The Agenda Setting Power Model in Comparative Politics: Political Partisanship and Environmental Performance

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Abstract:

This paper analyzes the partisan effect on environmental performance in 21 highly industrialized democracies from 1980 to 2012 by utilizing an agenda setting power model (ASPM) which is methodologically unique in applying country-specific time lags and sequences of decision-making. Combining preferences in an environmental and left-right dimension and institutional settings of agenda setters and veto players, the results show that both policy dimensions have distinct effects. While the former confirms a rational choice perspective where veto players block and hinder agenda setters to get their preferences translated into policy outcomes, the latter indicates that consensus is also a way to improve environmental performance.

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1. Introduction

Partisan theory is the major work horse in macro-comparative research explaining policies and policy outcomes. Hibbs (1977) seminal article on the decisively different impact of left and right wing parties has triggered this research tradition which is also often called the parties-matter-hypothesis (Schmidt 1996; 2002). That parties matter is a basic cornerstone for democracies where parties compete in elections which determine the composition of the parliament and which in turn constitutes the government that is responsible for policies and policy outcomes (for this chain of argument see McDonald and Budge 2005; see also Lipset 1960). Some argue that partisan theory has no decisive explanatory power anymore (Häusermann, Picot, and Geering 2013). The electoral constituencies have changed and traditional voters disappear and parties change their ideological direction and policies according to these changes. More recent reviews on the partisan theory reach to mixed results even if they still constitute that party effects can be identified in many policy fields (Potrafke 2017; Zohlnhöfer, Engler, and Dümig 2017). However “the old school” of partisan politics needs to be revised. Most studies in the old school tradition as Häusermann et al. call the first studies which analyze the impact of parties on policies and policy outcomes unconditionally, rely on party families, which are classified as left, centric or right. 1 Only rarely, some studies focus more closely on specific party families such as the Greens (Neumayer 2003). Of course, when including communist, social democrats, socialists and Greens into one category of left party family, one cannot expect to find clear results because each of these parties might have other ideas about the policy of interest. Relying on party families is also blind to the fact that parties may change their ideological positions and are responsive to structural and political changes. Reforms in the British Labour Party may just be a case in point. More recent studies take this fact into account in that they do not rely on party families but rather on party positions. Party positions are taken from expert judgements (Benoit and Laver 2006; Castles and Mair 1984; Hooghe et al. 2010; Laver and Hunt 1992) or from party manifesto data (the most recent book: Volkens et al. 2013). Even if we do not have the clear link that a left party has an effect on policy but rather a party with a left position, the chain of causal mechanisms is shorter and less ambiguous as when taking party families as a starting point. However, it can of course happen that a left party defined by its historical family may have a position more to the right than a right family party. This aspect is seldom considered and interpreted in the literature (Klingemann and Budge 2013).

The “new school” of party politics takes context and methodological aspects which may determine the effect of parties more strongly into account as the traditional theory. For instance some argue that the electoral system, party competition, the policy considered, economic crises or other turning points explain how parties react and which impact they have (Allan and Scruggs 2004; Amable, Gatti, and Schumacher 2006; Ansell 2008; Iversen and Soskice 2006; Jensen 2012; Rodden 2010). Schmitt and Zohlnhöfer (2017) show that time has to be considered more in detail. Restructuring the country-year format to a legislative term-country analysis (see also Boix 1997; Horn 2017; Schmitt 2015) they reach the conclusion that partisan differences have an effect after about one term in office. That means that partisan effects cannot be expected when one takes an annual time lag of one year (t-1) which is the custom use in most macro-comparative analysis. This fact alone could be one major reason why so many

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1 Frequently data sets which offer various forms of this concept are Armingeon et al. (2017) and Swank (2013).
authors do not find partisan effects in their studies. Another reason may be that most studies in comparative politics take political ideologies as invariant over time and countries. However, Kitschelt (1994) and Bartolini (2000) have impressively shown how left parties have changed their ideological positions and with that they changed the meaning of an ideology. Issues such as globalization, European integration, migration or environmental issues for that matter, may be framed in left-right terms in some countries or they constitute a new policy dimension in others (Jahn 2018). The same is true when looking over time. Environmental issues may have been expressed as being beyond left and right but may be latter be integrated into the left-right dimension.

In this paper I will take some of the advances of partisan theory into account when presenting the agenda setting power model (ASPM). Building on agenda setter and veto player theory, the ASPM is a conditional model where agenda setters have to overcome the constraints of veto players. Since I deal in this paper with environmental performance I will also analyze the party preferences on an environmental dimension, in addition to a left-right scale. I have chosen environmental performance as dependent variable, besides of the fact that it is an important policy issue for highly industrialized democracies, because it is an ideal case for analyzing the partisan effect in a policy field which is associated with the term new politics (Hildebrandt and Dalton 1978; Inglehart 1977; Müller-Rommel 1990). This allows analyzing if the left-right dimension has an impact on environmental performance or if other party positions such as an environmental dimension are more important in this field. The impact of partisan politics on environmental policy is hotly debated in comparative politics. Some claim that parties with a green profile more forcefully promote environmental protection when in government (Jensen and Spoon 2011; Knill, Debus, and Heichel 2010). However, these studies do not find support for an impact of left-leaning parties. Due to this, they suggest that the left-right dimension has not been constitutive in explaining policy outcomes in environmental politics. In contrast, other studies suggest that the left-orientation of governments promotes environmental concerns (Carter 2013; King and Borchardt 1994). Finally, other studies do not see any partisan effect in environmental politics at all. One reason may be that domestic politics is losing ground and that international factors are becoming increasingly important for policies and outcomes of globalized countries (Mol 2016).

The results of this paper actually show that partisan effects in both dimensions are relevant. However, the ASPM discovers that the policy style is decisively different. In accordance with veto player theory, the environmental dimension shows a contentious relationship between agenda setters and veto players. However, in the left-right dimension a consensus style is predominant. The latter is much less discussed in the literature although it builds on Lijphart (2012) conclusion that consensus democracies are “the kinder and gentler” democracies. This might also be true concerning environmental performance (Poloni-Staudinger 2008).

2. Theory

The ASPM integrates partisan politics and veto player theory into a framework of the political process and is designed for large-N studies of democratic states. While partisan theory predicts policies and policy outcomes from party families (Hibbs 1977; Schmidt 1996) or party positions (McDonald and Budge
it ignores the political constrains for parties in government to realize their policies. Veto player theory just does the opposite and focuses on the constraints but puts less attention to the institutional status of agenda setters. The ASPM combines these views by starting out with the agenda setting power (ASP) of the agenda setter. The ASP is dependent on how preferences of agenda setters are expressed and in which institutional setting agenda setters are embedded. Expressions of preferences and the institutional setting are also relevant for the veto players which react to the initiatives of the agenda setter. The veto player power (VPP) is the institutional range of the most distance veto players in a political system (Tsebelis 2002, chapters 7 and 8).

Formal agenda setter and veto player theory starts out from the status quo which agenda setters and veto players try to move closer to their preferred position (see for instance: Hinich and Munger 1997; Shepsle and Bonchek 1997; Tsebelis 2002). The agenda setter has the advantage that it can define in which direction the status quo should be moved. Veto players have to react to the initiative of the agenda setter. Although veto players are also interested to move the status quo closer to their preferences, they normally have to struggle that the agenda setter moves the status quo further away from the preferred position of the veto player. That means that the veto player has the disadvantage that it cannot initiate the move of the status quo but it has the advantage to keep the status quo if they are not able to move the status quo closer to their own position. The change of the status quo is therefore the result of the interaction between agenda setters and veto players. This results in that the ASPM is an interactive model. Even if this interaction is determined by many factors such as bargaining and negotiating as well as strategic thinking the base of the interaction are competing preferences of the actors involved and the institutional status of these actors in the political system. If and how the status quo is moved has an impact of changes in policies and policy outcomes.

A problem seldom addressed in agenda setter and veto player theory is how to define the status quo in macro-comparative studies. In his macro-comparative studies Tsebelis (2002) simply ignores the status quo and uses exclusively the veto player range. Formal analysis often takes the status quo for granted and assume certain positions. However, such an approach can be challenged at least for three reasons: First, it is not obvious where the status quo lies relative to preferences. For instance, increasing social expenditure may be a goal for left parties, leading to the postulate that left leaning governments mobilize their resources in order to increase social expenditure. However, it remains an open question as to what the causal mechanisms behind such an assumption are. If a left government already has held power for over twenty years, then it is questionable whether it will still mobilize the same amount of resources to increase social expenditure in the 21st year. Instead, it could be satisfied with the achieved status quo which, in turn, results in lower mobilization endeavors. Secondly, the status quo for outcomes is often a moving target. Demographic factors, economic recession, etc. may change the amount of social expenditure without the intervention of political actors. This aspect is likely even more relevant for environmental performance. A dry summer may reduce water flows in rivers and lakes and may subsequently lead to increased concentration of pollution. Or a strong winter may have increased the

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2 Hinich and Munger (1997, 244) define the status quo as the “present government policy, whether it is the result of a conscious decision process in the past or simply historical accident.” That the present policy is constant is an assumption all over the literature of analytical politics. However, this assumption may not be correct as shown in the text.
heating need which in turn leads to higher atmospheric emissions. In all these cases the status quo (pollution level) has thus changed without political action. Although some of these factors can be controlled in a regression model, some may not be captured. Third, the status quo may be a compromise of a multi-dimensional negotiation through log rolling or pork barreling. Even if these tactics can be handled through repeated game analysis, it is extremely difficult to model these complex interactive processes on a macro-comparative level. In sum, it is clear that the analytical significance of the status quo is not as easily utilized in macro-comparative studies dealing with policy outcomes than in areas of legislative politics.³

A solution is to conduct an analysis without relying on identifying an explicit status quo. In an agenda setting power approach, it is possible to assume the status quo implicitly. For instance, a high mobilization of preferences might be an indicator that the ideal point of the agenda setter diverges considerably from the status quo. On the other hand, if preference mobilization is low, then the agenda setter may already be close to the status quo or is otherwise not interested in moving the status quo. This causal mechanism is at the heart of saliency theory (Budge 1982; 2001; Druckman et al. 2012; Robertson 1976). However, instead of looking at the saliency of issues I am interested in the degree of saliency an agenda setter or veto player puts on its preference or ideology. In this view, the degree of saliency can be discussed in terms of interest intensity (Kendall and Carey 1968). That means that the distance between the preferences and the status quo is best conceptualized by the analysis of changing intensity of preferences over time. The more emphasis is put on a position the more urgent it is for an actor to move the status quo. I call this the mobilization of preferences.

Besides of identifying the mobilization of preferences and the institutional settings of agenda setters and veto players it is important to see that the political process is time dependent. It makes no sense to expect that so diverse impacts such as the impact from government positions, bills and regulations, EU policy, international treaties and economic growth have all just the one year time lag which is customary applied in macro-comparative studies. Janoski and Isaac (1994, 35–36) point out that time lags may vary substantially in different policy areas. They argue for a budgetary lag of one or two years and a legislative lag between one and three years. If taking the implementation of a policy into account – as is the case in the analyses of outcomes – the lag structure could be up to five years. For the ASPM that means that not only various time lags are important to consider but also the sequences agenda setter and veto players react to each other. Normally the agenda setter makes the first move and veto players react to this move. This has the consequence that the modelled time lack of a veto player must be shorter than the one for an agenda setter. This insight leads me to give special attention to time effects in this study.

An empirical application of the ASPM needs to clarify the following analytical concepts: (a) the intensity of expressing preferences and (b) the institutional status of agenda setters and veto players in the countries under investigation. Both together define the ASP and the VPP. The third aspect (c) has to do with the kind of interaction between agenda setters and veto players and time lags and time sequences of this interaction. To be clear, the ASPM is designed for the analysis of macro-comparative studies and

³ Even in the context of more specific analyses, such as in the study of European integration, the status quo (and also the position of the central actors) has been assumed. This fact has long been admitted (Garrett 1995), but has not had substantial consequences for subsequent analyses.
its usefulness should be interpreted in this light (Clarke and Primo 2012). That means that I do not test the model itself but just focus on aspects which the model might be able to explain.

3. An Application of the Agenda Setting Power Model

I apply the ASPM for an analysis of environmental performance in 21 highly industrialized democracies from 1980 to 2012. Through the optimized time lags the analysis of the independent variables starts in the mid-1970s, the decade when the new politics emerged. The year 2012 is the last year with available data. The countries are all highly industrialized democracies with an uninterrupted history of democracy since the late 1970s and which have more than one million inhabitants. 19 of these countries are parliamentary democracies. The United States and Switzerland have distinct features of their political system and are therefore analyzed separately. In the following I address in turn the question of preferences, institutional settings and the modelling of time and time sequences which constitute the ASPM.

3.1. Defining the Intensity of Party Preferences

Party positions are measured by expert judgements, surveys, rollcalls or the analysis of party manifestos. For longitudinal analysis covering a large amount of countries the party manifestos are most suitable although there is a vivid debate surrounding conceptual and methodological issue (Benoit and Laver 2007; Laver 2001; Volkens et al. 2013). The party manifesto group also offers an index to grasp the right-left dimension, the RILE. The RILE measures the frequencies how many right or left issue has been mentioned in the party manifestos. It does not measure the degree of radicalism of these issues, although it has been claimed that the statements in the party manifesto data distinguish different degrees of left and right and that there is a hierarchy of left and right statements that is important in the construction of an ideological index (McDonald, Mendes, and Kim 2007, 3). The various degrees of left and right is an important aspect if we want to estimate ideological mobilization and the expressed intensity of preferences as outlined above. I therefore use in this study the Left-Right (LR) index by Jahn (2011; 2014) who uses a multidimensional scaling method in order to identify the degree of leftness and rightness of statements mentioned in the manifestos and combines them with the frequencies of an issue in the election manifesto. This index comes very close to the concept of mobilizing ideological resources. Furthermore, this index has the advantage that it distinguishes between a core of an ideology which is stable in space and time and ideological aspects which are different in various countries and also change over time (Jahn 2018). Furthermore, Jahn (2016b) offers an environmental index which distinguishes party positions on a green-growth dimension which can be used to estimate if another

4 “Advocating public ownership of industries puts one far to the left; desires to have government closely regulated privately owned firms are not quite as far left.” (McDonald, Mendes, and Kim 2007, 3). The degree of left or right statements can be expressed as the radicalism of an expression. Tucker (1967) defines radicalism as attitudes and demands which imply, request or expect basic and fundamental changes in the societal structure. Even if radicalism and preference intensity is not the same in analytical terms I use the frequency of the use of radical statements in the party manifestos as an indicator for the intensity of standpoints or the mobilization of preferences.
policy dimension than the left-right cleavage is important to explain environmental performance. However, besides the position taken by the agenda setters and veto players the ASP is also dependent on the institutional setting of these actors, an aspect I turn to in the next section.

3.2. The Institutional Setting of Agenda Setters and Veto Players in 21 Democracies

The institutional settings of agenda setters and veto player in a political system is an important aspect to which degree ASP and VPP can be executed. In parliamentary systems the ASP is with the government. However, how governments are able to use the ASP varies among the 19 parliamentary democracies included in this study. When there is a single party majority government the ASP is attributed to the party in government. In coalition governments parties have to find ways how to influence policies and outcomes. The ASP is in this case negotiated and shared by the coalition parties. However, there are various rules how to reach to decisions in coalition governments. I distinguish between three decision making rules which are established in the literature: (a) the cabinet rule, (b) the minister rule and the (c) prime minister rule (Laver and Shepsle 1996; Poguntke and Webb 2005). According to indicators which estimate the strength of the prime minister, the ministers’ autonomy and the establishment of the cabinet principle the 19 parliamentary democracies are classified as shown in Table 1. For further details see appendix A.

Table 1: Cabinet Decision-Making Rules in Parliamentary Democracies

<table>
<thead>
<tr>
<th>Prime Minister Model</th>
<th>Minister Model</th>
<th>Collective Cabinet Decision</th>
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<tr>
<td>Canada</td>
<td>Italy</td>
<td>Austria</td>
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<tr>
<td>Australia</td>
<td>Germany</td>
<td>Finland</td>
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<td>Spain</td>
<td>Greece</td>
<td>Netherlands</td>
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<tr>
<td>United Kingdom</td>
<td>Japan</td>
<td>Norway</td>
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<tr>
<td>New Zealand (until 2000)*</td>
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<td>Sweden</td>
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<td>Ireland</td>
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<td>Belgium</td>
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<td>Portugal</td>
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<td>New Zealand (from 2000)*</td>
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<td>France</td>
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<tr>
<td>Denmark</td>
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Explanation: The countries are ranked according to their scores in the dominant category of cabinet decision-making. I used 2000 as the change of PM domination in New Zealand since the first coalition government started at 5 December, 1999.

In parliamentary democracies, the VPP is the ideological range between the coalition parties, the second chamber, the President and in the case of minority governments the range between the closest opposition party and the government party which is most distant from the opposition party. Of course not all parliamentary systems have all veto players at all or at a time.

The presidential system of the United States deviates from parliamentary systems: “In parliamentary systems the executive government controls the agenda, and the legislature (parliament) accepts or rejects proposals, while in presidential systems the legislature makes the proposals and the executive (president) signs or vetoes them.” (Tsebelis 1995, 325). However, the United States is not a clear presidential system either but determined by a check-and-balances principle. One can argue that the
majority party of the House sets the agenda and has the ASP and the President is a veto player (Cameron 2000; Cox and McCubbins 2005). The ASP of the majority party is constraint by the filibuster pivot (Krehbiel 1998). The same is true for the VPP which is defined by the two supermajoritarian procedures: the executive veto, and the Senate’s filibuster procedures.

It is emphasized that Switzerland does not fit the typology of presidentialism or parliamentarism but rather has characteristics of both (Stepan and Skach 2001). Two basic features make the Swiss political system unique: first, the collegial government which is composed by the Zauberformel (“magic formula”) and, second, the frequent use of the referendum (Kriesi and Trechsel 2008; Moser 2000; Schwarz, Schädel, and Ladner 2010). The ASP is defined according to the cabinet coalition principle where each party in the Federal Council is weighted according to their seats (2, 2, 2, 1). The VPP has to include besides the two equally strong chambers, the range of the parties in the Federal Council additionally the referendum position. Also this operationalization is demonstrated in appendix A.

3.3. The Political Process and the Role of Time

Time is an important aspect in an analysis of the political process which builds on the interaction of actors. Bargaining occurs in steps and not in a take-it-or-leave-it manner. That makes time and decision sequences important. Analytically, veto players change their positions after the agenda setter makes the first move and by doing so they change the winset. However, the modelling of time and time sequences is a highly neglected aspect in macro-comparative analysis (de Boef and Keele 2008; Tucker 1982). Already more than three decades ago, Tucker (1982, 177) stated that “[t]here is no single correct way to handle time in cross-sectional analyses. However, some uses of time are more plausible than others.” Since there is no single theory of time (Tucker 1982, 193) one has to start with empirical observations or apply an inductive approach (see for instance Cranmer, Rice, and Siverson 2017; Plümper, Troeger, and Manow 2005). In this context, Plümper, Troeger, and Manow (2005) suggest testing various time lags in order to identify an optimized time lag for the variable of interest in every country under investigation. “Though the optimization of lags is certainly time consuming, it is absolutely essential in first difference models” (Plümper, Troeger, and Manow 2005, 344). However, time lags may also vary over time. For instance when an issue is important, political actors may decide faster or if it is a controversial issue veto players may prolong the decision-making process.

An essential point in the context of modelling time is that time lags must make theoretical sense. The theoretical implication of the ASPM determines the sequence of time lags which have to be taken into account when applying the method of optimizing time lags. From this perspective, for instance, veto players can only veto after the agenda setter has made the first move. In order to model this situation, the time lag of the veto player is always set shorter or equal to the one for the agenda setters.

In this study, the analytical fact that time lags vary between countries and periods is taken into account. This is done by keeping all but one country with no time lags. For each country, all possible combinations

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5 Of course there can be anticipated vetoes where political actors adjust their proposals according to the veto players. However, this perception of veto players requires another theoretical and methodological framework.
of analytically set ranges of time lags are tested. For the empirical analysis I test time lags between zero and four years which normally is a legislative term. For other variables the time lag is set differently as will be shown below. As an effectiveness criterion, R-square is used as suggested by Plümper, Troeger, and Manow (2005). In the next step, the same procedure is applied for all other countries.

Technically, one may remark that optimized lags lead to overfitted models. This is of course partially true because it is an inductive method which fits the data to the model. However, as pointed out already, 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 more variables are simultaneously optimized limits the risk of overfitting. The most sensible test whether optimized lags make sense is if the results correspond with theoretical assumption. In the case of environmental performance it would contradict all theories when a move to the growth side leads to environmental improvements. Even if less clear, empirical studies also show that a move to left but not to the right leads to a more efficient environmental performance. I therefore test the models in all possible direction.

Finally, the period effects have been considered by using three time periods; one from 1975 to 1990 which covers the first period of legislative environmental mobilization. In some countries, Green parties entered into parliaments and established parties reacted to environmental issues. The period from 1991 to 2007 can be considered as the establishment of environmental politics and the challenge of globalizing world markets. The period 2008 to 2012 covers the crisis years. Even if shorter time periods would have been desirable from a theoretical point of view, making the time periods too short renders a reliable regression analysis impossible. Therefore, even if three periods are not enough they may nevertheless give us important insights into the time variance of the different impact of the independent variables. Admittedly, much more future research is needed in order to grasp the complex nature of time in political science. Although some studies have addressed this issue (Pierson 2004) very little has been done in macro-comparative research (Cranmer, Rice, and Siverson 2017; de Boef and Keele 2008). In this light, this study is a step towards modeling time in macro-quantitative comparative politics.

4. Hypothesis

The major hypotheses to illustrate the ASPM are interactive, however, before moving to this aspect, I wish to introduce two hypotheses which lay the ground for the analysis: the impact of mobilization of preferences by agenda setters and veto players. The first hypothesis postulates that the mobilization of green positions has a positive impact on environmental performance.

Hypothesis I:

The higher the mobilization of green positions of the agenda setters the larger the improvement of environmental performance.

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6 However, I cannot go deeper into the analysis of time lags in various countries and periods because that would overload the paper (Jahn forthcoming).
While hypothesis I is not much contested and there is proof in the literatures (Jahn 1998; Neumayer 2003) the second hypothesis is less clear. However, some claim that there are good reasons to assume that left parties are more open to environmental issues because workers and their families must endure the burden of a polluted local environment more than middle and upper classes. Working class dwellings are often downstream of air or water polluting industries. Aside from these factual reasons, some argue that left ideology has an environmental element which can be deduced from the basic left ideological goal of equality and social justice (Pepper 1993). In contrast, parties to the right, traditionally more closely connected to industry and business, may favor economic goals over environmental performance.

Hypothesis II:

The higher the mobilization of left positions of the agenda setters the larger the improvement of environmental performance.

Agenda setters are constrained by veto players, which mobilize their resources to block, delay or otherwise influence the outcome. However, the reaction of the veto player is dependent on the move of the agenda setter. This perspective how politics works suggests that politics occurs as incremental bargaining between political actors. That bargaining is essential to politics is demonstrated by the navette system between first and second chambers or consultation committees in many political systems. More often than not bargaining occurs as a lengthy process and in steps rather than in a one-step manner.

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). This perspective implies a contentious relationship between agenda setters and veto players and is therefore called the conflict model. 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. Volden and Carrubba (2004) show that oversized coalitions reduce conflict and in doing so increase efficiency. 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...” This finding is in line with the general conclusion that consensus democracies are the “gentler and kinder” societies (Lijphart 2012). Immergut and Orlowski (2013, 210) summarize the core of the argument by stating that “...while classical veto points and veto player analysis can indeed account for policy change, they nevertheless neglect bargaining processes between parties and amongst parties and societal stakeholders that may be necessary to achieve consensus for policy change”. When the veto players support the agenda setter’s initiative I call it a consensus model.
Combining the two ideological dimensions with the veto player theorem leads to the assumption that it is more likely that the green-growth dimension is determined by conflict while the left-right dimension works according to the consensus model. This may be so because the green-growth dimension emerged from the conflict between prioritizing environmental versus economic positions. Even if this antagonist position may be moderated over time they still represent a new cleavage in highly industrialized democracies. In contrast, the left-right policy dimension is well institutionalized in industrial societies and conventionally negotiated in collective bargaining. This may lead to a policy style in the left-right dimension – at least in the field of environmental politics – that is predominantly conducted based on consensus. This gives rise to the two major hypotheses of this paper:

**Hypothesis III:**

*In the green-growth dimension the ASPM works in a contentious mode, which means that veto players dilute, obstruct or prevent the initiative of the agenda setter.*

**Hypothesis IV:**

*In the left-right dimension the ASPM works in a consensus mode, which means that veto players support the initiative of the agenda setter.*

5. Environmental Performance: The Dependent Variable

I focus on the environmental performance of 21 highly industrialized and globalized democracies. To focus on these countries is important since they have the resources to capture comprehensive environmental measures and they have a model role for the newly emerging industrializing states. The period of analysis is determined by data availability of the dependent variable (1980-2012) but covers the years when environmental concern became relevant in most political systems of these countries.

There are a few existing indices that consider environment performance in various countries (for an overview see Fiorino 2011). Pioneering studies in political science have been conducted by Crepaz (1995), Palmer (1997), Jahn (1998) and Scruggs (2003). However, these indicators are not time variant. The same is true for the environmental performance index conducted at Yale University (http://epi.yale.edu/) which has been published for over almost one decade (Hsu et al. 2014). The comparison over time is as of yet only over two rather ill-defined time periods. The Ecological Footprint Index is the only index suitable for a multi-country, time-series analysis (Wackernagel 2002). This index weighs the bio-capacity of a country with the man-made impact on the environment (ecological footprint). With this the index does not meet the criteria for a performance index since it deals with an aspect that is difficult to influence by political action – at least in the short- or medium-term. As a consequence of the shortcomings of the established environmental performance indices I constructed a comprehensive index building on publically available data from the OECD which covers a broad spectrum of environmental issues such as atmospheric emissions, household and nuclear waste generation, as well

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7 Because of the use of optimized lags, the independent variables reach back to 1975.
as fresh water abstraction. Because this index includes a wide range of environmental issues it is called *general environmental performance (GENPER)* (for the index construction and the descriptives see appendix B).

### 6. Control Variables

Although the ASPM is in the focus of analysis, there are alternative approaches explaining environmental performance. Previous studies have shown that countries with a high degree of corporatist arrangement have been in particular successful in combating environmental degradation (Crepaz 1995; Jahn 1998; Scruggs 1999; 2001). However, analyzing the long-term effect of corporatism other studies come to the result that the impact is ambiguous and spurious (Neumayer 2003). Referring to the findings of former studies, it seems to be essential to include corporatism as a control variable in this study. As an indicator for corporatism I use a new time-variant index (Jahn 2016a).

Another alternative explanation to consider is the often-claimed hypothesis that international aspects influence domestic politics. In its most radical version this line of argument claims that international aspects increasingly determines domestic policy and renders the nation state obsolete (Mol 2016). I will use two indicators to capture the international impacts. First, I use the international exposure of countries by looking at their involvement in international trade. There is a vivid discussion if trade openness leads to an improvement (race to the top) or deterioration (race to the bottom) of environmental performance. The “race to the bottom” thesis is well documented in the state-centric environmental politics literature (Engel 1997; Konisky 2007). The assumption is that national governments give the highest priority to economic growth. In order to facilitate growth, they lower environmental standards which may increase production costs. If production costs are too high for industries and firms in comparison with other countries, enterprises may move to countries with lower environmental standards. In order to prevent the real or anticipated threat that firms go abroad, governments lower environmental standards (Lowry 1992). In contrast, structural change and technological development may lead to efficiency gains and competitive advantages and in turn to the diffusion of environmentally cleaner technologies – that is, to a “race to the top” (Vogel 1995; 1997). This trend seems to dominate in rich countries. Examples are the Japanese automobile and tech industries or Germany’s alternative energy sector. The other international driving force to improve environmental performance focuses on the international engagement of countries in multilateral environmental agreements (for an recent overview see Young 2013). The major conclusion of these studies is that international environmental treaties matter and lead to an improvement of environmental performance. For the international impact I use an index for the economic openness of an economy. The index conventionally used for this aspect is the part of imports plus exports at the gross national income.
For the impact of international environmental treaties I use Mitchell’s data set on the most important and commonly research international agreements.

A further aspect which influences environmental performance is economic performance. A growing economy may be a burden for the environment. Even if some conclude that growth may be good for the environment. As Beckerman (1992, 491) claims: “...in the end the best – and probably the only – way to attain a decent environment in most countries is to become rich.” This assumption is also the backbone of ecological modernization theory. New technologies and a growing service industry are seen as causing less environmental damage than economies centered on traditional industrial production. The final set of control variables deal with environmental pressure and relief. Two aspects are in particular relevant: first, the share of fossil fuels may have a negative impact on environmental performance because of the high atmospheric emissions from energy production using, coal, oil or gas. In contrast, countries increasing their share of renewable energy, such as solar and wind energy may improve the environmental record. To control for economic performance and structural change I include, on the one hand, a variable which measures economic growth and, on the other, the changes of employment of the service sector. Finally, the share of fossil fuels and renewable energy is included into the model.

7. Analysis

The analysis is conducted in two steps: first, I analyze hypothesis I and II and interpret the impacts of the control variables in a linear additive regression model. This is suitable because the analysis of the ASPM and the test of hypothesis III and IV in the second step requires an interactive model. In interactive models the coefficients and the effects are different things and the coefficients, the confidence interval, standard errors and significance refer only to one (most often arbitrarily) defined empirical value (Kam and Franzese 2007: 22-60). That means that the statistics of all variables in an interactive model are biased.

The theoretical considerations require to use first-difference models which consider changes of environmental performance from one year to the next (Δ-models). I also include the independent variables as first differences, which measure the short-term effects. In addition the levels are included in order to capture the long-term effects and control for the starting-points on which the changes are based. Formally I use a panel corrected standard error or Prais-Winsten model:

---

8 I use Penntrade data. I adjusted the data on trade openness as well as the data for GDP, growth, fossil fuels for the fact that Penntrade and the OECD do not distinguish between East and West Germany before 1990.
9 lea.uoregon.edu/ (accessed June 2017). The included agreements are: (a) UN Framework Convention on Climate Change, (b) Montreal Protocol on Ozone Protection, (c) Convention on Biological Diversity, (d) Convention on Long-Range Transboundary Air Pollution,(e) Convention on International Trade in Endangered Species, (f) Basel Convention on Control of Hazardous Wastes, and (g) Convention to Combat Desertification. I excluded the International Convention for the Regulation of Whaling which is rather specific and has no large variation among the 21 OECD countries. Instead I include the (h) Antarctic Regime System, which is also highly researched and internationally important (Breitmeier, Young, and Zürn 2006). I follow Mitchell’s coding advice where he suggests coding environmental agreements and amendments as independent instances. The gap towards the annual possible amount of treaties I take as an indicator in order to avoid a time biased measure.
\[ \Delta \text{GENPER}_it = \alpha_0 + \beta_0 \text{GENPER}_{it-1} \]

\[ + \beta_1 \Delta \text{ASPI}_{it-4} + \beta_2 \text{ASPI}_{it-\Delta \text{LAS}-1} \]

\[ + \beta_3 \Delta \text{VPP}_{it-4} + \beta_4 \text{VPP}_{it-\Delta \text{VETO PLAYER}-1} \]

\[ + \beta_5 \Delta \text{CORPORATISM}_{it-1-4} + \beta_6 \text{CORPORATISM}_{it-\Delta \text{CORPORATISM}-1} \]

\[ + \beta_7 \Delta \text{ECONOMIC OPENNESS}_{it-1-5} + \beta_8 \text{ECONOMIC OPENNESS}_{it-\Delta \text{ECONOMIC OPENNESS}-1} \]

\[ + \beta_9 \Delta \text{INTERNATIONAL TREATIES}_{it-1-5} + \beta_{10} \text{INTERNATIONAL TREATIES}_{it-\Delta \text{INTERNATIONAL TREATIES}-1} \]

\[ + \beta_{11} \text{GROWTH}_{it-1} + \beta_{12} \text{GDI}_{it-1} + \beta_{13} \Delta \text{SERVICE SECTOR SIZE}_{it-1} + \beta_{14} \text{SERVICE SECTOR SIZE}_{it-1} \]

\[ + \beta_{15} \Delta \text{FOSSIL FUELS}_{it-1} + \beta_{16} \text{Fossil Fuels}_{it-1} + \beta_{17} \Delta \text{RENEWABLES}_{it-1} + \beta_{18} \text{RENEWABLES}_{it-1} \]

\[ + \beta_{19} \text{YEAR EFFECTS}_i + \epsilon_{it} \]

The term \( \Delta \text{GENPER}_it \) represents the dependent variable in each country \( i \) and each year \( t \). \( Y \) is measured as first difference (\( \Delta \)). The variable \( \text{GENPER}_{it-1} \) is the one year lagged level of the dependent variable. \( \Delta \text{ASPI} \) is the first difference of the green-growth or left-right position of the agenda setter (ASP) in country \( i \) with a time lag between zero and four years. Variable ASP is the level variable of green-growth or left-right positions of the agenda setter which has the same time lag as \( \Delta \text{ASPI} \), minus one year. The changes in the ideological positions have been optimized according to the green, growth, left and right policy preferences. \( \Delta \text{VPP} \) is the first difference for the veto player range with a time lag between zero and four years where the time lag is shorter than or equal to the time lag of \( \Delta \text{ASPI} \). \text{CORPORATISM}, \text{ECONOMIC OPENNESS} and \text{INTERNATIONAL TREATIES} are treated as independent from the other political variables in the modeling of time lags. The time lag is set between one and four years for \text{CORPORATISM} and one and five years for the two international variables since the latter needs to be incorporated into domestic politics and policy and therefore requires a longer time lag. \text{GROWTH}, \text{FOSSIL FUELS}, \text{RENEWABLES} and \text{SERVICE SECTOR SIZE} have no time lag because I assume their effects are felt immediately. As with the other variables, the time lag of the level variables is set equal to that identified by the optimization procedure of the first difference variable minus one year.\(^{10}\) All models include a dummy variable of all years in order to control for temporal changes and yearly shocks (\text{YEAR EFFECTS}). The error term \( \epsilon_{it} \) captures the unexplained variance in the model and, \( \alpha_0 \) is the intercept. The descriptive statistics and the sources of data are provided in Table A1 in appendix C.

\(^{10}\) \text{CORPORATISM} and \text{ECONOMIC OPENNESS} have been tested in both directions in order to find out whether the overall impact is positive or negative for environmental performance. Table 2 shows the results with the larger t-statistics.
8. Results

In order to facilitate the interpretation of the results, I present the substantial impact of a change of an independent variable building upon the analysis of predicted values (King, Tomz, and Wittenberg 2000). Working with predicted values clarifies the interpretation of the impact of variables because it allows for answering “what if” questions under ceteris paribus conditions. It also enables the comparison of the impact within and even across models. The substantial impact (SI) relates the difference in adjusted predictions to the empirical range of the dependent variable, which is formally:

\[ SI = \frac{\hat{y}_2 - \hat{y}_1}{\bar{y}_{80th} - \bar{y}_{20th}} \times 100 \]

where \( \bar{y}_{20th} \) and \( \bar{y}_{80th} \) represent the 20th and 80th percentile of the dependent variable. \( \hat{y}_1 \) and \( \hat{y}_2 \) are the predicted means. These predicted means are the values the dependent variable would take when one or more independent variables of particular interest are set to specific values while holding all other independent variables at their mean (or whatever value) (Mitchell 2012, 27). For the “specific values,” I follow other scholars (see for example Garrett 1998; King, Tomz, and Wittenberg 2000) and use values which represent strong, but not extreme, changes. It has been suggested that the difference between the 20th (\( \hat{y}_1 \)) and 80th (\( \hat{y}_2 \)) percentile is suitable.

Table 2 shows the results of the regression analyses of the t-1 standard Models 1 (green-growth) and 4 (left-right). The optimized lag Models differs in the way that they are optimized for \( \Delta AS \) in the Green (Model 2), Growth (Model 3), Left (Model 5) or Right (Model 6) direction. A general and expected result is that the optimized lag models have a better fit than the models with standard lags. Optimized lag models also often change the sign of the impact and/or make insignificant results significant compared to models with standard lags. Furthermore, the results show that political variables are important for explaining environmental performance. However, they also illustrate that the political process is not adequately captured using standard lags of t-1. Comparing the standard t-1 and optimized lag models shows that all politics variables except \( \Delta CORP\) are insignificant on the 0.05 level in the models with standard lags. In the optimized lag models, all are significant.

Shifts in the agenda setter’s ideological position have a substantial and significant effect on \( \Delta GENPER \). As in other studies, Model 2 confirms that the green-growth dimension is relevant for improving environmental performance (Jensen and Spoon 2011; Knill, Debus, and Heichel 2010) (hypothesis I). However, Model 5 concludes that the left-right dimension is also important (hypothesis II). The more agenda setters move to the green or left side, the higher the likelihood of improving environmental performance. Optimizing the green-growth dimension towards the growth position or the left-right dimension toward right positions does not show any significant results (Model 3 and 6). These results make me confident that optimizing lags makes theoretically sense and leads to unambiguous findings.

The predicted mean in Model 2 shows that when an agenda setter moves strongly toward the green side, \( \Delta GENPER \) improves by 8.4 percent. The impact of \( \Delta ASP \) in the left-right dimension shows that a leftward shift has a SI of 6.6 percent. Both these results are highly significant (p < 0.001). These results confirm Hypotheses I and II. This is different for the impact of veto players which have a weak effect on
environmental performance. Although the SI is well above three percent, the effect is not significant at the 95 percent level (p = 0.08 in Model 2 and 0.07 in Model 5).

### Table 2: Explaining Environmental Performance

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>Substantial Impact</th>
<th>(3)</th>
<th>(4)</th>
<th>Substantial Impact</th>
<th>(6)</th>
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<tr>
<td></td>
<td>Lagged DV</td>
<td>GG (t-1)</td>
<td>GG (Green)</td>
<td>Substantial Impact</td>
<td>GG (Growth)</td>
<td>LR (t-1)</td>
<td>LR (Left)</td>
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<td>ΔASPC</td>
<td>-0.003</td>
<td>-0.002</td>
<td>-2.725</td>
<td>-0.002</td>
<td>-0.002</td>
<td>-0.002</td>
<td>-2.381</td>
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<td>ASP</td>
<td>(0.004)</td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.004)</td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.003)</td>
</tr>
<tr>
<td>ΔVPP</td>
<td>-0.002</td>
<td>0.017</td>
<td>3.427</td>
<td>0.017</td>
<td>-0.005</td>
<td>0.013</td>
<td>3.261</td>
</tr>
<tr>
<td>VPP</td>
<td>(0.010)</td>
<td>(0.010)</td>
<td>(0.010)</td>
<td>(0.008)</td>
<td>(0.007)</td>
<td>(0.007)</td>
<td>(0.008)</td>
</tr>
<tr>
<td>ΔCORPORATISM</td>
<td>1.170</td>
<td>1.483</td>
<td>6.941</td>
<td>6.941</td>
<td>1.110</td>
<td>1.376</td>
<td>1.515</td>
</tr>
<tr>
<td>Corporatism</td>
<td>(0.547)</td>
<td>(0.520)</td>
<td>(0.530)</td>
<td>(0.554)</td>
<td>(0.523)</td>
<td>(0.527)</td>
<td>(0.527)</td>
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<tr>
<td>ΔECONOMIC OPENNESS</td>
<td>0.001</td>
<td>-0.003</td>
<td>-14.091</td>
<td>-14.091</td>
<td>-0.036</td>
<td>0.000</td>
<td>-0.025</td>
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<tr>
<td>Economic Openness</td>
<td>(0.010)</td>
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<td>(0.008)</td>
<td>(0.010)</td>
<td>(0.007)</td>
<td>(0.007)</td>
<td>(0.007)</td>
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<tr>
<td>ΔINTERNATIONAL TREATIES</td>
<td>0.442</td>
<td>-0.759</td>
<td>-2.739</td>
<td>-2.739</td>
<td>-0.676</td>
<td>0.376</td>
<td>-0.789</td>
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<tr>
<td>International Treaties</td>
<td>(0.358)</td>
<td>(0.286)</td>
<td>(0.291)</td>
<td>(0.361)</td>
<td>(0.299)</td>
<td>(0.301)</td>
<td>(0.301)</td>
</tr>
<tr>
<td>GROWTH</td>
<td>0.091</td>
<td>0.093</td>
<td>24.723</td>
<td>24.723</td>
<td>0.096</td>
<td>0.092</td>
<td>0.107</td>
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<tr>
<td>Growth</td>
<td>(0.018)</td>
<td>(0.017)</td>
<td>(0.017)</td>
<td>(0.018)</td>
<td>(0.018)</td>
<td>(0.017)</td>
<td>(0.017)</td>
</tr>
<tr>
<td>GROSS NATIONAL INCOME</td>
<td>-0.151</td>
<td>-0.107</td>
<td>-10.481</td>
<td>-10.481</td>
<td>-0.131</td>
<td>-0.120</td>
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<tr>
<td>ΔFOSSIL FUELS</td>
<td>0.160</td>
<td>0.149</td>
<td>21.166</td>
<td>21.166</td>
<td>0.152</td>
<td>0.158</td>
<td>0.142</td>
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<tr>
<td>Fossil Fuels</td>
<td>(0.023)</td>
<td>(0.021)</td>
<td>(0.022)</td>
<td>(0.022)</td>
<td>(0.022)</td>
<td>(0.022)</td>
<td>(0.022)</td>
</tr>
<tr>
<td>ΔRENEWABLES</td>
<td>-0.863</td>
<td>-0.685</td>
<td>-2.995</td>
<td>-2.995</td>
<td>-0.730</td>
<td>-0.882</td>
<td>-0.857</td>
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<tr>
<td>Renewable</td>
<td>(0.422)</td>
<td>(0.389)</td>
<td>(0.404)</td>
<td>(0.419)</td>
<td>(0.404)</td>
<td>(0.410)</td>
<td>(0.410)</td>
</tr>
<tr>
<td>ΔSERVCE SECTOR SIZE</td>
<td>1.768</td>
<td>0.174</td>
<td>3.736</td>
<td>3.736</td>
<td>1.784</td>
<td>1.822</td>
<td>1.914</td>
</tr>
<tr>
<td>Service Sector Size</td>
<td>(0.712)</td>
<td>(0.668)</td>
<td>(0.671)</td>
<td>(0.723)</td>
<td>(0.688)</td>
<td>(0.699)</td>
<td>(0.699)</td>
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<tr>
<td>_cons</td>
<td>0.902</td>
<td>1.352</td>
<td>1.228</td>
<td>1.228</td>
<td>0.945</td>
<td>1.338</td>
<td>1.222</td>
</tr>
<tr>
<td>(0.379)</td>
<td>(0.341)</td>
<td>(0.358)</td>
<td>(0.371)</td>
<td>(0.323)</td>
<td>(0.332)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Explanation:** Time-Series–Cross-Section Prais-Winsten regression with corrected standard errors. Levels of significance: * p< 0.1, **p< 0.05, ***p< 0.01, ****p< 0.001. Models 1 and 4 are standardized time lags of t-1 with year dummies (PE). Models 2, 3, 5, and 6 are the models with optimized time lags (OL) and PE. Model 2 is optimized for green positions, Model 3 for growth, Model 5 for left, and Model 6 for right positions. Green, Left and Right indicate the direction of the optimization. Δ indicates first differences. T-statistics are in parentheses. Substantial Impact shows the percentage change from the 20th to the 80th percentile as described in the text.

Moving to the control variables shows that ΔCORPORATISM is a significant variable with a strong SI of around seven percent. In contrast to most studies the result shows that corporatism is harmful for the environment. In contrast ΔECONOMIC OPENNESS has a substantially positive impact on environmental performance which is highly significant. The results for INTERNATIONAL TREATIES show that the long-term
effects are among the most substantial impacts in this study. But also the short-term effects are clearly significant but of a smaller magnitude. Concerning the relationship of economic growth and environmental performance, it appears that there is no decoupling between GROWTH and \( \Delta \text{GENPER} \). Actually the SI of GROWTH is the strongest in all the models and ranges between 25 percent in the green-growth model and more than 28 percent in the left-right model. Finally, the energy mix is important. FOSSIL FUELS are certainly a driving force for environmental degradation. In contrast, solar and wind power have a positive effect. Astonishing is the result for the size of the service sector. Even though the long-term effect is positive for the environment, which supports that structural change leads to an improvement of environmental performance, a growing service sector has a negative effect. This finding sheds some doubts that structural change is enough to improve the environment which is a common assumption in ecological modernization theory and among international organizations.

For the calculation of the ASPM, I add the interactive term between agenda setter and veto player (\( \Delta \text{ASP} \times \Delta \text{VPP} \)) to the basic Models 2 and 5 in Table 2. I will present the results by using graphs for interpreting the marginal effects.\(^{11}\) Conducting interactive analysis requires adequate theoretical and methodological exposition. Berry, Golder, and Milton (2012) suggest formulating interactive predictions when \( x \) and \( z \) are at their extremes even if the extreme values are not the main focus.\(^{12}\) However, the lowest and highest values may most clearly illustrate the assumed relationships. Following this advice, I formulate predictions for the conflict and consensus model for both interactive variables:

**Conflict Model**

Conflict 1. \( P_{\text{AS}|VP_{\text{min}}} \): The marginal effect of the ideological changes of the agenda setter is negative when the decrease of the veto player range is strongest.

Conflict 2. \( P_{\text{AS}|VP_{\text{max}}} \): The marginal effect of the ideological changes of the agenda setter is zero when the increase of the veto player range is strongest.

**Consensus Model**

Consensus 1. \( P_{\text{AS}|VP_{\text{min}}} \): The marginal effect of the ideological changes of the agenda setter is zero when the decrease of the veto player range is strongest.

\(^{11}\) I drop the regression tables here because the coefficients do not reflect the effects on the dependent variables when including interactive terms (see above). However, they are included in the Appendix C.

\(^{12}\) It should be noted that it is statistically and substantially correct that the relationship between agenda setters and veto players is symmetrical and some (most emphatically Berry, Golder, and Milton 2012) stress, that more information about the interaction can be obtained when calculating both sides of the interaction, meaning in our case to also analyze the marginal effect of agenda setters on veto players. However, in the way I use different time lags for agenda setters and veto players, and that the time lags for veto players is always shorter or equal to the one for agenda setters, the analysis is no longer symmetrical. An analysis of the marginal effects of veto players would then suggest that future stands of agenda setters have an effect on veto players. Because this does not make sense, I do not conduct the analysis when agenda setters condition the marginal effects of veto players.
Consensus 2. $P_{AS|V_{P_\text{max}}}$. The marginal effect of the ideological changes of the agenda setter is 

*negative* when the increase of the veto player range is strongest.

**Figure 1: Marginal Effect on Environmental Performance**

(1) $\Delta GenPer$ (Green)  
(2) $\Delta GenPer$ (Left)

*Explanation:* The line plots show the average marginal effects of changes of ASP over changes in VPP on changes in environmental performance. The dashed curves define the 95 percent confidence interval. Green and Left indicates the direction in which time lags are optimized. Vertical axis is the marginal effect of ASP on changes in environmental performance. Horizontal axis represents changes in the VPP. The right y-axis shows observed frequencies of changes in VPP displayed as a histogram.

Graphic 1 in Figure 1 is a green-growth model that shows that when the agenda setter is moving toward green positions, $\Delta GenPer$ improves as long as the veto player range shrinks or does not increase more than 5.73 points on a scale reaching from -22 to 25. If the veto player mobilizes over this threshold, then it neutralizes the agenda setter’s green positions, that is, the results are becoming statistically insignificant. This result is a model case for the functioning of the ASPM in its contentious version and is in line with Tsebelis’ argument. The left-right model in Graphic 2 in Figure 1 presents another logic of the political process: environmental performance improves when the veto player range increases. The threshold that veto players have a positive effect on the initiatives of the agenda setter is already present when the veto player range decreases less than -7.93. From this point environmental performance improves significantly the stronger the VPP. This result supports the assumption that left-
right politics on environmental issues is consensus-oriented and veto players support the agenda setter’s initiative even if the impact is weaker than in the green-growth dimension. These results confirm impressively hypotheses III and IV.

9. Conclusion

As demonstrated by the empirical analysis of the political process in 21 highly industrialized and globalized democracies over more than three decades, environmental performance is substantially influenced by party politics This confirms the basic premise of partisan theory. This is even true in two respects:. First, the left-right dimension has a significant impact on policy outcomes which are not genuinely left-right issues. This shows that the left-right dimension is responsive to newly emerging policy issues (Jahn 2018). Second, partisan theory works in other ideological dimensions than the left-right cleavage. In the case of environmental performance a green-growth dimension has a high explanatory power. The results of this paper lead to the conclusion that there is no need to dismiss partisan theory just because of the erosion of traditional constituencies. Combining class politics with partisan theory is just one strand of the argument. There are new or modified constituencies and situations and parties adjust to them their ideology or even work in other policy dimensions. No matter how, partisan theory just claims that parties make a difference when in government and this conclusion holds in the context of environmental politics.

However, parties as agenda setters are constrained by veto players and the outcome of the political process is a result of the interaction of the agenda setter and veto players. This relationship has been analyzed in terms of an ASPM in this paper, which reveals important new insights. One of the most intriguing findings is that different logics of politics apply in different policy dimensions. On the one hand, in the green-growth dimension the interaction is confrontational, and on the other hand, in the left-right dimension it is consensus-oriented. In substantial terms that means that in the green-growth dimension, the agenda setter aims to change the status quo and the veto player blocks the agenda setter’s intention. This is the classical rational choice perspective which Tsebelis (2002) presents so compellingly. The conflicting positions in the green-growth dimension may support the view that a new cleavage has been established in Western societies (Hooghe and Marks 2018). In the left-right dimension, a large veto player range may signal the social integration of various interests and confirms the consensus model. In that way the traditional left-right cleavage is pacified; at least when environmental issues are concerned. No matter if this results indicate a shift of the significance of social cleavages or not, the findings shows that actors work differently in both dimensions and it is important in which way political issues are framed.

The ASPM is a strong exploratory tool for macro-comparative analysis which takes the institutional settings and political process into account. With that, this paper offers an alternative and more dynamic explanation to traditional partisan theory. Starting out from the premises than “…agenda setting power depends not only on the institutional features of a political system…but also on the ideological positions…of different actors” and that “…an 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” (Tsebelis and Rasch 2011, 2) this paper argues that time and time sequences of decision-making is an additional important ingredient of a macro-comparative theory. However, we know very little about the duration of decision-making in politics and the impact of time. In this paper I could only show that time matters a lot in politics. Although the research design of this paper is able to address this issue in further detail, doing this would have required a paper of its own and therefore has been left out of the analysis (Jahn forthcoming). However, using a simple one-year time lag is inappropriate for most aspects of politics and more research is needed in order to overcome the t-1 standard. Developing a more theoretical grounding for time lags would improve our knowledge of the political process in highly industrialized democracies. That means that much more research is necessary to take time seriously in macro-comparative studies. In this paper, I tried to move one step forward by combining an analytical model with optimized time lags.

References


Appendix A:

The Institutional Setting of the ASP and VPP in 19 Parliamentary Democracies, the United States and Switzerland.

The ASP is dependent on preferences of agenda setters and veto players as well as the timing of the political process. As has been shown in the text preferences can be differently expressed in degrees of radicalism and intensity. This aspect has been demonstrated elsewhere (Jahn 2011). The timing of the political process has been outlined in the main text (see also Jahn forthcoming). The institutional setting of agenda setters and veto players is the third ingredients of the ASPM and requires detailed analysis of the form of governments in parliamentarian systems as well as the analysis of deviant political systems in the United States and Switzerland. This aspect it would like to turn to in this appendix.

Parliamentary Democracies

In parliamentary systems, the easiest case is the single party majority government. Here the ASP is equal the ASP of the government party which in turn is defined by the changes in ideological position as described in the main text. Coalition governments are more complex. The only assumption which seems to be clear is that coalition partners agree in one way or another on a common policy strategy. The incentive to do so is that being in government leads to a positive sum game for all parties involved. Therefore, every government party is prepared to make compromises with coalition partners because otherwise the respective party would not be in government at all. However, besides stating that there is a compromise between government parties, it is difficult to define this compromise in concrete terms. Three coalition models are commonly used in the literature. The most common approach is to weigh the position of the parties by their strength. The basic assumption is that decisions are reached by compromise and that the compromise is determined by the power of the participating actors. This conceptualization of coalition bargaining can be deduced from a Nash bargaining theorem as has been outlined by Achen (2006) and may be an extension of the Gamson’s law (Gamson 1961), which postulates that parties in a coalition receive the same portfolio as a proportion of their seats in parliament (considering only the share between the government parties). Although there is disagreement regarding how to weight individual portfolios in various countries, this model gives us a more concrete way of estimating the ASP of a coalition government. In order to avoid weighting individual portfolios I use the share of the seats of government parties to weight the strength of the coalition parties. However, this model just works if institutional rules give equal power to all government parties and that compromises are reached in a collective decision-making style. I call this model the cabinet model.

---

1 In coalition research, many control mechanisms have been mentioned such as how coalition partners constrain each other through coalition contracts in order to uphold a common policy strategy, screening, reports and monitoring, coalition committees, and “watchdog” junior ministers (Giannetti and Benoit 2009; Strøm and Müller 2009; Strøm, Müller, and Bergman 2008; Martin and Vanberg 2004).
Alternatively one can argue that finding decisions in coalition governments follows another principle. Laver and Shepsle (1996; see also Austen-Smith and Banks 1988) have developed a powerful theory from the assumption that the executive privileges of departmental ministers make compromises unfeasible. There might be a substantial conflict between coalition parties over which party gets control of which portfolio. However, once this dispute is settled, the minister’s party makes decisions independently. In their reasoning, ministers are too powerful in their respective ministries to be subordinated to a common coalition policy. Instead, each coalition party takes on full decision-making power with regard to the portfolios held by its ministers. In this model the minister (in the case of this study the environmental minister) has the ASP.

The third view of approaching coalition governments is the prime minister model (Poguntke and Webb 2005). In this view prime ministers have overwhelming power. There are different ways of estimating the prime minister weight from that s/he has the sole power\(^2\) to that s/he has to share the power equally with the other coalition partners. Taking the view between these two extremes, this model begins from the premise that the prime minister has to bargain with the ministers. The prime minister (PM) negotiates with each individual minister about policy decisions in their respective domains. The relative power of the PM and the individual ministers are difficult to determine theoretically. The PM often has a deciding position in a cabinet but the minister has extraordinary expertise in her field. The conclusion is that the minister is not an unchallenged sovereign in her domain but has to coordinate the policy decision with the PM. For each policy field, the PM has to negotiate with the respective minister. In some policy fields, this could be several ministers with various preferences. The result of the bargaining between the prime minister and the minister is the weighted mean position between these two actors. For this analysis, I use the weighted mean position between the prime minister and the environmental minister.

Another, frequently occurring form of government are minority governments. In the period of analysis (1980-2012), there were 99 minority governments in our 19 parliamentary democracies, or 28.21 percent of the total. A minority government lacks a legislative majority and must seek support for its policies on an issue to issue basis with an opposition party. I start out from a simple model outlined by Strøm (1990, 108–9). Considering this assumption, the ASP is dependent on the government party – or the position of the government according to the above models if there is a coalition – and the ideologically closest opposition party in each policy dimension. In the case of a concession with one party, one could simplify and state that the compromise would be located between the position of the minority government and the opposition party. If there are two opposition parties needed for concessions and one opposition party is to the left and the other on right of the government’s position, then the concession could be closer to the government parties than in the first example. However, the advantage for the government of moving the compromise position towards its preferred position leads

\(^2\) Taking this view makes it difficult to argue why a party not holding the prime minister position should enter a government when it cannot exercise any influence over policy. Of course there is the possibility that a party is office seeking or looking for election gains but without policy seeking at all this seems to be implausible.
to the possible consequence that the ideological distance between the parties in the “temporary coalition” increases. That means that the veto player range increases (see section on veto players).³

Another aspect to consider in the context of minority governments is the relative weight given to the opposition parties that participate in a “temporary coalition” with the government party. Strøm (1990, 109–13) postulates that the stronger the minority government, the greater the tendency towards shifting coalitions. Strength is operationalized as bargaining power (minority party possesses the median parliamentarian, high number of parties in the legislature, and the number of parties needed for majority) and agenda control (lax investiture, decentralized committee structure). On the other hand, the courted opposition party may be very small but their votes are much more valuable since they are needed for the minority government to attain a majority in a certain policy. There is also the common strategy of logrolling – meaning that an opposition party can realize their policy goal in one area by allowing the government party to get its will in another area. All of these situations are difficult to capture in a macro-comparative study. I therefore use the most likely model: the weighted position between the government party and the closest opposition party. I weight the opposition party participating in the “temporary coalition” with its share of seats in relation to the government party or parties.

The cabinet, minister and prime minister models have been considered as alternative models in the literature. However, in contrast to most studies in the field which apply only one type of government for all analyzed countries, this study captures the fact that it is more suitable to conduct a contextual analysis. This position is supported by the findings of Hallerberg (2004) who describes the Italian governments as "fiefdom governance" – where individual ministers have fairly wide latitude to set policy. In contrast, in the Netherlands, coalition parties negotiate policy goals in every ministry for the upcoming four years. As a consequence of these findings, I will classify the 19 parliamentary democracies included in this study according to the three principles of government decision-making. In order to categorize the parliamentary systems into the three groups I estimate the strength of the prime minister, the autonomy of ministers, and the degree to which coalition governments make decisions collectively. These three indictors focus each on one of the coalition decision-making models. However, as we will see it is not so that one aspect clearly dominates but rather that there are various combinations.

Systematic macro-comparative studies dealing with the status of MPs are those by Müller and Strøm (2004) which focus on West European countries and those of O'Malley (2007) which covers all of the countries included in this study. While the former creates an index of the institutional power of prime ministers, the latter uses data from expert judgments on de facto prime minister power. I use this latter index for my analysis to classify countries into the three categories of decision-making, mainly because it

³ Political systems with minority governments also often have anti-system parties which are considered by established parties as unsuitable for coalition partnership (cordon sanitaire). These are often radical left- or right-wing or populist parties. I assume that minority governments are not prepared to collaborate with anti-system parties and therefore exclude anti-system parties as available for “temporary coalitions” for minority governments. However, this assumption can be questioned.
covers all 19 parliamentary democracies. O’Malley asked eight questions concerning prime ministerial influence over government policy output and prime ministers’ ability to get their preferred policies enacted. The result is that Canada, Australia, Spain and the United Kingdom have the strongest prime ministers.

For the autonomy of ministers I use expert judgments dealing with various aspects of managing the government (Jahn 2012). The index measures the discretion of an individual minister within the government. According to this index, the highest ministerial discretion is in Italy, Germany, Greece, Japan, Austria and Spain. Ministerial autonomy is low in the other countries, above all in the Westminster democracies as well as in France, Portugal and the Nordic countries.

In order to arrive at an index of collective government decision-making, I utilize the data from Strøm, Müller, and Bergman (2003). While their intention is to measure the institutional power of prime ministers, I will use their scores to deduce the degree of collective decision-making by delineating if there is no power of prime ministers over other ministers and if decisions have to be approved unanimously or by majority vote. Countries with high scores for collective decision-making are all Nordic countries except Denmark and the Netherlands, Austria and Italy. Very little collective decision-making is done in the Westminster democracies, Spain, Germany and France. Table A-1 summarizes the scores for the three variables used in this analysis.

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4 Since O’Malley did not include the French prime minister, I imputed the score for the French PM from Strøm, Müller, and Bergman (2003). This is justifiable because both data sets correlate highly, particularly when removing Greece which was classified very differently in both studies (Pearson’s r = 0.80**).

5 The questions are: (1) Freedom to select ministers in own party; (2) Freedom to select ministers in other parties; (3) Freedom to dismiss ministers in own party; (4) Freedom to dismiss ministers in other party; (5) Freedom to invoke elections; (6) Freedom to restrict the cabinet agenda; (8) Freedom to determine the cabinet agenda; (8) Freedom to determine the parliamentary agenda; (9) average power level for each country.

6 According to O’Malley, the Greek PM is second after Canada. However, in Strøm, Müller, and Bergman (2003), the Greek PM has only average power (ninth from 15 PMs). Even if the Greek PM is probably overrated, I keep O’Malley’s score for the Greek PM in my later analysis.

7 The questions are: (1) To what extent do line ministries have to involve the government office/prime minister’s office in the preparation of policy proposals? (2) To what extent does the government implement a coherent communication policy? (3) To what extent does the organization of government ensure that ministers do not seek to realize their self-interest but face incentives to implement the government’s program? (4) How effectively does the government office / prime minister’s office monitor line ministry activities? All questions were answered on a scale from 1 (much discretion) to 10 (very restricted discretion) with pre-formulated steps (see: http://www.sgi-network.org/ accessed August 2011).

8 I used a count score for the following aspects: (1) Decisions are taken by unanimity (2 points) or majority (1 point); another point has been given if (2) the PM has no formal right to decide ministry jurisdiction; (3) PM has no steering or coordination rights vis-à-vis ministers; (4) PM has no full control over cabinet agenda; and (5) if ministers are directly accountable in parliament. This results in a score from 0 to 5.

9 I used the same score for Australia and Canada which are not included in Strøm, Müller, and Bergman (2003). For New Zealand as well as for Japan, I did not add scores because estimations are rather speculative.
### Table A-1: Prime Minister Power, Minister Autonomy and Collective Cabinet Decision-Making in 19 Parliamentary Democracies

<table>
<thead>
<tr>
<th></th>
<th>Prime Minister Power (0 = weak)</th>
<th>Minister Autonomy (0 = strong)</th>
<th>Collective Decision (0 = weak)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>6.99</td>
<td>8.27</td>
<td>0</td>
</tr>
<tr>
<td>Austria</td>
<td>5.43</td>
<td>5.81</td>
<td>5</td>
</tr>
<tr>
<td>Belgium</td>
<td>6.05</td>
<td>7.99</td>
<td>3</td>
</tr>
<tr>
<td>Canada</td>
<td>8.24</td>
<td>9.34</td>
<td>0</td>
</tr>
<tr>
<td>Denmark</td>
<td>5.78</td>
<td>8.37</td>
<td>2</td>
</tr>
<tr>
<td>Finland</td>
<td>5.77</td>
<td>7.72</td>
<td>5</td>
</tr>
<tr>
<td>France</td>
<td>6.14</td>
<td>8.37</td>
<td>1</td>
</tr>
<tr>
<td>Germany</td>
<td>6.29</td>
<td>4.29</td>
<td>1</td>
</tr>
<tr>
<td>Greece</td>
<td>7.11</td>
<td>4.56</td>
<td>3</td>
</tr>
<tr>
<td>Ireland</td>
<td>6.09</td>
<td>8.42</td>
<td>0</td>
</tr>
<tr>
<td>Italy</td>
<td>4.99</td>
<td>1.70</td>
<td>5</td>
</tr>
<tr>
<td>Japan</td>
<td>4.61</td>
<td>5.66</td>
<td>-</td>
</tr>
<tr>
<td>Netherlands</td>
<td>6.09</td>
<td>7.01</td>
<td>5</td>
</tr>
<tr>
<td>New Zealand</td>
<td>6.15</td>
<td>8.37</td>
<td>-</td>
</tr>
<tr>
<td>Norway</td>
<td>5.73</td>
<td>8.04</td>
<td>5</td>
</tr>
<tr>
<td>Portugal</td>
<td>6.20</td>
<td>8.27</td>
<td>2</td>
</tr>
<tr>
<td>Spain</td>
<td>6.93</td>
<td>6.37</td>
<td>0</td>
</tr>
<tr>
<td>Sweden</td>
<td>6.01</td>
<td>7.99</td>
<td>4</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>6.81</td>
<td>8.27</td>
<td>0</td>
</tr>
</tbody>
</table>

**N** | 19 | 19 | 17

**Minimum** | 4.61 | 1.7 | 0
**Maximum** | 8.24 | 9.34 | 5
**Mean** | 6.18 | 7.1 | 2.41
**Std. Deviation** | 0.81 | 1.92 | 2.09

*Explanation*: Data for Prime Minister Power is from O’Malley (2007); Minister Autonomy from Bertelsmann Stiftung (2009) and Collective Decision from Strøm et. al (2003).

In order to determine the category in which the countries belong, I conducted a cluster analysis with the three above described variables of prime minister power, minister autonomy, and collective decision-making.\(^\text{10}\) This cluster analysis was done for those countries in which data is available for all three variables (which excludes Japan and New Zealand). The following figure shows the results in the form of a dendrogram:

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\(^\text{10}\) I have used a hierarchical cluster analysis and the Ward’s method with squared Euclidean distance. I have also conducted the cluster analysis with the score of Bergmann et al. for the Greek PM and came to exactly the same result.
The cluster analysis puts all Westminster democracies as well as Spain, Denmark, Portugal and France into one cluster. This cluster can be described as the group of countries with a strong PM. However, there is a distinction within this group. Canada, Australia, Spain and the UK have without any doubt a strong PM. This is documented by the data above. Ireland has much lower scores although it has been classified as a country with a strong PM by King (1994). For instance, O’Leary (1991, 159) concludes that “…within his own political system the Irish prime minister is potentially more powerful than any other European prime minister, with the exception of his British counterpart.” However, since the Irish scores for minister autonomy and collective cabinet decisions are among the lowest, it is feasible to classify Irish cabinet decision-making as PM dominated.

Denmark, Portugal and France can still be considered as PM dominated but not to the same degree as the above mentioned group of countries. In these three countries, there is also a strong element of collective decision-making.\textsuperscript{11} Denmark may seem to come as a surprise since it has been concluded that “…prime ministerial power in Denmark is still kept in check by consensus politics” (Pedersen and Knudsen 2005, 174) However, Strøm, Müller, and Bergman (2003) consider Denmark clearly less consensual than the other Nordic countries. The data used in this study put Denmark into the category of strong PMs.

\textsuperscript{11} In France, the President takes the position of the head of government when there is no cohabitation. During periods of cohabitation it is the prime minister.
New Zealand was classified as having a strong PM as it functioned according to the rule of the Westminster model. However, after the 1996 reforms, I consider the government decision-rule in New Zealand to be collective decision-making. Although Helen Clark was certainly a strong prime minister, the office of PM lost power due to coalition governments often existing with minority status. Furthermore, the PM in New Zealand was classified as less powerful than in the other Westminster democracies coupled with a long tradition of collective decision-making.

The next cluster is made up by Austria, Finland, Norway, the Netherlands, Sweden and Belgium – all countries with a strong tradition in collective cabinet decision-making. All these countries score rather low on the PM and minister autonomy scale. In so far there is little doubt to classify these countries as following the collective cabinet decision-making model.

The last cluster includes Germany, Italy and Greece. These countries have substantial ministerial autonomy. Countries in this cluster may also fit into other categories. Italy has a high score in collective cabinet decision-making and Germany and Greece have strong PMs. Nevertheless, some qualitative statements of the expert judgments of the Bertelsmann Stiftung (2009) reassure that it is appropriate to classify these countries as conforming to the minister model. Japan has been added to the minister model because the prime minister is considered weak in Japan and ministries are distributed according to specific groups and parties in order to satisfy their clientele. Furthermore, Japan received a relatively high score for ministerial autonomy. For Greece and Japan, the difference between the models is practically without consequences because most governments were single party majority governments most of the time.

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12 Actually there was no coalition government until the Labour-led government of Helen Clark in December 1999.
13 For Italy it says: “Although the government is guided by a comprehensive, detailed program and coalition summits take place from time to time ...Ministers see themselves only in part as members of a team; loyalty to their own party and its specific political agenda often takes priority” (Bertelsmann Stiftung 2009, 23). The PM in Italy is not able to dismiss ministerial colleagues. For Germany, it was concluded: “Ministerial compliance is poor. Germany’s political culture and traditions of government give every minister wide-ranging autonomy” and “Ministries held by a party other than the chancellor’s are traditionally unwilling to coordinate activities closely with the chancellery. There is communication between the line ministries and the ‘mirror units’ of the chancellery, but this often takes the minimal form of information exchange, rather than true coordination” (Bertelsmann Stiftung 2009, 23–24). For Greece it has been stated that “monitoring of line ministries [by the PM] is insufficient” and that “the government’s organization does not prevent ministers from pursuing policies other than those reflected in the official program” (Bertelsmann Stiftung 2009, 34).
14 In the country report on Japan of the expert study of the Bertelsmann Foundation it was stated: “Traditionally, departmental self-interest has been strong and even dominant” (Bertelsmann Stiftung 2009, 22).
15 In Greece, there were only two short periods – July 1989 to April 1990 and November 2011 to 2012 – witnessing coalition governments, whereas most of the time both the PM and the environmental minister came from the same party or were non-aligned anyway. From July to October 1989 Tzannetakis’ (ND) government comprised two ministers (out of 23) from the Progressive Left Coalition (SYN), but the environmental ministry remained in the hands of the ND. Immediately afterwards, Grivas and Zolotas’s (both non-aligned PMs) led expert government’s until April 1990 with Liaskas – non-aligned, too – as environmental minister. 21 years later, in the wake of the severe financial crisis a grand coalition was formed led by Papademos and later Pikramenos (both non-aligned PMs). Under Papademos the PASOK held the environmental ministry (Papakonstantinou; November 2011 until May 2012), while Tsaltas (non-aligned; May until June 2012) served as minister under Pikramenos. Although Samaras’ (ND) subsequent government comprised two coalition partners, the environmental ministry, again, remained in the hands of the ND. In Japan, the dominant liberal party LDP mostly formed a single party majority government. Only
The situation is different in Germany and Italy where coalition governments are the rule. In Germany, the environmental ministers came from the Christian Democratic Party in CDU/CSU-FDP coalitions (Zimmermann was minister of interior, but also responsible for environmental politics from 1982–86; environmental minister were: Wallmann 1986–87; Töpfer 1987–1994; Merkel 1994–1998). In the SPD-Green coalition, the post of environmental minister went to the Greens (Trittin 1998–2005). In the Grand Coalition between the CDU/CSU and the SPD the environmental ministers came from the social democrats (Gabriel, 2005–2009). Like in the 1980s, in Merkel’s second term (2009-2013) Röttgen (CDU/CSU) held the post in her CDU/CSU-FDP coalition. In Italy, until the collapse of the Christian Democratic Party (DC), the environmental ministers usually came from the Socialist Party (PSI). After the landmark election in 1994, the post was held by minor coalition partners, often the Greens or the National Alliance (AN); though the later might be considered a “major minor” party especially under PM Berlusconi. His Forza Italia usually provided half the cabinet, while the AN held a quarter of posts; the remaining quarter was distributed among several other partners. Table 1 in the main text summarizes the result of the decision-making principles of the 19 parliamentary democracies.

Besides the institutional setting of the agenda setters it is also essential to grasp the strength of the veto players. I apply the concept developed by Tsebelis (2002). He observes that the VPP can be calculated by means of (a) the number of veto players, (b) their maximum ideological distance, and (c) the coherence of individual veto players. In his macro-comparative studies, Tsebelis (2002; Tsebelis and Chang 2004) uses the ideological distances of the two most opposing veto players, as derived from expert judgments (Laver and Hunt 1992) as a proxy. Veto players in Tsebelis’ macro-comparative analysis are coalition parties, second chambers and presidents. For this study, I have updated Tsebelis’ index and introduced some modifications to his concept (Jahn 2010). First, I use data of ideological positions which are time variant. Second, I include the ideologically closest opposition party as an additional veto player in the case of minority governments. Third, I consider more second chambers as veto players than Tsebelis does in his studies.

In order to estimate the veto player range, I begin from the ideological range of coalition parties. For minority governments, the ideologically closest opposition party is taken into account. If these parties extend the range, i.e. they are not absorbed by the coalition parties, then the range is calculated from the opposition party to the government party which is ideologically furthest away from the opposition party.

In the phase of coalition governments 1993–96, did the environmental ministers came from different parties than the prime minister. From August 1993 to June 1994 the Komei-to (Clean Government Party) chose the environmental minister, but the PM came from the Nihon Shin-to (Japan New Party) and the Shinsei-to (Japan Renewal Party) respectively; under Murayama (Nihon Shakai-to, Japan Socialist Party [JSP]) the LDP held the environmental ministry (June 1994 to January 1996); reversely, in the Hashimoto I cabinet (LDP; from January 1996 to November 1996) the JSP held the ministry. Later, the LDP often allowed the Komei-to (Clean Government Party) or the Hoshu-to (New Conservative Party) to participate with one minister; however, apart from one exception the LDP held the environmental ministry: from August 2008 until September 2009 PMs Fukuda and Aso (both LDP) incorporated Saito from the Komei-to as environmental minister.
The second chambers are included in the analysis with their median position. In case the median was situated outside the coalition parties’ ideological range, the range was extended. The same has been done for the presidents. I consider changes of institutional settings and relax the criteria for including second chambers as veto players. In Tsebelis’ macro-comparative analysis, only second chambers in Australia, Canada, Germany, and Switzerland are included. However, in another study he claims “...that second chambers always exercise an influence on final outcomes of legislation. This is a trivial point when upper chambers can veto legislation, as in the United States, Switzerland and Germany. However, it is our contention that all second chambers exercise influence even if they are considered weak or insignificant” (Tsebelis and Money 1997, 211). Limiting the number of second chambers may make sense with regard to formal decision-making structures, yet informal effects call for the inclusion of other second chambers as well. Considering this from the other side, it is also not entirely clear that assumed strong second chambers have overwhelming influence over policy outcomes. For instance, the German second chamber is perceived as strong in most of the literature. However, it has been demonstrated that the formal intervention competences of the Bundesrat are rather modest and that many decisions are influenced by a so-called “veto-anticipation” (Manow and Burkhart 2004). Almost all second chambers can delay the political process. If governments want to produce political results in a timely fashion, they are dependent on the cooperation of second chambers. In order to function smoothly, governments must be prepared to compromise on policy goals. Consequently, second chambers can have considerable influence on policies. I therefore include the Belgian, Japanese, Italian, Dutch, French and Spanish second chambers, which are perceived as strong or medium-strong (Lijphart 2012, 198–201), in the analysis, additionally to Australia, Canada, Germany.

Presidents are institutional veto players along the lines of second chambers. In theory, all presidents have an influence on the political process but in reality presidential power is very diverse. Tsebelis includes only the President of Portugal as a veto player. He excludes the French President from his analysis and does not even consider the presidents of Austria, Finland and Ireland to be veto players. While the presidents in Austria and Ireland only have very limited power, the Finnish President had an important veto player power before the constitutional reform of 2000 (Nousiainen 2001). I have therefore included the Finnish President as a veto player before the constitutional change came into effect. In contrast, the French President is difficult to model as the role of the French President changes according to parliamentary majorities: “The President of the Republic is the supreme authority as long as he has a majority in the National Assembly; but he must abandon the reality of power to the prime minister if ever a party other than his own has a majority in the Assembly” (Aron 1982, 8). This has consequences as outlined in the next paragraph.

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16 Tsebelis seems to use the second chamber party which is ideologically furthest away from the most radical party in government. However, this is not really appropriate because the second chambers are collective actors and their position vis-à-vis government is the absolute majority of the members of the upper houses which is the median position.

17 The same logic of anticipated impact has been analyzed in terms of “the politics of negative power” for the President of the United States (Cameron 2000).

18 I also include the change of the status of the Belgian Senate over time. After the constitutional reform in 1993, the Belgian Senate lost power and therefore warrants consideration as a veto player only until 1993.

19 For the United States and Switzerland, see the sections below.
In sum, the VPP has been operationalized on the basis of their ideological distances measured on the green-growth and left-right dimensions. I have always included the widest ideological range. Given that a veto player was situated within this range, it was absorbed (Tsebelis 2002, 26–30). For Austria, Denmark, Greece, Ireland, New Zealand, Norway, Sweden and the United Kingdom, I use the coalitions’ ideological ranges (if existent). This implies that I disregarded second chambers in Austria, Ireland and the United Kingdom. Countries with strong (symmetrical) second chambers are Australia, Germany, Italy, Japan and the Netherlands. For Belgium, I included the second chamber until 1993. After the 1993 reform, I only analyzed the coalition range. Although Canada, France and Spain have moderate bicameralism (Lijphart 2012, 199), I included them in the group of countries with second chambers which exert influence on the policy process. Portugal and Finland (until 2000) are countries with strong presidents. In France, the situation is more complicated. In periods without cohabitation, I treated the French system as presidential. Although the French president does not have many formal powers (Huber 1996, 24–30), he has informal power in his own party during periods of united government. Thus, I have used the range between the coalition, the Senate and the President as the veto player range. However, because the position of the President is identical with the President’s party position in the analysis in this study, the President’s position is situated within the range of the coalition and is therefore absorbed. In times of cohabitation, I have ignored the position of the President because “Cohabitation demonstrates that in the absence of a coherent majority in support of the president, the president is relatively powerless in influencing even the direction of political change” (Huber 1996, 29). Therefore, I have used the range between the coalition parties and the second chamber in case of cohabitation. The French Senate is normally considered to be a medium strong second chamber (Lijphart 2012, 199). However, it has been demonstrated that the French Senate has a profound impact on the legislative process (Tsebelis and Money 1997). In particular, during periods of non-cohabitation with the left in power, the Senate was often able to influence policy.

The VPP, as well as the ASP differs between those in parliamentary democracies in the United States and Switzerland. However, this has been ignored in most macro-comparative studies which may have led to biased results.

ASP and VPP in the United States

The US political system is certainly not a parliamentary system. Nevertheless, to label it as simply presidential or with unchallenged dominance by the Executive Branch is a serious divergence from empirical reality because the political process in the US is strongly determined by the separation of powers (Cameron 2000; Krehbiel 1998). Cameron (2000, 269) summarizes: “To view a system of genuinely tandem institutions as somehow ‘presidential’ is to misplace the inter-branch bargaining that is central to the American system.” He concludes that, “…the American system is neither a botched parliamentary system nor a presidential system. It is something quite different from either. It is a system

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20 I also do not consider the Norwegian “Second Chamber” (lagting) as it is part of the parliament (storting).
21 Because I have no data for the preferences of the presidents over time, I use the party preferences of the president’s party from the Party Manifesto Data.
predicated on internal checks and balances, a system in which inter-branch bargaining is not a minor component but oftentimes a major one.”

The legislative process in the US begins in Congress. Although everybody, including the President, can write a bill, only members of the House or Senate can introduce a bill for consideration. Cox and McCubbins (2005), in their study of the US House of Representatives, claim that the majority party is the dominant agenda setter. The majority party does not steer the political process by party discipline, as might be the case in many parliamentary systems, but rather controls the agenda by occupying strategically important positions such as the committee and subcommittee chairs, seats on the Rule Committee, and the speakerships. However, the majority party is not without constraints in setting the agenda. Even if a party has the majority in the House, it still needs to take the Senate and the President into account. Both chambers, the House of Representatives and the Senate, must approve a bill in identical form. This is extremely difficult – particularly when the House and the Senate have different majorities. If there is disagreement between the two chambers, the bill dies or a compromise is found by the Conference Committee. Once both the House and Senate have approved the bill in identical form, it becomes “enrolled” and sent to the President of the United States.

The legislative process is characterized by veto players who must negotiate with each other in order to change a policy. Theories which deal with this procedure focus on decisive majorities (pivotal politics) (Krehbiel 1998) and veto bargaining (Cameron 2000). Krehbiel (1998, 22) argues that the political process “...is tempered by two supermajoritarian procedures: the executive veto, and the Senate’s filibuster procedures.” In order to override the Presidential veto, a two thirds majority in both chambers is required. However, the President’s veto is at the end of the legislative process and therefore fits within the definition of the “politics of negative power” (Cameron 2000). Executive vetoes are not “bullets” for important legislation, but rather “...vetoes are bargaining tools that shape agreements” (Cameron 2000, 264). The power of the executive veto lies not so much in its application but rather in its anticipation. The way of formulating “veto proof” bills therefore comes to the center of analysis of the American legislative process. Similar things can be said of the filibuster. Sometimes both supermajoritarian procedures are used in tandem. Whereas the House of Representatives decides with a simple majority, the Senate has the filibuster procedure which requires three-fifths majority (60 Senators, if all 100 seats are filled).22

First, I identify the programmatic position in the House. The median position of this ideological dimension is the ASP of the House. Since I keep the ideological position of Democrats and Republicans in each party constant, it is the position of the majority party in the House.23

In the Senate the filibuster pivot, not the median voter, is crucial. In order to model this situation, I weight the position of both parties according to their majority in the Senate. That means if party A has a

---

22 The model presented here refers to non-financial bills. Financial bills are treated differently and the President can become an agenda setter (Schick 2007).

23 In order to compare the United States with other countries I use the party manifesto data for party preferences and with that I treat the US parties as relatively coherent. Although I am in good company here (Aldrich 1995; Cox and McCubbins 2005; Rohde 1991), there is certainly no agreement on this question (Krehbiel 1998; Mayhew 1974; Schickler and Rich 1997).
majority of 51 percent, I weight the final outcome 51 times party A’s position plus 9 times party B’s position and divide it by 60 (the value of the supermajority). Because of the possibility to filibuster from both sides, I start from the majority in the House and estimate how many Senators the party with the majority in the House needs from the other party to obtain a filibuster majority.

As mentioned above, bills and joint resolutions must pass both Houses in identical form. However, because both Houses have different pivotal positions, it is most likely that they have deviant positions on polices, even under a unified government (without a supermajority in Senate). This means that both chambers must find a compromise position. In order to settle conflicts and to reach to compromises, the Conference Committees, filled with members of both Houses, are established. The sole purpose of a conference is to reconcile the differences between the two Houses. Although the committee reports can be filibustered in the Senate, I assume that the compromise between both Houses lies between the pivotal position of the House and the Senate. Because it is difficult to determine the compromise position precisely, I take the unweighted average position of the pivotal position of the House and the Senate as a proxy for the position of the Congress.

The average between the calculated positions of the House and the Senate is then taken as the Congress’ position which is “offered” to the President. The President must take a position on the bill within ten days. If he does not react, the bill becomes law without the approval of the President. If the President signs the bill, it becomes law with his approval. If the President wants to reject the bill, he has to veto the bill. In this case, the bill is returned to the Congress with a “veto message” which points out why the President does not agree with the bill. Both Houses discuss the veto message separately and have to decide if they override the veto. In order to override the veto, a two-thirds majority is required in each House.

In order to model this stage of the legislative process in the US, I start out from the ideological position of the President. Because a two thirds majority is needed to overrule an executive veto, I weight the President’s position (AS₃President) 2/3 times and the Congress’ position 1/3 times – and finally we arrive at the agenda setting power position for the USA (AS₃USA).

\[
AS₃USA = \frac{2}{3} AS₃President + \frac{1}{3} AS₃Conference Committee
\]

24 For Senators representing third parties or minor parties or who left the Democrats or Republicans during the legislative period, I identified their party leaning concerning the two major parties. This is necessary for the calculation of the filibuster pivot. It is unlikely that Senators with a party leaning prevent cloture for the party they stand close to. In the period of analysis from 1970-2012, there were six independent Senators. (1) James L. Buckler was a conservative from 1971 to 1977. I classify him as being close to the Republicans. (2) Harry Byrd was an independent from 1971 to 1983 with a leaning towards the Democrats. (3) Bob Smith was a Republican Senator from 1990 to 1999. After he was not successful to run as Presidential candidate he first switched to the Tax Payers Party and then became an independent. Ideological, however, he is closer to the Republicans than the Democrats. (4) Jim Jeffords was Republican from 1989 to 2001 and then became an independent. Jeffords voted most often with the Democrats. (5) Dean Barkley was independent from 2002-2003. I classify him as closer to the Democrats although he held the pivotal vote in favor of the Homeland Security Act. (6) Bernie Sanders was elected as an independent (2007-) but stands close to the Democrats. He is strongly engaged in environmental issues. (6) Joseph I. Lieberman was from the Independent Democrats from 1989-2013. I classify him as leaning to the Democrats.

25 However, the Congressional Budget Act of 1974 limits debate on conference reports on budget reconciliation bills to 10 hours in the Senate, so Senators cannot filibuster those conference reports.
The filibuster pivot and the Presidential veto override also affects the estimation of the veto player range in the USA, meaning that the veto player range is not simply the widest range between House, Senate and the President. Instead, the veto player range includes the position of the Presidential veto override, the House and the filibuster pivot of the Senate.

This method of modeling the legislative process in the USA deviates from established macro-comparative studies. Some examples may illustrate the point. Let’s say that party A has an ideological position of 1 and party B an ideological position of 10. The President has position 1 and one of the chambers has a majority of the other party. That would mean that conventional studies come to the result that the ASP in the USA is 1 (the position of the President) and the veto player range is 9. In my model the ASP depends on the filibuster majority in the Senate and the President’s veto override majority. If the party of the President has 60 Senators on its side, then the ASP is 2.5 and the veto player range is 9. If the President’s party has a majority of 51 Senators, the ASP moves to 2.7 and the veto player range is the same. Taking another example where the President takes position 1, the party of the President has the majority in the House and a majority of 51 Senators, conventional studies conclude that the ASP is 1 and the veto player range 0. In my model, this situation leads to an ASP of 1.2 and a veto player range of 1.35. Taking the final example where the President faces a hostile Congress, the ASP varies from 3.75 to 3.97 depending on the number of Senators for the minority party of the President. This final situation would have been also coded 1 in conventional studies. These examples demonstrate that the ASP and veto player range deviate quite substantially from the simple conventional model when we use a model more closely attuned to the legislative process in the USA. In the next step, I turn to Switzerland which also has a special legislative process which deviates from both parliamentary and presidential systems.

**ASP and VPP in Switzerland**

It is emphasized that Switzerland does not fit the typology of presidentialism or parliamentarism but rather has characteristics of both (Stepan and Skach 2001). Two basic features make the Swiss political system unique: first, the collegial government which is composed by the Zauberformel (“magic formula”) and, second, the frequent use of the referendum (Kriesi and Trechsel 2008; Moser 2000; Schwarz, Schädel, and Ladner 2010). The collegial government results in the four government parties making decisions according to their position and number of seats in the Federal Council (Bundesrat). The decision is taken formally by majority rule. However, all members of the Council stand behind the decision which implies that the Federal Council looks for a broad consensus. The appropriate way of modeling the position of the Swiss Federal Council is therefore the mean (instead of the median). I take this position as the ASP for Switzerland.

Because the magic formula determines that always four parties with a very different ideology form the government, the VPP is relatively large. However, there are further veto players in the Swiss political system: the two chambers and the referendum. The first chamber, the National Council (Nationalrat) has rights equal to the second chamber, the Council of States (Ständerat). The first chamber represents the majority of the federation as a whole and the Council of States, the majorities within the Swiss States (Kantone). Finally, there is the frequent use of the referendum which makes the people’s will another
veto player (Tsebelis 2002). The position of the people is the most difficult position to calculate in the context of this analysis because there are no data available for ideological positions of the winning decisions which would be necessary to calculate the total veto player range in Switzerland. Therefore, I use an indirect way of estimating the position of the referendum. The referendum position is calculated by using the mean position of the political parties according to their referendum recommendation. In order to calculate the referendum recommendation, I use all referendums 24 months before and after an election. Since there are no extra elections and all elections take place every four years, I can attribute the first 24 months to the previous election and the last 24 months to the next election.

For all referendums within the four year brackets, I count the number of alignments of a party’s referendum recommendation with the final result of the referendum. The party position of a respective party is weighted with the frequency of the aligned recommendations. A party which gives recommendations which do not correspond to the final result of a referendum or a party that fails with their referendum initiative represents the people’s position less strongly than a party whose referendum recommendation is frequently in line with the referenda results. In this logic, the former party obtains a lighter weight than the latter party. Formally the referendum position (\( R_{\text{Pos}} \)) can be summarized in the following formula:

\[
R_{\text{Pos}} = \sum_{i=1}^{n} \left( \text{Pos}_i \times \sum_{t=-24}^{t=24} \left( \frac{\text{PR}_{it_1=1, \text{PR}_{it_2}=\text{RP}_t}}{\sum_{t=-24}^{t=24} \text{PP}_t} \right) \right)
\]

The referendum position \( R_{\text{Pos}} \) is the People’s Position (Volksposition), \( i \) stands for the party and \( t \) for the referenda within a four year period. \( \text{PR}_{it} \) is the recommendation of a party \( i \) (Parteiempfehlung) in a period \( t \). \( \text{RP}_t \) is the result of the referendum in the period \( t \) and \( \text{PP}_t \) is the sum of all referenda in the period \( t \). In sum, the VPP of the Swiss political system is determined by the National Council, the Concil of States, the referendum positions and the Federal Council.

References


Appendix B

General Environmental Performance: The Dependent Variable

In general, the concept of performance is evaluative and has been utilized in political science since the 1960s (Dahl 1967; Eckstein 1971; Gurr and McClelland 1971). The evaluation can be conducted by comparing to a pre-set target or baseline, or relative to other cases or time-periods (Eckstein 1971, 8). The difficulties presented by the former measure relate to a lack of clearly defined and universally accepted targets concerning the abatement of environmental degradation or the achievement of sustainability. Therefore, this study focuses on the comparative approach. Furthermore, the concept needs to fulfill at least the following requirements: First, performance is an outcome variable. Although the introduction of environmental policies or the establishment of environmental institutions may have the intention to reduce pollution, the empirical proof of its effectiveness can only be measured by the outcomes. Second, environmental performance indicators must correspond to aspects that can be influenced by political action. In so far indicators which measure the state of the environment are not suited for explaining environmental performance since they can be caused by non-political factors such as transboundary pollution or the outbreak of volcanos, etc. Third, it must be clear who is accountable for environmental performance. More than in other policy areas, this aspect is highly problematic in the field of environmental performance. I tackle this problem by focusing on the annual environmental emissions data instead of ambient pollution concentration. Finally, environmental performance deals with complex aspects and processes. There are various issues to consider, from atmospheric and water emissions, to waste and biodiversity. Environmental performance is thus multi-dimensional, leading to another measurement issue: do we aim to construct a comprehensive, composite index of environmental performance by aggregating often distinct aspects? Or do we analyze disaggregated issues in order to better trace causal relationships? The former approach has the advantage of being relevant to a wide range of environmental issues, as well as potentially having a stronger political signaling function. The disadvantage is that an aggregated, composite index may conceal causality as specific environmental issues may demonstrate divergent developmental directions (Pillarisetti and van den Bergh 2010). This is the advantage of disaggregated environmental performance indicators. But in this case it is difficult to explain a country’s environmental performance when various disaggregated indicators come to different conclusions.

The dependent variable has been obtained from an analysis of 14 environmental indicators published by the OECD for which there is data from 1980 to 2012. The indicators are: Sulphur Oxides (SOx), Nitrogen Oxides (NOx), Carbon Monoxide (CO), Volatile Organic Compounds (VOCs), Carbon Dioxide (CO2), Water quality of selected rivers, Water quality of selected lakes, Abstractions of Freshwater Resources, Amounts of Municipal and Household Waste, Radioactive Waste, Fertilizer Consumption, Paper Recycling Rates, Glass Recycling Rates and Public Waste Water Treatment Plants. A factor analysis of these indicators came to the result that SOx, NOx, VOC, CO, CO2, Waste Water abstraction and Radioactive

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1 For instance, this is even true for Climate Change Policy where political actors introduced set targets. However, these targets were strongly disputed and, over time, frequently revised (Gupta 2010).
Waste loaded on the first factor. The standardized values of each of these variables have been summarized to one index of general environmental performance. This index has been again standardized so that the maximum value is 100 (worst environmental performance). Figure B-1 shows the trends for the 21 OECD countries.

Figures B-1: Trends in General Environmental Performance

General environmental performance improved in every decade and had its lowest value in 2012. In 1980, GENPER is lowest in Portugal, Greece, and Japan. That means that two of the least industrially developed countries are among the best performers in addition to Japan which has already been improving its environmental record since the 1960s as a reaction to severe environmental degradation in this decade (Schreurs 2003; Weidner 1996). Finland, Australia and, above all, the US and Canada started from the highest level of GENPER. Although on a lower pollution level, all these countries continue to have the worst performance in the new millennium. New Zealand has also joined the club of low performing non-European Anglo-Saxon countries in 2007-2012. In contrast to the high polluting countries, the ranking of best performers changed considerably. In 2007, aside from Japan which remained on its high level, the Netherlands and, above all, Switzerland moved to top positions. Taking the base level into account, Germany, the UK and Switzerland improved their GENPER most efficiently. It is in this respect, that Portugal, Greece, and New Zealand lost ground. As mentioned above, the years between 2008 and 2012 brought big changes concerning GENPER. Greece, Italy, Portugal, Belgium, the UK, Denmark, and, above all, Spain and Ireland have the highest reduction rates. Most of these countries are also most severely hit

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2 The other factors encompass, on the one hand, water pollution in rivers and lakes and, on the other hand, paper and glass recycling as well as waste water treatment.
by the economic crisis since 2008, which suggests that economic recession leads to environmental improvement. This would mean that economic growth and pollution is still tightly coupled.³ Under the influence of a crisis, however, this coupling is in the other direction which may support the idea that economic downturns are good for the environment. Figure B-1 shows the trends in the 21 countries. For more detail see Jahn (2016).

References


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³ Pearson’s r for post-crisis growth rates (2008-10) and the reduction of GENPER is 0.68.
## Appendix C:

### Table C1: Descriptive Statistics

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Explanations: The statistics refer to Model 2 in Table 1, except for variables with * which refer to Model 5. The statistics change slightly because of optimized lags. Variables with ** have been divided by 10,000 in the regression models in order to get higher coefficients and standard errors. "(a)Data have been adjusted for the Federal Republic of Germany before unification. The raw data can be downloaded from: http://comparativepolitics.uni-greifswald.de/data.html.
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<td>-0.867*</td>
</tr>
<tr>
<td></td>
<td>(0.389)</td>
<td>(0.402)</td>
</tr>
<tr>
<td>RENEWABLES</td>
<td>0.039</td>
<td>0.086</td>
</tr>
<tr>
<td></td>
<td>(0.084)</td>
<td>(0.088)</td>
</tr>
<tr>
<td>ΔSERVICE SECTOR SIZE</td>
<td>0.000**</td>
<td>0.000**</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>SERVICE SECTOR SIZE</td>
<td>-0.000**</td>
<td>-0.000**</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>_cons</td>
<td>0.818*</td>
<td>0.999**</td>
</tr>
<tr>
<td></td>
<td>(0.382)</td>
<td>(0.367)</td>
</tr>
</tbody>
</table>

| N                        | 648.000           | 648.000           |
| R²                       | 0.463             | 0.446             |
| Adj. R²                  | 0.418             | 0.399             |

Explanation: Model 1 conforms to Model 2 in the main text and Model 2 conforms to Model 5.
References


