0.014 (0.011)	-0.005 (0.004)
ΔEU Position	-0.160* (0.074)	-0.358** (0.115)	-0.358** (0.124)	0.914*** (0.267)	-0.175* (0.069)	-0.469*** (0.141)	-0.469*** (0.133)	0.255 (0.233)
EU Position	-0.056 (0.079)	-0.072 (0.121)	-0.072 (0.130)	0.079 (0.299)	0.036 (0.064)	0.275* (0.118)	0.275* (0.107)	-0.312 (0.282)
ΔMisfits	0.121* (0.049)	0.099* (0.041)	0.099* (0.049)	-0.229* (0.105)	0.036 (0.043)	-0.033 (0.040)	-0.033 (0.041)	-0.015 (0.080)
Misfits	-0.005 (0.039)	0.053 (0.034)	0.053 (0.042)	0.050 (0.066)	-0.056 (0.032)	0.110*** (0.031)	0.110*** (0.029)	0.005 (0.035)
ΔVeto Players	0.013 (0.025)	0.026 (0.019)	0.026 (0.018)	-0.006 (0.033)	0.034 (0.030)	-0.016 (0.023)	-0.016 (0.018)	-0.039 (0.028)
Veto Players	-0.002 (0.011)	0.004 (0.010)	0.004 (0.009)	0.011 (0.018)	-0.008 (0.013)	0.002 (0.014)	0.002 (0.012)	-0.011 (0.020)
ΔCorporatism	-0.002 (1.555)	-5.772*** (1.519)	-5.772*** (1.539)	-4.805 (4.298)	5.157*** (1.319)	4.107*** (1.168)	4.107*** (1.131)	1.546 (3.614)
Corporatism	0.052 (0.131)	0.120 (0.148)	0.120 (0.162)	-0.185 (0.331)	-0.402*** (0.120)	0.340* (0.159)	0.340 (0.179)	-0.089 (0.387)
Environmental Movements	-0.092 (0.070)	-0.357*** (0.086)	-0.357*** (0.088)	-0.131 (0.219)	-0.178** (0.060)	-0.454*** (0.122)	-0.454*** (0.113)	0.286 (0.317)
Economic Growth	0.145** (0.051)	0.027 (0.058)	0.027 (0.065)	-0.336** (0.121)	0.144** (0.049)	-0.002 (0.059)	-0.002 (0.052)	-0.067 (0.091)
Gross National Income	0.160 (0.284)	-0.199 (0.192)	-0.199 (0.230)	-0.002 (0.390)	0.628* (0.287)	0.074 (0.255)	0.074 (0.272)	-0.291 (0.416)
ΔEnergy Supply					0.156* (0.066)	0.222*** (0.046)	0.222*** (0.049)	0.178 (0.119)
Energy Supply					0.001 (0.005)	0.010 (0.006)	0.010 (0.006)	-0.004 (0.013)
Constant		1.886 (1.065)		0.545 (2.271)		0.690 (0.722)		0.633 (1.244)
R2		0.303		0.392		0.315		0.319
Adj. R2		0.229		0.312		0.237		0.222
N		567		399		565		399

* p<0.05, ** p<0.01, *** p<0.001; all models include period dummies not shown. Different number of observations is due to optimized time lags.

For both dependent variables the analysis is organized in the following way: Models 1 and 3 in Table 2 show the results for the period from 1980-2007 with a split in 1994. Models 2 and 4 use the sample from 1994 to 2012 with a period split in 2007. The basic models without period splits are shown in the table in the Appendix. For both water pollution and CSEP, Hypothesis A2 is supported: a move to the left on the part of the EU leads to an improvement of environmental degradation. Furthermore, the period effects also confirm that the post-Maastricht period until the advent of the economic crisis is the period where changes in EU positions are most relevant (Hypothesis 4), although they are also already significant in the 1980-1993 period. However, the crisis years change the impact considerably. The coefficient either becomes insignificant (CSEP) or significant in the opposite direction (water pollution). Since for both models the sign of the coefficients change we may conclude that a shift to the left is associated with a deterioration of environmental performance. This result falsifies Hypothesis 5. For changes in water pollution it even seems that the EU's engagement harms environmental progress. For CSEP, Hypothesis 6 is supported, suggesting that during the economic crisis the EU neglects environmental issues. This change of the impact of left positions has also been identified for domestic politics and may be grounded in the fact that actors preferring left positions are turning away from "new politics" issues and (re-) emphasizing the "bread and butter" issues of left politics during the period of the economic crisis (see Jahn 2016b).

Similar results can be seen for the impact of environmental regulations and directives (Hypothesis 3). Whereas directives are more effective in the case of water pollution, regulations and directives have very similar effects in the case of CSEP.⁷ For water pollution the dominance of environmental directives may lie in the character of water pollution and the policy style in this issue area. Water problems are more specific to the individual countries and therefore a larger discretion of the member state is advantageous. Furthermore, water pollution is characterized by consensus politics and directives build more on trust in national activities than regulations which operate, by and large, according to command-and-control mechanisms.

In both issue areas environmental regulations or directives are insignificant in the pre-Maastricht period, but become significant in the 1993-2007 period. In the crisis years the positive impact of regulatory instruments remains significant only for water pollution but fades for CSEP. This confirms the findings for Hypothesis 5 for water pollution and Hypothesis 6 for CSEP and also adds proof to the validity of the analysis of ideological positions.

Summarizing the impact of the EU in both respects – the impact as agenda setter and institutional activities – reaches the conclusion that the peak of the EU's positive impact on the environmental performance of its member states is highest in the post-Maastricht period (Hypothesis 4). It already began to develop, however, in the period before the introduction of the Maastricht Treaty. This result confirms the findings of other studies which analyze the EU in a broader context with non-EU member states (Holzinger et al. 2008, 180). More important is the declining impact of the EU on improving environmental performance in the crisis years. In view of the economic crisis the EU does not seem to be a reliable actor for improving environmental performance anymore (Burns and Tobin 2016).

⁷ Analyses including directives instead of regulations for CSEP are not shown here because it is not possible to include both directives and regulations into one regression model due to multicollinearity.

Turning to the significance of the constrains to EU politics – misfits and veto players – shows that domestic veto players do not seem to be significant factors in obstructing EU politics (Hypothesis A4).⁸ The changes in misfits only have a significant impact for water pollution and, with the exception of the post-2008 period, are in the expected direction (Hypothesis A3). For CSEP the level – not the changes – are more relevant and are significant in the period from 1994 to 2007.

The control variables also come to highly interesting results. For corporatism, Scruggs' (2001; 2003) positive verdict is confirmed in the context of water pollution. However, for CSEP it is just the opposite. Since country specific environmental issues are closely related to national industries it seems to be plausible that corporatist actors support the interests of national industry even at the expense of environmental degradation. These contradictory findings for water pollution and CSEP may also explain why some authors cannot find any conclusive results for the impact of corporatism (Neumayer 2003) because the effects cancel out each other.

The impact of environmental movements is strong and significant, however, the impact is period specific. For CSEP the impact is relevant from the early 1980s until 2007. It started later for water pollution where the 1990s is the period with the highest impact. However, in the crisis years the impact of environmental movements ceded. This is probably associated with the fact that mobilization of environmental movements declined and that environmental concerns are increasingly dealt with in the framework of established politics (Jahn 2017).

For economic growth there is a positive relationship in the 1980s. In the rest of the periods there seems to be a decoupling of growth and environmental performance although there is no sign that the relationship turns as subscribed by the EKC. The significant negative relationship between growth and water pollution during the years of the economic crisis may indicate such a shift. However, economic growth decreased mainly in the Mediterranean countries leading to the effect that despite this decline in economic productivity, water pollution levels increased. A closer look suggests just this trend in the case of Greece where water pollution increased substantially in the crisis years. Finally, energy supply is a significant control variable for CSEP which contains many aspects of air pollution which in turn is caused by energy consumption. After having explained the direct impact of the variables included in the models I will now turn to the interactive terms.

The Agenda Setting Power Model in EU-Politics

Figures 1 and 2 show the marginal effect plots for the interactions in various time periods for changes of misfits and domestic veto players, respectively, and the changes of EU-positions. The lines in marginal effects plots show how the impact of the EU changes when constrains change to a certain degree. The

⁸ Although a move of the EU on the green-growth dimension has no statistically significant effect, there are effects for misfits and veto players (see Table A4). For CSEP, increasing misfits has a negative effect in the periods before the economic crisis. For veto players as well as for water pollution, increasing misfits and veto players improves environmental performance. This is even the case for water pollution during the economic crisis in the green-growth dimension.

dotted lines show the confidence interval at the 90 percent level. Including the zero line means that the results are insignificant.

Figure 1: The Interaction between Changes in EU Left-Right Positions and Political Constrains in Water Pollution

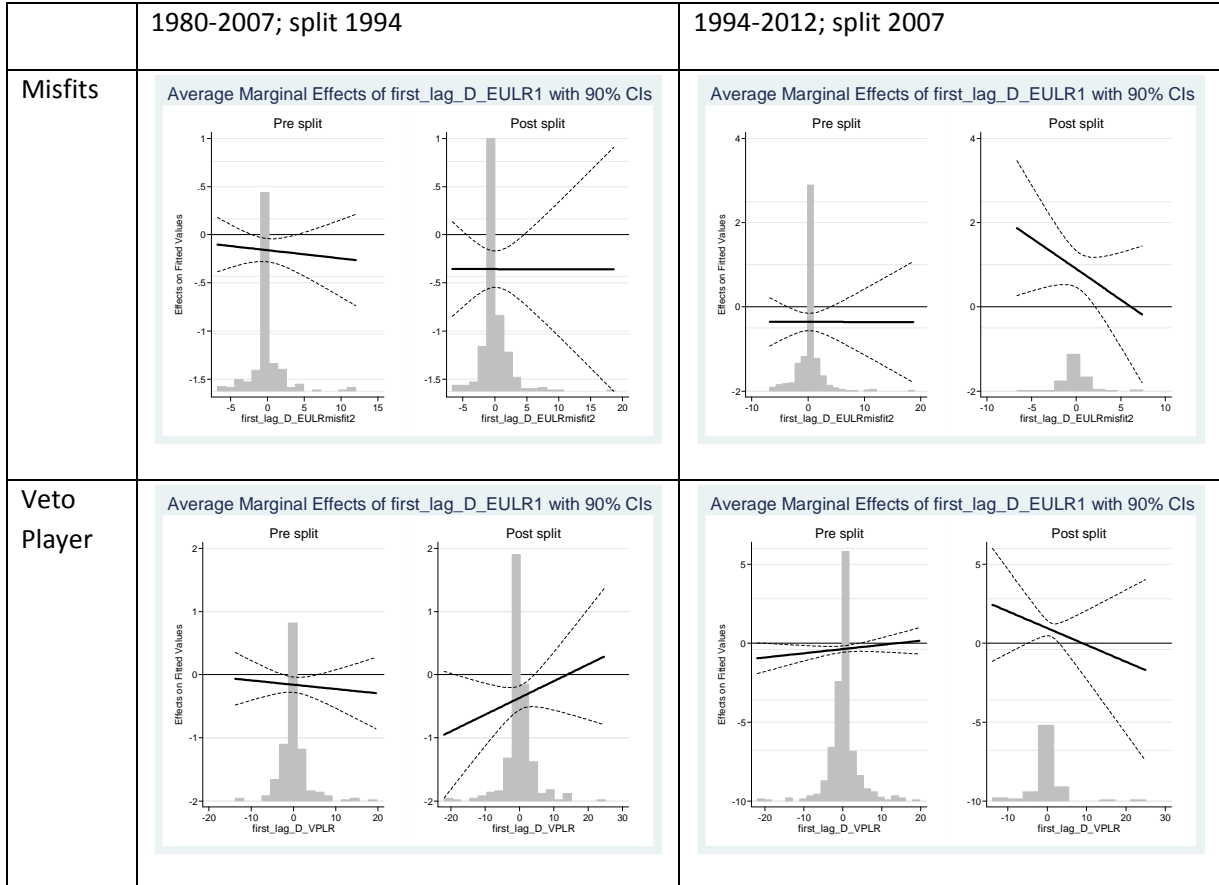
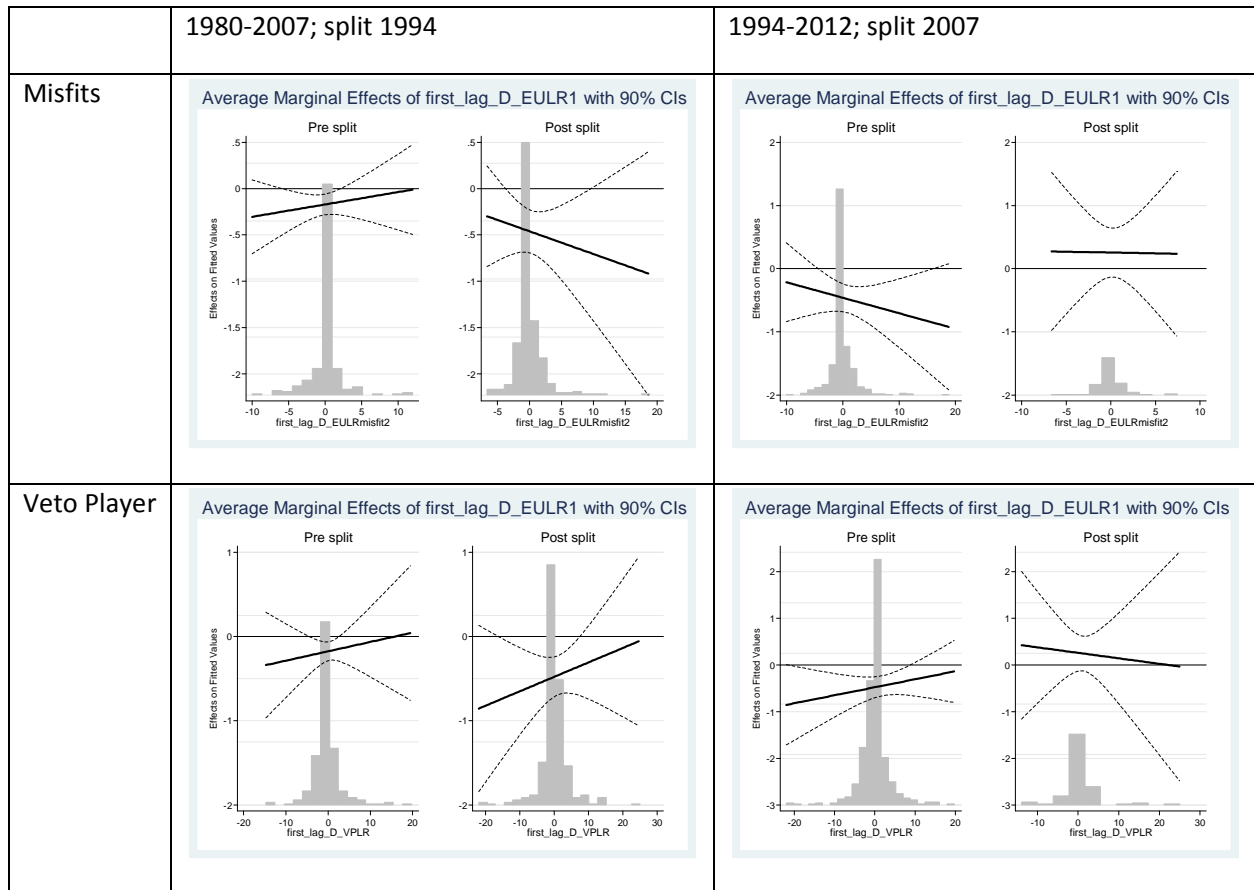


Figure 2: The Interaction between Changes in EU Left-Right Positions and Political Constrains for Country Specific Environmental Performance (CSEP)



For water pollution there are no interaction effects between EU positions and misfits except for the crisis years, falsifying Hypothesis 1 for most of the time period. As we saw in the model without interaction effects, an EU move to the left resulted in an increase in water pollution during the years of crisis. The interaction graph shows that this effect is greatest and significant when the misfit declines. Increasing misfits diminishes this effect until it becomes insignificant when the misfit increases substantially. This confirms Hypothesis 1 though not in the version that misfit blocks an environmentally benign shift of the EU to the left but rather that an increasing misfit prevents a deterioration of water pollution through a shift to the left.

Domestic veto players have another interaction effect which is strongest in the post 1994-2007 period. In this period a move to the left has a positive effect on improving water pollution. This effect is strongest when domestic veto players move closer together. An increasing veto player range diminishes the positive EU effect until it becomes ineffective (insignificant) when the veto player range increases substantially. This result shows that there is an interaction effect between the changes of the EU position and changes in the veto player range although the veto player range variable was insignificant in the

model without interaction terms. The effect is actually the way that Tsebelis would expect it to be. Veto players block the initiatives of agenda setters. This result confirms Hypothesis 2.

Interaction effects in line with Hypothesis 2 can also be seen between the changes in EU positions and domestic veto players for CSEP in the period 1994-2007 and, to a somewhat weaker extent (the line is flatter), in the period from 1980-1993. However, for misfits the results are different. In the period between 1980-1993 the pattern supports that diminishing misfits lead to a better environmental performance when the EU moves to the left, confirming Hypothesis 1i. However, in the period from 1994-2007 when the Maastricht Treaty took effect an increase of the misfit with member states actually leads to a better CSEP, at least when the increase of the misfit is not too radical. When the misfit surpasses a certain value (above 12 on a scale from -10.02 to 18.87), the positive impact of a change of the EU position fades. This finding is in line with Hypothesis 1ii and shows that intra-EU politics is consensus oriented. By integrating diverse standpoints, the EU is able to exercise a positive impact on the environmental performance of its member states.⁹

Conclusion

The EU has a positive impact on the environmental performance of its member states. This is true in both respects: in light of the EU as agenda setter (shifting policy positions) as well as the institutionalization of environmental policies (regulations and directives). However, in the former case it is intriguing that a move to the left has a stronger effect than a move to greener positions. That shows that environmental issues are mainly dealt with in terms of established politics in the EU. This stands in contrast to domestic politics where emphasizing environmental positions has a stronger effect (Knill et al. 2010; Jensen and Spoon 2011; Jahn 2016b).

Another finding of this study is that there are important differences over time which correspond to endogenous changes and external pressures. The Maastricht Treaty had a strong impact. After Maastricht and until the advent of the economic crisis in 2008 the impact of the EU is strongest. The economic crisis changed EU politics substantially. First, the environmentally benign effect of a move towards left positions changed. Moving to the left is more associated with a deterioration of environmental performance than with improvement as it had been in preceding decades. This finding is consistent with findings in domestic politics and shows that political actors which favor left positions (re-) turn to the bread and butter issues of left politics and give up engagement in environmental politics (Jahn 2016b). This development is in line with a higher saliency of the left-right dimension in the economic crisis than in the decades before (Jahn 2014). Second, the impact of the EU on environmental

⁹ In the green-growth dimension there is only one significant interaction effect between changes in the EU position and veto players. This is so for CSEP in the early period (Figure A2) and for water pollution in the period from 1994 to 2007 (Figure A1). This shows that the mobilization of green positions, which started earlier for CSEP than for water pollution as can also be seen when considering environmental movement mobilization, had a contentious character in the first stage but later changed to less contentious style or the conflict and negotiation have been embedded into the left-right dimension.

performance is less significant in the crisis years than before. Also here we may assume that issues of overcoming the economic crisis dominate engagement in environmental politics.

The ASPM shows impressively that there are important constraints to the impact of the EU. While the relationship between the positions taken by the EU and the positions of member states is characterized by consensus and reinforces the improvement of environmental performance in member states, domestic veto players are the real challenge for EU politics. In particular, during the period when the impact of the EU was strongest (1994-2007) domestic veto players were able to extenuate the impact of the EU. That means that compromises reached at the EU level are challenged when it comes to translating them into domestic politics.

Considering the periodical changes of the impact of the EU on its member states raises several issues. First, the institutional changes initiated by the Maastricht Treaty certainly paved the way for the EU to become a firmer influence on the environmental policy (measured here with the environmental outcome) of its member states. This environmentally benign impact of the EU is the established view of most studies in the literature. The economic crisis raises a second issue. What does the fading and even changing impact of the EU in the post-2008 years actually mean? In one respect it could mean that the benign environmental impact of the EU is sunshine policy in times of prosperity. Once the economic situation changes, the EU's impact begins to fade or even worse for the environment, the EU sets new priorities and engages stronger than before to foster economic wealth even at the expense of environmental improvement. This conclusion is drawn here from a bird's-eye view but there are some instances confirming such a shift.¹⁰ In another respect that can also mean that the impact of the EU is watered down by the member states when it comes to hard decisions. Also from this perspective we find plenty of support when looking at the relationship between the EU and its member states in financial politics and the issue of migration. What that means for the environment is difficult to speculate. Probably it has the effect that the gap between environmental leaders and laggards is widening because member states react more closely to their domestic electorate than to the initiatives of European bureaucrats.

¹⁰ See for instance the case of car emissions: <http://www.theguardian.com/environment/2015/oct/28/eu-emissions-limits-nox-car-manufacturers>; accessed February 5, 2016, or the report by the WWF in 2013 "The Financial Crisis heralds the need for a deep Ecological Transition: <http://neurope.eu/article/financial-crisis-heralds-need-deep-ecological-transition/>, accessed February 5, 2016.

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Appendix:

Table A1: Descriptive Statistics of included variables.

Variable	Obs	Mean	Std. Dev.	Min	Max
ΔWater Pollution	672	-.1526347	1.737167	-7.752151	15.24764
Water Pollution	672	63.32481	12.19145	38.22223	100
ΔCSEP	672	-.6296999	1.571123	-9.949091	8.151203
CSEPl_LUPI82_12	672	70.51398	12.47679	36.42323	100
ΔRegulations	672	3.154762	12.58058	-29	61
Regulations	672	23.9881	40.66174	0	177
ΔDirectives	672	.2053571	3.846081	-12	13
Directives	672	5.83631	5.861796	0	17
ΔEU-Positions (LR)	672	-.0783141	1.11788	-4.914515	4.16119
EU-Positions (LR)	672	-1.395958	1.668737	-5.294698	4.756801
ΔEU-Positions (GG)	672	.0195499	1.29204	-8.989296	3.781711
EU-Positions (GG)	672	-2.480173	3.011649	-10.54724	0
ΔCorporatism	672	-.0025194	.0606653	-.242368	.2171825
Corporatism	672	.0980308	.6934411	-1.143516	1.485975
Environmental Movements	672	-.2239337	1.608552	-2.187309	5.790038
ΔVeto Players (LR)	672	.0485664	3.818384	-21.92934	25.01065
Veto Players (LR)	672	7.69097	7.795041	0	37.18067
ΔVeto Players (GG)	672	.2115895	3.101433	-16.57447	22.26299
Veto Players (GG)	672	6.302355	7.477168	0	34.04774
ΔMisfits (LR)	672	.0168986	2.120773	-10.01539	18.87268
Misfits (LR)	672	2.660104	3.840529	0	19.13028
ΔMisfits (GG)	672	.0171088	2.040105	-11.20706	16.47957
Misfits (GG)	672	2.536185	3.943054	0	20.71771
Economic Growth	672	2.236476	2.371195	-8.538561	11.27173
GNI per Capita	672	2.682069	.6769486	1.182103	4.913469
ΔEnergy Supply	672	-.1837464	1.633281	-9.329063	7.817642
Energy Supply	672	24.26845	25.11514	0.358424	94.03165

Table A2: Baseline Models for Left-Right Ideology

	<i>Water Pollution</i>			<i>Country Specific Environmental Performance (CSEP)</i>		
	<i>(Model 1)</i> 1980-2012	<i>(Model 2)</i> 1980-2007	<i>(Model 3)</i> 1994-2012	<i>(Model 4)</i> 1980-2012	<i>(Model 5)</i> 1980-2007	<i>(Model 6)</i> 1994-2012
Lagged Level Dependent Variable	-0.021*** (0.006)	-0.023*** (0.007)	-0.017 (0.010)	-0.011 (0.009)	-0.017 (0.011)	-0.014 (0.015)
ΔEU Regulations/Directives	-0.076*** (0.022)	-0.064* (0.026)	-0.099*** (0.029)	-0.014 (0.007)	-0.034** (0.011)	-0.011 (0.008)
EU Regulations/Directives	-0.035 (0.025)	-0.039 (0.028)	-0.048 (0.038)	0.001 (0.003)	-0.009 (0.008)	-0.002 (0.003)
ΔEU Position	-0.125 (0.066)	-0.195** (0.065)	-0.139 (0.128)	-0.203*** (0.061)	-0.214** (0.066)	-0.385*** (0.111)
EU Position	-0.089 (0.066)	-0.087 (0.067)	-0.040 (0.123)	0.082 (0.046)	0.061 (0.053)	0.265** (0.081)
ΔMisfits	0.086* (0.036)	0.102** (0.034)	0.064 (0.047)	0.012 (0.028)	0.007 (0.029)	-0.015 (0.039)
Misfits	0.005 (0.027)	0.015 (0.027)	0.039 (0.037)	0.008 (0.019)	0.020 (0.021)	0.077** (0.025)
ΔVeto Players	0.024 (0.014)	0.025 (0.015)	0.022 (0.016)	0.004 (0.015)	0.011 (0.018)	-0.021 (0.015)
Veto Players	-0.001 (0.007)	0.001 (0.008)	0.005 (0.009)	-0.009 (0.008)	-0.011 (0.009)	0.004 (0.010)
ΔCorporatism	-4.313*** (1.080)	-3.645** (1.116)	-6.609*** (1.504)	3.925*** (0.897)	4.468*** (0.929)	3.010** (1.161)
Corporatism	0.040 (0.093)	0.035 (0.092)	0.118 (0.156)	-0.075 (0.101)	-0.057 (0.114)	0.233 (0.164)
Environmental Movements	-0.181*** (0.053)	-0.175*** (0.052)	-0.362*** (0.090)	-0.171** (0.052)	-0.192*** (0.056)	-0.358*** (0.108)
Economic Growth	0.024 (0.039)	0.094* (0.038)	-0.069 (0.062)	0.071* (0.034)	0.112** (0.039)	-0.034 (0.047)
Gross National Income	-0.168 (0.159)	-0.146 (0.160)	-0.187 (0.215)	0.044 (0.152)	0.166 (0.184)	-0.048 (0.217)
ΔEnergy Supply				0.213*** (0.037)	0.198*** (0.042)	0.240*** (0.047)
Energy Supply				0.002 (0.003)	0.002 (0.004)	0.008 (0.006)
Constant	1.739*** (0.485)	1.686** (0.515)	0.781 (0.914)	0.014 (0.557)	0.200 (0.636)	-0.293 (0.637)
R2	0.245	0.236	0.313	0.228	0.246	0.261
Adj. R2	0.191	0.178	0.253	0.170	0.185	0.192
N	672	567	399	670	565	399

* p<0.05, ** p<0.01, *** p<0.001; all models include period dummies not shown.

Table A3: Baseline Models for Green-Growth Ideology

	<i>Water Pollution</i>			<i>Country Specific Environmental Performance (CSEP)</i>		
	<i>(Model 1)</i> 1980-2012	<i>(Model 2)</i> 1980-2007	<i>(Model 3)</i> 1994-2012	<i>(Model 4)</i> 1980-2012	<i>(Model 5)</i> 1980-2007	<i>(Model 6)</i> 1994-2012
Lagged Level Dependent Variable	-0.026*** (0.007)	-0.030*** (0.007)	-0.026* (0.011)	-0.008 (0.009)	-0.016 (0.011)	-0.017 (0.016)
ΔEU Regulations/Directives	-0.083*** (0.021)	-0.067** (0.025)	-0.089** (0.030)	-0.013* (0.006)	-0.034** (0.011)	-0.011 (0.006)
EU Regulations/Directives	-0.031 (0.022)	-0.036 (0.025)	-0.073* (0.036)	0.001 (0.003)	-0.011 (0.007)	0.001 (0.003)
ΔEU Position	-0.089 (0.058)	-0.098 (0.054)	-0.022 (0.102)	0.034 (0.051)	0.046 (0.052)	-0.016 (0.079)
EU Position	-0.034 (0.041)	-0.044 (0.040)	-0.155 (0.107)	0.091*** (0.023)	0.082*** (0.023)	0.308*** (0.082)
ΔMisfits	-4.535*** (1.096)	-3.972*** (1.142)	-7.062*** (1.450)	2.925** (0.902)	3.582*** (0.944)	1.798 (1.044)
Misfits	0.011 (0.095)	-0.011 (0.095)	0.100 (0.159)	-0.086 (0.094)	-0.085 (0.106)	0.310 (0.165)
ΔVeto Players	-0.207*** (0.052)	-0.207*** (0.053)	-0.341*** (0.075)	-0.112* (0.049)	-0.137** (0.051)	-0.202* (0.103)
Veto Players	0.024 (0.018)	0.035 (0.022)	0.005 (0.023)	0.016 (0.018)	0.036 (0.020)	0.006 (0.020)
ΔCorporatism	0.013 (0.009)	0.019 (0.010)	0.007 (0.012)	-0.011 (0.009)	-0.011 (0.010)	-0.013 (0.010)
Corporatism	0.025 (0.032)	0.039 (0.034)	0.005 (0.037)	-0.017 (0.031)	-0.019 (0.036)	-0.044 (0.033)
Environmental Movements	0.034 (0.020)	0.044* (0.020)	0.025 (0.024)	0.033 (0.021)	0.050* (0.024)	0.021 (0.023)
Economic Growth	0.037 (0.039)	0.119** (0.036)	-0.073 (0.061)	0.063 (0.034)	0.110** (0.037)	-0.026 (0.049)
Gross National Income	-0.202 (0.149)	-0.182 (0.150)	-0.191 (0.210)	-0.106 (0.153)	-0.025 (0.192)	-0.270 (0.225)
ΔEnergy Supply		2.036*** (0.495)		0.219*** (0.037)	0.191*** (0.042)	0.243*** (0.045)
Energy Supply				-0.000 (0.003)	0.001 (0.004)	0.004 (0.006)
Constant	2.000*** (0.481)	2.036*** (0.495)	1.529 (0.935)	0.475 (0.587)	0.879 (0.686)	1.060 (0.770)
R2	0.246	0.226	0.316	0.226	0.246	0.251
Adj. R2	0.191	0.168	0.257	0.168	0.186	0.181
N	672	567	399	672	567	399

Table A4: Structural Break Models for Water Pollution and Country Specific Environmental Performance in the Green-Growth Dimension

	<i>Water Pollution</i>				<i>Country Specific Environmental Performance (CSEP)</i>			
	<i>(Model 1)</i>		<i>(Model 2)</i>		<i>(Model 3)</i>		<i>(Model 4)</i>	
	<i>Pre-break 1980-1993</i>	<i>Post-break 1994-2007</i>	<i>Pre-break 1994-2007</i>	<i>Post-break 2008-2012</i>	<i>Pre-break 1980-1993</i>	<i>Post-break 1994-2007</i>	<i>Pre-break 1994-2007</i>	<i>Post-break 2008-2012</i>
Lagged Level Dependent Variable	-0.036*** (0.008)	-0.031** (0.011)	-0.031* (0.012)	-0.022 (0.022)	-0.020 (0.015)	-0.030 (0.017)	-0.030 (0.019)	0.006 (0.039)
ΔEU Regulations/Directives	0.003 (0.040)	-0.096** (0.032)	-0.096* (0.039)	-0.084* (0.041)	-0.122 (0.067)	-0.028* (0.012)	-0.028* (0.012)	-0.003 (0.007)
EU Regulations/Directives	0.032 (0.037)	-0.078* (0.039)	-0.078 (0.044)	-0.056 (0.065)	0.074 (0.040)	-0.012 (0.010)	-0.012 (0.011)	0.002 (0.005)
ΔEU Position	-0.163* (0.076)	-0.061 (0.085)	-0.061 (0.103)	1.150* (0.494)	-0.052 (0.071)	0.009 (0.085)	0.009 (0.085)	-0.015 (0.499)
EU Position	0.030 (0.060)	-0.134 (0.096)	-0.134 (0.115)	-0.240 (0.339)	0.107** (0.035)	0.279** (0.098)	0.279** (0.104)	0.044 (0.324)
ΔMisfits	-0.570 (1.710)	-6.486*** (1.427)	-6.486*** (1.437)	-12.363* (5.067)	4.690** (1.467)	3.080** (1.118)	3.080** (1.055)	-3.268 (3.477)
Misfits	0.038 (0.128)	0.051 (0.156)	0.051 (0.172)	-0.044 (0.405)	-0.325** (0.122)	0.397* (0.171)	0.397* (0.194)	-0.025 (0.396)
ΔVeto Players	-0.146* (0.069)	-0.354*** (0.082)	-0.354*** (0.081)	-0.322* (0.154)	-0.112 (0.059)	-0.305** (0.115)	-0.305** (0.101)	0.214 (0.351)
Veto Players	0.063 (0.033)	0.022 (0.026)	0.022 (0.026)	-0.051 (0.042)	0.056 (0.031)	0.030 (0.025)	0.030 (0.021)	-0.012 (0.038)
ΔCorporatism	0.019 (0.016)	0.016 (0.013)	0.016 (0.013)	0.025 (0.021)	-0.016 (0.015)	-0.007 (0.013)	-0.007 (0.012)	-0.022 (0.020)
Corporatism	0.081 (0.065)	0.005 (0.037)	0.005 (0.040)	-0.026 (0.083)	0.012 (0.055)	-0.046 (0.043)	-0.046 (0.039)	-0.013 (0.071)
Environmental Movements	0.106* (0.049)	0.046* (0.023)	0.046 (0.026)	-0.110 (0.076)	0.099 (0.052)	0.024 (0.024)	0.024 (0.025)	-0.040 (0.063)
Economic Growth	0.138** (0.050)	0.056 (0.055)	0.056 (0.060)	-0.265* (0.116)	0.141** (0.049)	0.026 (0.057)	0.026 (0.054)	-0.046 (0.090)
Gross National Income	0.145 (0.260)	-0.229 (0.192)	-0.229 (0.249)	0.121 (0.425)	0.442 (0.295)	-0.222 (0.250)	-0.222 (0.275)	-0.302 (0.484)
ΔEnergy Supply					0.144* (0.066)	0.207*** (0.044)	0.207*** (0.049)	0.170 (0.124)
Energy Supply					-0.002 (0.005)	0.006 (0.005)	0.006 (0.006)	-0.003 (0.015)
Constant		2.292* (1.010)		-0.044 (2.114)		2.616** (0.840)		0.330 (0.742)
R2		0.290		0.361		0.303		0.294
Adj. R2		0.215		0.278		0.224		0.193
N		567		399		567		399

* p<0.05, ** p<0.01, *** p<0.001; all models include period dummies not shown. Different number of observations is due to optimized time lags.

Figure A1: The Interaction between Changes in EU Green-Growth Positions and Political Constrains in Water Pollution

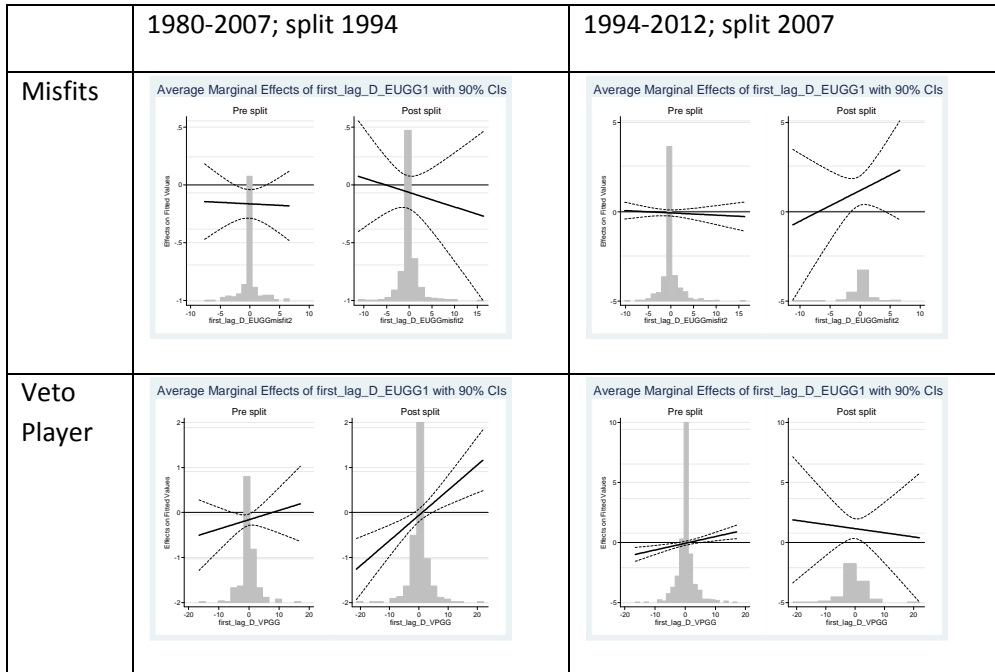


Figure A2: The Interaction between Changes in EU Green-Growth Positions and Political Constrains for Country Specific Environmental Performance (CSEP)

