

Annual Review of Resource Economics

Spatial Models, Legislative Gridlock, and Resource Policy Reform

Nathan Chael,^{1,2} Christophe Crombez,^{3,4}
and Pieterjan Vangerven^{3,5}

¹School of Earth, Energy and Environmental Sciences, Stanford University, Stanford, California 94305, USA; email: nchael@stanford.edu

²LICOS Center for Institutions and Performance, KU Leuven, 3000 Leuven, Belgium

³Faculty of Business and Economics, KU Leuven, 3000 Leuven, Belgium

⁴Freeman Spogli Institute for International Studies, Stanford University, Stanford, California 94305, USA; email: crombez@stanford.edu

⁵Research Foundation Flanders (FWO), 1000 Brussels, Belgium;
email: pieterjan.vangerven@kuleuven.be

**ANNUAL
REVIEWS CONNECT**

www.annualreviews.org

- Download figures
- Navigate cited references
- Keyword search
- Explore related articles
- Share via email or social media

Annu. Rev. Resour. Econ. 2019. 11:83–100

First published as a Review in Advance on
June 10, 2019

The *Annual Review of Resource Economics* is online at
resource.annualreviews.org

<https://doi.org/10.1146/annurev-resource-100517-022958>

Copyright © 2019 by Annual Reviews.
All rights reserved

JEL codes: C72, Q18, Q58

Keywords

spatial models, policy reform, gridlock, resource policy, European Union

Abstract

This review evaluates the use of spatial models for the analysis of policy making. First, we examine spatial theory and its applications in a variety of institutional settings. We discuss how the preferences of the actors involved in political processes, the steps in those processes, and the locations of the reversion policies affect the policies that emerge from the processes. To illustrate this and analyze how the rights of political actors determine the extent of policy reform and the occurrence of gridlock, we use a spatial model of European Union (EU) policy making. We apply the model to major EU reforms in two resource policy areas: the Common Agricultural Policy reforms of the past two decades and the recent reforms of the Emissions Trading System.

Council of the European Union:

legislative body representing the member states; consists of one government minister per member state

Qualified majority voting (QMV):

gradually replaced unanimity as the Council's voting rule; requires 55% of countries representing 65% of EU population; four countries are needed to reject

European Parliament:

EU legislative body representing the people of the European Union; members are directly elected

European Commission:

the EU executive elected by the Parliament and the member states' heads of state and government; initiates legislation

Our gridlock and willful denial are even more dangerous and economically costly in the fight to correct the perilous course our planet has been on for far too long. . . . The question, at this point, is not whether we will get to the global, low-carbon economy that we need. We will. The question is whether we are going to do it fast enough to prevent the worst of what the changing climate could inflict on every corner of the world.

Kerry (2017)

Our system relies on checks and balances, constitutional commands that are implicit in our founding document but often not spelled out with specificity. Everyone in the political process must act as if limited by invisible guardrails to avoid abuse of power. But at moments of stress or executive impudence, what was assumed to be a solid restriction on improper conduct turns out to be flimsy, relying too much on goodwill or unspoken understandings.

Bharara & Whitman (2018)

1. INTRODUCTION

Complaints about political gridlock, such as US Secretary of State John Kerry's criticism in the first quote above, abound in democracies throughout the world. In the United States these grievances come most to the forefront at times of divided government, when the party that does not have the presidency but controls at least one of the houses of Congress is perceived as obstructing the administration's agenda, or vice versa. The use of the supermajority filibuster rule in the Senate further complicates decision making. Such rules are often the object of scorn as a result.

Several scholars have studied gridlock and divided government in the United States. Alesina & Rosenthal (1996), for example, present a spatial model of a policy-making process with an executive and a legislature. They find that voters may have incentives to engage in split-ticket voting, that is, voting for one party for the executive and another for the legislature, to moderate the executive. This may result in divided government. Krehbiel (1998) argues that gridlock does not result from divided government, however, but rather from the presence of moderate status quo policies and the use of policy-making procedures with multiple pivotal actors with heterogeneous preferences. Brady & Volden (2005) agree that gridlock is common and not the result of divided government.

In California, the use of two-thirds supermajority rules for the adoption of tax increases, and until 2010 for the approval of annual budgets, is frequently blamed for legislative gridlock. Cummins (2012), for example, presents an empirical analysis of the determinants of gridlock in California's budgetary process. He finds that the supermajority requirements do indeed enhance gridlock, as do other political and economic conditions.

In the European Union (EU), the use of the unanimity rule in the Council of the European Union (hereafter referred to as the Council) in some policy areas, such as foreign policy and taxation, also leads to indecision. This holds to a lesser extent in the other policy areas where qualified majority voting (QMV), the EU's most used supermajority rule, applies. Crombez & Hix (2015) present theoretical and empirical analyses of gridlock in the EU. They find that there is indeed more gridlock when unanimity rule is used in the Council rather than QMV. They further conclude that legislative activity is higher when the other actors involved in the political process, the European Parliament (EP) or the European Commission, are closer to the pivotal Council members.

Political gridlock occurs at the EU member state level as well. In Belgium, for example, the two main linguistic groups have a variety of means at their disposal to delay and block legislation, thus creating gridlock. Constitutional reforms require two-thirds majorities and majorities in both linguistic groups. "Conflict-of-interest" and "alarm bell" procedures grant regions and linguistic groups the right to delay legislation. When considered together with no-confidence votes and

linguistic requirements regarding the composition of the executive, these rights in practice often amount to veto rights. Swenden (2002) discusses these and other requirements and how they complicate policy making in Belgium.

Even though the decision rules of a country or union are often considered as special and overly complicated by voters and analysts who operate within that country or union, complaints about legislative gridlock are thus quite prevalent throughout the world. This suggests that political systems that are the object of such grievances may not be as unusual as often claimed. Moreover, the supermajority rules and other cumbersome requirements for the adoption of policies arguably have been intended by their designers to limit political actors' powers and provide a system of checks and balances.

In fact, the second quote above, by US Attorney for the Southern District of New York Preet Bharara and former New Jersey Governor Christine Todd Whitman, illustrates that at times of major policy shifts, rather than gridlock, the system of checks and balances may be perceived by many as failing. The supermajority rules and other requirements for the adoption of new policies, otherwise blamed for legislative gridlock, then seem to be insufficient to prevent the abuse of power. Examples of such policy shifts include the introduction of tax cuts that mostly benefit a tiny minority of the richest Americans, immigration and other policies that are perceived as discriminating against minorities, and the withdrawal of international trade and arms control treaties that are considered by most economists and foreign policy experts as jeopardizing the economic well-being and security of the country. Lieberman et al. (2018), for example, study the resulting threat to US democracy from a historical and comparative perspective. The malfunctioning system of checks and balances is currently considered as a problem not only in the United States but also in such countries as Hungary and Poland, as discussed by Szymański (2018), for example.

In this review we discuss the use of spatial models to study policy making. We analyze a spatial model that explains under what conditions gridlock occurs in the EU and when major policy shifts can be expected. We apply the model to examples of EU resource policy reform in two policy areas: the common agricultural policy (CAP) reforms in 2003 and 2013 and the recent reform of the Emissions Trading System (ETS). We focus on the EU because it plays an important and active role in agricultural and environmental policies. Moreover, its policy-making processes are clearly defined, and voting data are readily available. Furthermore, in the EU, in contrast to most of its member states, parliamentary support is not required to keep a government in office. As a result, members of the EP (MEPs) tend to vote more freely according to their preferences than members of national parliaments. This enhances the study of the actors' preferences and rights and their impact on policy reform and gridlock.

2. SPATIAL THEORY

Krehbiel (1988) presents an extensive early review of spatial theories applied to US politics. Hörfl et al. (2005) and Crombez & Vangerven (2014) discuss spatial models of EU politics. In this review, we provide an updated overview of spatial theories insofar as they are helpful in understanding gridlock and reform in resource policies.

Spatial theory can be used to analyze policy making in a variety of settings. In spatial models, policies are represented as points in an n -dimensional policy space. Policy making can then be regarded as choosing a point in a policy space. The n dimensions correspond to the n policy issues that are considered in the political process that is being studied.

The number of issues depends on the complexity of the policy making and the level of detail desired in the study. In a general analysis of politics in a country, for example, a one-dimensional

Common agricultural policy (CAP): introduced in 1958 to increase productivity, stabilize markets, and ensure reasonable prices for consumers; established production quotas, minimum prices, and other support mechanisms

Emissions Trading System (ETS): the EU flagship climate policy, established in 2005, caps greenhouse gas emissions and creates market for emission permits

MEPs: the 751 members of the European Parliament

model may be useful. The one dimension may then represent the left-right economic axis. A somewhat more detailed analysis of politics in that country may consider a few more dimensions, such as a socially liberal-conservative dimension, an interventionist-isolationist dimension in foreign policy, etc. A detailed analysis of a particular piece of legislation, by contrast, may involve hundreds of dimensions. In an analysis of policy making on a trade agreement, the tariff on each specific product could be considered as an individual issue and be represented on a separate dimension, for example.

Black (1948, 1958) and Downs (1957) presented early spatial models of voting. Black formalized what became known as the median voter theorem. It states that the median voter's ideal policy prevails under majority rule, if the following three conditions are satisfied. (a) Only one policy issue is considered. (b) Voters have single-peaked preferences: They each have an ideal policy, and their utilities decline as policy moves farther away from them. (c) Voters compare alternative policies pairwise, and there are no restrictions on the amendments considered. Downs expanded on these ideas and considered party politics within this framework.

Black's conclusions do not apply to policy making that involves more than one issue, however. In multidimensional settings, majority rule usually does not yield an equilibrium policy outcome, as Arrow (1951) and Plott (1967) realized. McKelvey (1976) formalized this conclusion in what became known as the chaos theorem. Political processes require more structure than the mere use of majority rule to lead to outcomes.

In spatial models, outcomes of political processes mainly depend on the following three variables: (a) the preferences of the actors involved in the process; (b) the structure of the process, or the steps in it and the actors' rights in each step; and (c) the location of the status quo or reversion policy, the policy that prevails if no new policy is adopted.

2.1. Preferences

The policy positions of political actors can be located in the policy space. In most models, actors are assumed to have a policy position or ideal policy and to prefer policies that are closer to rather than farther away from their ideal policies. Such preferences are referred to as Euclidean preferences, because the utilities actors derive from a policy depend on the distance between their ideal policies and that policy.

Euclidean preferences are single peaked, but single-peaked preferences are not necessarily Euclidean: A voter's utility may decline asymmetrically as policy moves farther away from their ideal policy. Actors may care more about some issues than about others. The issues they care more about are more salient to them. Their utilities then decline more quickly as the distance increases on a salient dimension than they do when the distance increases on a less salient dimension. Such preferences are referred to as weighted Euclidean (Austen-Smith & Banks 1999). König & Proksch (2006) consider salience in their model of EU legislative politics, for example. In the remainder of this review we disregard salience, however, and assume that actors care equally about all issues.

To conduct empirical research, the ideal policies of the actors can be derived or estimated in a number of ways. First, information on the actors' positions on relevant issues can be gathered through surveys. The actors can be interviewed or contacted to fill out (online) surveys. They are then asked to locate themselves on each relevant dimension on a 1-to-10 scale, for example. On the economic left-right policy dimension a position at point 1 could stand for wanting the government to fully control the economy, whereas point 10 could be the position of someone who is of the opinion that the government should not intervene in the economy under any circumstances. Rather than relying on the actors' own assessments of their positions, the surveys can also be sent

to others: other political actors, voters, representatives of various interest groups, and experts such as academic researchers. Surveys can also be used to gather information on the issues involved in a political decision.

Döring & Manow (2018) have created one of the most extensive databases of party positions that covers most OECD (Organisation for Economic Co-operation and Development) countries, based on various expert surveys and sources. Döring (2007, 2013) used these data to determine the policy positions of the EU institutions, for example. The Chapel Hill Expert Survey represents another rich source of data. It estimates party positions on European integration and other issues in a variety of European countries (Hooghe et al. 2010, Bakker et al. 2015, Polk et al. 2017).

Second, rather than rely on surveys, policy positions can be determined based on publicly available information provided by the actors, such as party platforms and election manifestos, as Budge et al. (2001) did, for example. In these documents politicians set out what policies they intend to pursue on a series of issues. These policies can be considered as their positions on the relevant issues. Party platforms and manifestos have in recent years become a more attractive source of information due to technological progress. In the past, these documents were read and coded by researchers, a time-consuming and expensive process. Nowadays, computer programs can be used to read them and determine actors' positions relatively easily. The use of platforms and manifestos to determine policy positions has become widespread as a result. Benoit et al. (2005) used this approach to estimate party positions at the Convention on the Future of Europe, for example.

Third, rather than analyze actors' stated intentions that can be found in platforms and manifestos, the actors' positions can be estimated by analyzing the decisions they have made and actions they have taken in the past. In particular, their voting records can provide information on their positions. Various econometric models can be used to estimate the lineup of members of parliament on environmental issues, for example, based on their voting records. To that effect, researchers first identify the relevant votes during a parliament's term and then seek to determine the ordering of actors that best explains their voting behavior. The estimates of the policy positions obtained in this manner can then be used to predict future policy decisions. Poole & Rosenthal (2007), for example, used this approach in their study of the US Congress, as did Hix et al. (2007) in their analysis of the EP.

Current and proposed policies can be located in the policy space using the first two of these approaches: Political actors, voters, interest group representatives, and experts can be asked in surveys, and the contents of laws and legislative proposals can be analyzed.

In the EU, information on the preferences of the MEPs and member states in agricultural and environmental politics can be obtained in the ways discussed above. Surveys can be run, but the currently available survey-based ratings of actors are largely limited to left-right locations and pro-/anti-integration preferences. Party platforms and election manifestos can be analyzed as far as the positions on these issues are concerned. Finally, the voting records of the EP and Council can be used. Organizations such as VoteWatch Europe (<https://www.votewatch.eu>) compile and analyze this information.

2.2. Process

In a spatial model the outcome of a political process—the policy that emerges from it—depends not only on the ideal policies of the actors; the various steps in the political process also matter. Democratic political systems tend to operate using majority rule, but this usually does not suffice to explain or predict the outcome. Other aspects of the process matter as well, such as who proposes a new policy, whether this actor can be forced to make a proposal, who needs to approve the proposal

and by what majority, or whether the proposal can be amended. The chronological order in which the various actors can exercise these rights also matters. In the absence of such a clearly defined process, chaos tends to result, as mentioned above.

Members of the legislature can formulate policy proposals in most political systems. Parliamentary committees often consider the proposals before the entire legislative body does. Shepsle (1979) presents an early spatial model of policy making that pays attention to the institutional structure of the process. In his model, policy is set on an issue-by-issue basis in a two-step process. First, a committee proposes a new policy on an issue. Next, the legislature can accept, amend, or reject the proposal. This process yields the median legislator's ideal policy on each dimension.

Denzau & Mackay (1981, 1983) extend this analysis. They consider actors with perfect foresight and closed-rule procedures. Perfect foresight may yield different outcomes if the actors have weighted Euclidean preferences. Under closed-rule procedures the legislature cannot amend proposals but can merely accept or reject them. Under such procedures the equilibrium outcome is one of three policies: the median committee member's ideal policy, the status quo, or the policy between the medians of the committee and the legislature that makes the median legislator indifferent to the status quo. Romer & Rosenthal (1978) come to similar conclusions in their analysis of resource allocation.

Shepsle & Weingast (1987) further build on Shepsle's model. They consider committees with multidimensional jurisdictions. Such committees are not restricted to propose policy changes on just one dimension. Committees have ex post veto rights in their model. As a result, committees can in some cases block policies that a majority in the legislature prefers to the status quo. Krehbiel et al. (1987) debate on empirical grounds whether congressional committees do indeed have ex post veto rights.

Baron & Ferejohn (1989) present game-theoretical models of a legislature whose members are to divide a dollar. Such bargaining games can be represented in a spatial context, with each dimension indicating the share of the dollar a legislator or his or her constituents receive. Baron and Ferejohn draw conclusions with respect to agenda setting and the power to propose. They consider closed as well as open rules and find that being the agenda setter is valuable. The agenda setter receives a disproportionate share of the dollar, even under an open rule. The division is more equal under an open rule, though.

Gilligan & Krehbiel (1987) present incomplete information models of legislative processes. In their models, committees specialize and acquire private information on the consequences of policies. Legislatures lack this information, by contrast. Committees can convey it to the legislatures, but they have incentives to use it strategically to obtain policies that are more advantageous to them. Closed-rule procedures provide stronger incentives for committees to reveal their information than do open rules, because legislatures cannot use the information to amend proposals and move them away from the committees. Gilligan and Krehbiel find that the informational advantages legislatures enjoy from closed rules often outweigh the distributional disadvantages they suffer from them. They thus provide an informational rationale for the use of closed rules. Gilligan & Krehbiel (1989, 1990) present extensions of these models with heterogeneous committees and focus on institutional choice. Krehbiel (1991) further elaborates on these theories and presents empirical tests thereof.

In parliamentary systems the executive typically takes the initiative for most important pieces of legislation. It is therefore no surprise that the study of cabinet governments and their formation, turnover, and survival has attracted the attention of spatial modelers. Austen-Smith & Banks (1988) present a one-dimensional model of government formation with three parties that are motivated by policy and office. They find that the largest party forms a government with the smallest. Baron (1991) studies the formation of cabinet governments in a multidimensional setting with

political parties that are policy oriented. He considers probabilistic and fixed orders of selection and formulates conclusions in terms of the governments that are formed and the policies that are implemented. Baron (1993) endogenizes party locations in a model of government formation and finds that parties choose dispersed policy positions in proportional representation parliamentary systems. Crombez (1996b) and Volden & Carrubba (2004) study the formation of minority and oversized governments. Diermeier & Stevenson (1999) analyze the survival of cabinet governments, and Diermeier & Merlo (2000) focus on government turnover.

In the EU, the Commission, usually considered as its executive, has the exclusive right to formulate legislation, even though other institutions can request that it make a proposal. If it chooses not to fulfill the request, the Commission needs to justify why it does not.

The adoption of legislation usually requires approval by the legislature, which often involves two of its chambers. In the EU, the Council and the EP need to approve legislation under the most commonly used codecision procedure, also known as the ordinary legislative procedure. These two institutions can be considered as the two houses of a bicameral legislature, with the Council being the upper house representing the member states, whereas the EP is the lower house representing the people. On some issues, however, the older consultation procedure is used. The EP can then merely give its opinion, but its approval is not required for the adoption of legislation. The Council usually operates using QMV, whereas the EP approves by simple majority. In some instances, the EP requires support from a majority of its members for approval, rather than merely a majority of the votes, whereas the Council sometimes uses unanimity rule. In that case member states thus have veto rights.

Legislatures are most often allowed to amend legislation proposed by the executive or one of its own members. In the EU, the Council and the EP can together amend Commission proposals under codecision. Under consultation procedure only the Council can amend, and it can do so only by unanimity. In some cases, amendments may not be allowed, such as for the approval of trade agreements in the EU and, when the executive has trade promotion authority, in the United States, for example.

These various proposal, amendment, veto, and other rights affect the outcome of a political process. Whether an institution or actor has a particular right and at what point in the political process it can exercise this right are both important. An institution that has a veto right in an early step of the process, for example, may veto a proposal because it anticipates that the legislature will approve legislation that it does not want later on in the process. Giving this institution the same veto right in the last step of an otherwise identical process may lead to the approval of new legislation, by contrast, because the other institutions will seek to approve legislation that will not be vetoed (Crombez et al. 2006).

In the EU, the codecision procedure currently applies to agricultural and environmental policy making, and the Council decides by qualified majority. Consultation was used to set agricultural policy until 2009 and environmental policy until 1993. Until 1987 the Council decided by unanimity on agricultural issues, whereas the EU did not have authority on the environment until then.

Steunenberg (1994) and Crombez (1996a, 1997) present one-dimensional spatial analyses of EU policy making under the consultation and codecision procedures. They also study the cooperation procedure, as does Tsebelis (1994), but that procedure is no longer used. Crombez also examines the little-used assent procedure, now called the consent procedure. Steunenberg and Crombez both find that the Commission has considerable powers under the consultation procedure, because unanimity is required in the Council for amendments, whereas a qualified majority suffices for approval of its proposals. The Commission can successfully propose any policy that is preferred to the status quo by a qualified majority and such that no policy is preferred to it by all

Codecision

procedure: now called the Ordinary Legislative Procedure in the EU; the Commission proposes and the Council and Parliament accept, amend, or reject

Consultation

procedure: original EU legislative procedure in which the Commission proposes a policy, the Parliament issues an opinion, and the Council accepts, amends, or rejects the proposal

Treaty of

Amsterdam: signed in 1997, it increased the Parliament's powers by reforming and extending codecision and expanded the scope of EU authority

member states. The second condition only affects the proposal if the Commission is a preference outlier and all member states are to its left (right).

Crombez (2001) studies the reform of the codecision procedure introduced by the Treaty of Amsterdam. He concludes that the Commission has lost its formal agenda-setting powers to the Council and the EP. Successful proposals need to be preferred to the status quo by a qualified majority and the EP, and no such policy should be preferred to them by a qualified majority and the EP. Tsebelis & Garrett (2000) came to similar conclusions.

2.3. Reversion Policy

Finally, the outcome of a political process depends on the location of the status quo or reversion policy. A question that is often overlooked in political analyses relates to what happens if the legislative process does not lead to the adoption of a new policy. Most often the status quo then prevails and is thus the reversion policy. In other circumstances, existing laws may prescribe a new policy as a reversion policy, for example, a spending cut of a certain percentage if the legislature fails to agree on a new budget. External events not under the control of the policy makers may also affect the reversion policy. The status quo may no longer be an option, for example, because its implementation may depend on the cooperation of another country, such as in a trade agreement.¹ Whether an institution or actor favors a proposal depends heavily on the location of the reversion policy. A member state with a large agricultural sector may not like a free-market-oriented policy in this area, but it may approve it if the reversion policy is even more pro-free-market.

Environmental policy making in the EU typically involves the development of standards in areas where there were none previously or the imposition of stricter standards; both move toward more environment-friendly policies. The reversion policy is thus usually not at the proenvironment end of the political landscape. On agricultural issues the reversion policy tends to be on the protectionist end of the political spectrum. Proposals usually involve market liberalization.

3. A MODEL OF GRIDLOCK AND POLICY REFORM IN THE EUROPEAN UNION

To demonstrate the usefulness of spatial models to analyze policy making, and specifically to explain the occurrence of major policy reform in the EU and its opposite—gridlock—we briefly discuss the one-dimensional model introduced by Crombez & Hix (2015). It studies the consultation and codecision procedures.

The actors in the model have Euclidean preferences over policies, and there are six potentially relevant actors. The Commission and EP are represented by their medians because they use majority rule. In the Council, four member states may matter. Member state a (b) is pivotal for a rightward (leftward) move under QMV. It has an ideal policy to the left (right) of the median member state. Under unanimity rule, the two extreme member states l and m matter. The ideal policies of the six actors are p_c , p_p , p_l , p_a , p_b , and p_m .

When does consultation yield gridlock? Proposals need to be preferred to the reversion policy by a qualified majority for adoption. If the reversion policy is to the right (left) of member state a (b), there is no qualified majority for a move to the right (left). Thus, if the reversion policy

¹ External events may affect not only the reversion policy but also the preferences of the actors. Analytically, the impact is similar, however: Whether the reversion policy moves left or the actors' ideal policies shift right, what matters are the distances between them. In what follows, we consider them as affecting the reversion policy.

is in the set (p_a, p_b) , gridlock occurs because of the use of QMV. If the Council used simple majority rule, there would be no such gridlock.

The reversion policy may also prevail if there are policies a qualified majority in the Council prefers instead, but the Commission prefers the reversion policy. This happens if the reversion policy RP is between the ideal policies of the Commission and the pivotal member states: If $p_c \leq RP < p_a$ or $p_b < RP \leq p_c$. The Commission and the pivotal member states then want to move in opposite directions.

The reversion policy may thus prevail only in interval $[\min(p_a, p_c), \max(p_b, p_c)]$. However, if all member states want to move in the same direction away from the reversion policy, that is, $RP < p_1$ or $p_m < RP$, they can successfully amend Commission proposals. The gridlock interval under consultation is thus equal to $GI_{CONS} = \{\max[p_1, \min(p_a, p_c)], \min[p_m, \max(p_b, p_c)]\}$. The reversion policy prevails if it is in this interval. Otherwise, the EU adopts new legislation. The legislative process brings EU policy into the gridlock interval.

Under codecision, proposals need to be preferred to the reversion policy by the EP and a qualified majority for adoption. If no policy is preferred in place of the reversion policy by the EP and a qualified majority, gridlock occurs. The gridlock interval under codecision is thus equal to the interval $GI_{COD} = [\min(p_a, p_p), \max(p_b, p_p)]$. If the reversion policy is not in this interval, the EU adopts new legislation and brings policy into it.

Under consultation the gridlock interval expands as the pivotal member states are farther apart and as the extreme member states and the Commission are farther away from the two pivotal member states. Under codecision the gridlock interval widens as the pivotal member states are farther apart and as the EP is farther away from them. More preference heterogeneity thus increases the potential for gridlock under both consultation and codecision. The gridlock interval is thus larger under codecision than under consultation if the EP is farther away from the pivotal member states than is the Commission.

The gridlock interval changes as the preferences of the actors change. The preferences of the Commission affect the gridlock interval under consultation. Member state governments and MEPs appoint the Commission for five-year terms after each EP election. When new Commissioners take office, their preferences are likely to be different from those of their predecessors. From time to time, individual Commissioners are replaced during a Commission term. Commissioners may also change their preferences during their terms.

The preferences of the EP affect the gridlock interval under codecision. The EP is directly elected for five-year terms. A newly elected EP is likely to have other preferences than its predecessor. As was the case for Commissioners, individual MEPs are occasionally replaced during their terms, and sitting MEPs may alter their preferences after their election.

Member states are represented in the Council by national government ministers. The ministers may change whenever there is a change of government in a member state, as a result of national elections or the formation of a new government, or if there is a reshuffle of cabinet seats. A change in a member state's preferences affects gridlock only if it leads to a different preference configuration of the pivotal and extreme member states.

Fischler reforms: the most radical CAP reforms, introduced in 2003, decoupled a large share of farm support from production and introduced single farm payment

4. COMMON AGRICULTURAL POLICY REFORM IN THE EUROPEAN UNION

Thus far, there have been two major CAP reforms this century: the 2003 Fischler reforms, named after the then Commissioner for Agriculture, Rural Development, and Fisheries, Franz Fischler, and the 2013 reforms.

4.1. The Fischler Reforms

The 2003 Fischler reforms can be considered as the most radical CAP reforms to date (Swinnen 2008a). Most importantly, the reforms decoupled a large share of farm support from production, with the introduction of the single farm payment. The payments were dependent on the respect for standards in such areas as environmental protection, food safety, and animal welfare. Payments to large farms were reduced to finance rural development. Furthermore, production quotas were increased, and support prices decreased for a variety of products.

The CAP was set up in the late 1950s. It sought to increase agricultural productivity, stabilize markets, and ensure that consumers could buy agricultural products at reasonable prices (Treaty on the Functioning of the European Union, Art. 39), among other objectives. Over time, the CAP's success led to overproduction of a variety of agricultural products. The EU then attempted to reform the CAP. These efforts led to the 1992 MacSharry reforms, named after the then Commissioner for Agriculture Ray MacSharry, and the Agenda 2000 reforms in 1999. These can be considered as important steps toward the Fischler reforms.

The circumstances that led to the radical Fischler reforms after decades of, by comparison, minor reforms can be described as a perfect storm and relate to the three key variables that we discussed above: institutional reform, changes in actor preferences, and external events that affected the reversion policy. See Swinnen (2008b) for a more extensive discussion.

First, institutional reform made it a lot easier to radically transform policies in the EU. The introduction of QMV in the Council, at the expense of the unanimity rule, greatly enhanced the prospects of policy reforms. A single member state could no longer block drastic changes in policies. In practice, the Single European Act introduced QMV in 1987. Even after its launch the Council continued to seek consensus, however. The Agenda 2000 reforms represented the first important CAP reforms opposed by a member state, France. This paved the way for a more drastic reform in 2003 in spite of the opposition of several member states. The Fischler reforms were originally opposed by a group of countries that consisted of Germany, France, Spain, Portugal, and Ireland. Together, these five countries formed a blocking minority. The Commission then made enough concessions to Germany and other countries, leaving France isolated in its opposition, and the reforms were adopted. Under unanimity rule, no such drastic reforms would have been adopted; France could have vetoed them.

Second, the preference configuration of the member states in the Council had changed as a result of the 1995 enlargement of the EU. Sweden's preferences were much more in line with those of the United Kingdom than with those of France, whereas the other two new member states, Austria and Finland, were more protectionist. They favored rural development and environmentally friendly policies and support to their many small farmers rather than large agricultural producers. This shift thus clearly enhanced reform.

Third, a series of external developments had an impact on the reversion policy and thus the preferences for change of the member states. Pressures on the EU budget made it untenable to continue to spend as large a share of the budget on the CAP. The accession of a set of relatively poor and rural member states in the near future made CAP reform all the more urgent: The CAP support the new member states would receive would put further strain on the EU budget, and as important recipients they would be less inclined to reform the CAP than most of the then member states. Rising concerns about food safety and the environment increased voter interest in the CAP and sentiment against it. Demands for reform from the EU's trading partners provided extra ammunition for those in favor of reform. Institutional reform, changes in preferences, and external events that altered the reversion policy thus created the conditions for the drastic CAP reforms of 2003.

4.2. The 2013 Reforms

The next major CAP reforms did not represent as radical a change as the Fischler reforms. Rather, they can be considered as a further step along the path set out by the Fischler reforms. There was more emphasis still on environmental concerns and rural development. The reforms abolished the quota regimes for a number of additional products, and they included targeted support schemes for such groups as young and small farmers. Finally, they provided for the convergence of payments within and across member states. See Knopps & Swinnen (2014) for a more extensive analysis of the 2013 reforms.

As mentioned in the theoretical Section 3, the legislative process leads to a policy in the gridlock interval. The Fischler reforms thus led to a CAP between the ideal policies of the pivotal member states in the Council and the Commission. The CAP could thus not be further reformed in the absence of any of the changes discussed above: institutional reforms, changes in the preferences of the relevant actors, and shifts in the reversion policy. Whereas the Fischler reforms benefited from the move from unanimity to QMV in the Council, no recent institutional reform enhanced the 2013 reforms.

An important institutional reform did precede the 2013 reforms, but it did not stimulate CAP reform. The Treaty of Lisbon introduced codecision for the CAP. The effect of the introduction of codecision on legislative gridlock is not immediately clear, as discussed above. Whether there is more gridlock in resource policy under codecision than under consultation depends on the location of the ideal policies of the actors (Crombez et al. 2012). If the EP is closer to the pivotal member states than is the Commission, the gridlock interval is smaller under codecision.

An analysis of preferences expressed in the different stages in the CAP reform process shows that the Commission was more reform oriented than the Council, with the EP taking an intermediate position.² This suggests that the gridlock interval was smaller under codecision. However, this reduction in the gridlock interval would only matter if the reversion policy were more free-market oriented than the EP's ideal policy and if moves toward more protectionism were thus considered.

This scenario did not apply, however, because the EP favored a move away from the reversion policy toward a more free-market-oriented policy. So, the occurrence of gridlock was not affected by the introduction of codecision. Because the EP was less reform oriented than the Commission, however, the resulting CAP reform was likely less ambitious than it would have been under consultation. Under consultation it would have been harder to amend a far-reaching Commission proposal, as that would have required unanimity in the Council, whereas under codecision, the EP and a qualified majority could approve a less drastic reform.

The introduction of codecision may have had an additional effect not discussed in the theoretical model. We assumed that the actors all had perfect information; they knew the consequences of policies. The EP has fewer resources than the other two institutions, however, and may thus have been more dependent on information provided by the other two institutions or interest groups. This may represent an advantage for these institutions and groups, but its impact on gridlock and the extent of reform is unclear.

The EU's accession of 13 more countries since the adoption of the Fischler reforms also affected the prospects for reform, especially because they were more agricultural and poorer than the old member states, as mentioned above. This may also explain why the 2013 reforms were less radical.

Treaty of Lisbon: signed in 2007, it further extended codecision and expanded EU authority and introduced codecision for the CAP

² See Knopps & Swinnen (2014). Within the EP, the relevant committee, COMAGRI, was less reform oriented than the plenary.

External events, such as the severe financial and economic crisis, the rise in food prices, and the continued and increased budgetary pressure, nonetheless provided a push toward CAP reform. They affected the reversion policy and the actors' preferences for change, albeit not as radical a reform as the Fischler reforms.

5. REFORM OF THE EMISSIONS TRADING SYSTEM

5.1. Introduction

In early 2018, the EU completed a reform of the ETS, its flagship climate policy, for its operation from 2021 to 2030.³ To analyze this reform we conducted a quantitative study of EP roll-call data that models all voting on environmental legislation in the EU's eighth parliamentary term, through July 2018, and a series of interviews with EU officials, policy advisors, and researchers directly and indirectly involved in the reform process; we also used additional outside sources.

In July 2015, the Commission presented a proposal to reform the ETS (Eur. Council 2014). The ETS first took effect in 2005 and had its origins in the EU's efforts to meet its international obligations for the first commitment period of the then newly ratified Kyoto Protocol. It operates as a cap-and-trade scheme: A system-wide legal upper limit on carbon and other key greenhouse gas emissions is set, and tradable emissions permits are auctioned off so that allowances to emit can be allocated by a market mechanism.

The ETS, which applies to companies in the heavy industry and power generation sectors, regulates around 45% of all emissions across the EU, and has contributed to the EU's 15% cut in total emissions since its establishment. It is therefore rightly regarded as a crucial policy instrument for stabilizing anthropogenic climate change on a global scale.

Nonetheless, problems have plagued the ETS throughout its existence. The biggest and most obvious problem has been the price of the emissions permits. Cap-and-trade systems such as the ETS are not merely meant to limit emissions to a certain total. By making emissions permits costly, they aim to incentivize emitters to find ways to produce with lower emissions, in a way that may lead to total emissions well beneath the cap. However, the market determines the price of the permits. Since the 2008 global financial crisis, the price has been extremely low, thus neutralizing the intended incentive structure (Carbon Tracker 2018). Excess permits have flooded the market, making emitting nearly free for companies covered by the ETS.

A related issue is the specific pace of emissions cuts mandated by the ETS: The mandated 1.74% yearly reduction of the prereform ETS has been criticized as too low. It is unclear how much this linear reduction factor (LRF) mattered to the ETS's effectiveness, as emissions in 2016 were reduced by 2.7% even with strong economic growth (Elkerbout 2017b). Still, it remained the long-term baseline of the policy and a concrete, quantified symbol of the EU's desire to contribute to the global fight against warming.

A further policy problem is that the ETS operates with an inherent risk of carbon leakage: Companies unhappy about the costs of ETS compliance may move their operations outside of the EU's borders in order to emit freely.

Finally, lower-GDP countries in the EU have raised concerns about the fairness of the ETS given their desires to promote rapid economic growth and their greater reliance on cheap and usually dirty energy sources to do so. Altogether, the issues facing the EU as it headed into the reform process suggested that change was necessary if effective emissions cuts were to continue.

³ See Eur. Comm. (2018) for an overview of the reforms and van Renssen (2012) on the need for reform.

5.2. Preferences

No major institutional reform preceded the ETS reform. So, we turn to changes in the institutions' preferences and later to shifts in the reversion policy as a result of external factors to explain the ETS reform. Within the EP, political groups and legislative committees play an important role in decision making. They affected the decisions the EP took in the ETS reform process and helped shape the outcome of the process.

Voting in the EP typically occurs along party lines. That alone says little about how the various groups would align on the question of ETS reform. According to an EP political advisor, voting on environmental issues generally sorts along left-right lines in the end. However, the ETS incorporates factors that do not obviously sort this way. In addition to the left-right tension between environmental protection and free-market economic activity, it also fundamentally concerns the scope of the EU's regulatory responsibilities versus those of the member states, an issue on which different groups have sharply divergent views.

We conducted a quantitative roll-call analysis, based on data obtained from VoteWatch Europe, and found that this "Euroskeptic" versus "integrationist" dimension proved much more consequential than the left-right dimension in determining group voting on the ETS in the EP. This mirrors other scholars' findings on overall voting in the Eighth EP that the pro-/contra-integration dimension has become more important than the traditional left-right dimension for the first time since the first direct election of the EP in 1979 (Hix et al. 2018).

Figure 1 maps MEPs' voting in the ETS reform process. It illustrates that members of the EPP (European People's Party) and S&D (Progressive Alliance of Socialists and Democrats), the large center-right and center-left groups, respectively, voted together far more often than not, and they aligned with the Greens in opposition to the right-wing Euroskeptic groups ENF (Europe of Nations and Freedom) and EFDD (Europe of Freedom and Direct Democracy) and the left-wing GUE/NGL (Confederal Group of European United Left/Nordic Green Left). The liberal ALDE (Alliance of Liberals and Democrats for Europe) group was relatively more spread out. Because the EPP and S&D are so large, the overall thrust of Parliamentary voting, therefore, was generally proenvironment. These groups, often referred to as centrist, pushed through the ETS reform in the EP.⁴

This group alignment also relates to the institutional history of the EU and its perception by actors within the institutions themselves. As one climate official in the Commission remarked in an interview, the EU has acquired a reputation as a leader on climate, largely because of the existence of the ETS. Generally, those working in the EU are proud of this tradition, and so the discourse that emerged around the ETS reform emphasized making tweaks to encourage its efficient operation and relationship to industry rather than tearing down the edifice of EU climate leadership.

Another important and more unpredictable institutional factor contributing to a stay-the-course mentality was the influence of the committee responsible for framing the EP's portion of the reform process. The Committee on the Environment, Public Health, and Food Safety (ENVI), was awarded leadership of the reform process rather than the Committee on Industry, Research, and Energy (ITRE). Though political groups are proportionally represented on every committee, individual MEPs self-sort into committees according to interest and policy views. This process has produced an ENVI committee that is systematically more proenvironmental protection than the rest of the EP, particularly the systematically proindustry ITRE committee. The ETS, being

⁴We also mapped MEP voting on CAP reform. The group alignment was similar, with two notable exceptions. The Greens were farther away from the two main groups, whereas the conservative European Conservatives and Reformists (ECR) was closer.

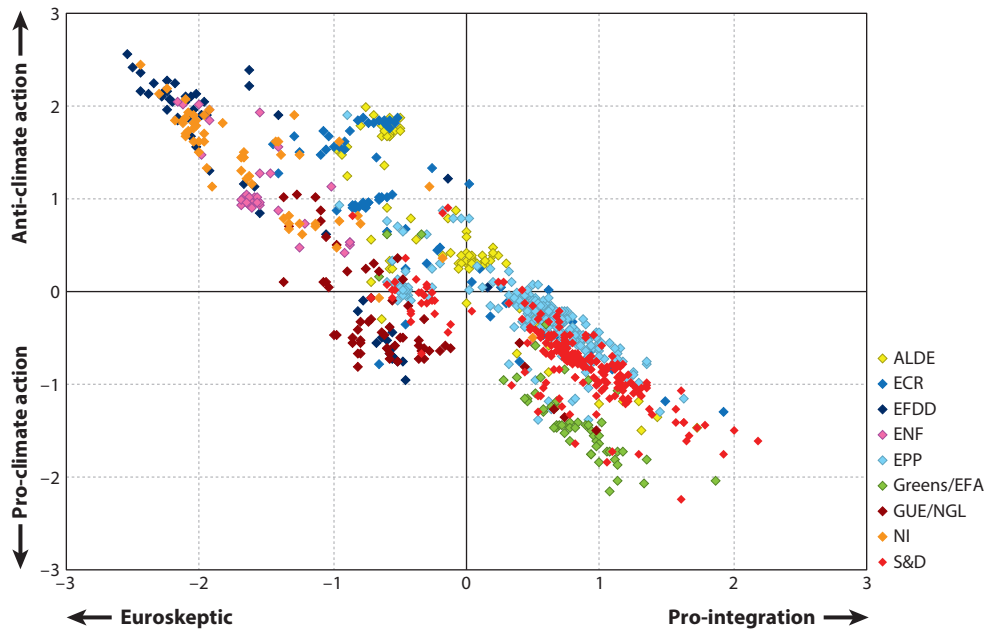


Figure 1

Members of the European Parliament's positions in the emissions trading system policy space, as revealed by the Eighth European Parliament plenary votes on the ETS reform. Abbreviations: ALDE, Alliance of Liberals and Democrats for Europe; ECR, European Conservatives and Reformists; EFDD, Europe of Freedom and Direct Democracy; ENF, Europe of Nations and Freedom; EPP, European People's Party; ETS, Emissions Trading System; Greens/EFA, Greens/European Free Alliance; GUE/NGL, Confederal Group of European United Left/Nordic Green Left; NI, non-inscrits (non-attached); S&D, Progressive Alliance of Socialists and Democrats.

inextricably both an environmental policy and an industrial policy, could conceivably have fallen under the aegis of either committee.

The only important proposal to alter the basic structure of the ETS was brought not by dissenting parties but by the ENVI committee itself, which pushed for a “carbon inclusion mechanism” to bring more sources of emissions into the ETS framework. This was rejected by the EP in plenary. The plenary also rejected ENVI's request for an LRF of 2.4% rather than 2.2%.

The Council and Commission were animated by less consequential and harder-to-study dynamics than the EP. The Commission's original proposal was less ambitious than the ENVI committee pushed it to be. After this original proposal was debated and amended in the EP, negotiations proceeded to a secretive “trialogue” setting, where representatives from all three bodies convened, hammered out a final deal, and submitted it for final approval in the Council and EP. The Council operates on a norm of consensus. Nonetheless, Croatia voted no on the final ETS package.

The primary organized interests invested in the ETS reform were the environmental and heavy industry lobbies. Predictably, the environmental NGOs advocated for an expansion of “climate ambition” through the ETS, while the trade associations for affected industries such as chemicals, metals manufacturing, power generation, and so forth wanted the opposite. Within the group of officials and researchers interviewed for this study, a general consensus prevailed that, while the environmental NGOs active in Brussels are quite well informed and respected by policy makers, industry trade associations had a clear advantage simply owing to superior numbers. As an

environmental policy advisor for one of the larger political groups noted, the chemical industry association has more staff than the whole of the Commission's Directorate-General for Climate Action.

5.3. Reversion Policy and External Developments

The backdrop of ETS reform was composed of various motivating developments in the international context. First, there was the lead-up to the Paris Agreement in late 2015. Knowing that a major agreement was a near-term goal of the international community with momentum behind it, the EU signaled its pre-Paris intent by creating a 2030 framework for climate and energy that set the goal of a 40% reduction in yearly emissions compared to 1990 levels. Achieving this goal would require substantial ETS reform even without larger international commitments. Second, the subsequent success of the Paris conference made sentiment against vigorous climate action even more marginal in EU circles and heightened the need to impose binding steps to achieve the EU's Paris commitments. Third, when Donald Trump was elected to the US presidency in 2016, the necessity of strong EU leadership on climate was heightened even more greatly in the eyes of many in the EU. European emissions were dropping, but not fast enough.

These developments, which conspired to create a sense of urgency behind EU climate policy, contrasted with the weak, piecemeal efforts that had been made to strengthen the ETS up to that point (Clim. Action Netw. Eur. 2016).

5.4. Outcome

The final ETS reform deal was a model of legislative compromise. The need to raise the emission permits' prices was addressed by an agreement to remove a set number of surplus permits from the market each year. The LRF determining the rate of emissions cuts was raised from 1.74% to 2.2%. Details of the practice of providing some free permits to companies at risk of moving away from the EU were worked out, with no serious changes to the underlying politics of that practice. An Innovation Fund to invest in low-carbon energy technologies and a Modernization Fund to aid poorer EU economies in the East mollified the relevant subsets of clean energy and Eastern European advocates, except Croatia (Krukowska 2017).

Overall, then, the process was a mixed success: The issues that needed attention were addressed, and the EU will not have to examine the ETS question for another few years (Elkerbout 2017a). An alignment of preferences and external events enabled a reform, albeit not a drastic reform, of the ETS in the absence of institutional reform that could have enhanced it.

6. CONCLUSIONS

This review discussed spatial models and their usefulness for the analysis of policy making in a variety of institutional contexts. Spatial theory provides a straightforward framework to capture the essential aspects of a legislative process and explain or even predict the policies that emerge from that process. In spatial models, the outcome of a political process is determined by three key sets of variables: the preferences of the actors involved, the steps in the political process, and the location of the reversion policy as affected by external developments.

We focused on legislative gridlock and policy reform and how their occurrence depends on the aforementioned variables. We analyzed a spatial model of policy making in the EU and studied how it affected the gridlock interval, the set of policies that could not be changed in the legislative process. We concluded that the move from unanimity rule to QMV in the Council improved the

prospects for policy reform. In contrast, whether the introduction of the codecision procedure led to more policy reform was less clear. It depended on the configuration of the preferences of the actors, and specifically on how close the EP and the Commission were to the pivotal member states in the Council. If the EP were closer to (farther away from) them than the Commission was, codecision would lead to less (more) gridlock.

We applied the model to recent reforms of agricultural and environmental policies in the EU. We showed that institutional reforms, changes in the configuration of member state preferences away from protectionism, and a series of external events that rendered the reversion policy less desirable to the actors all contributed to the drastic Fischler reforms of the CAP adopted in 2003. The CAP reforms of 2013, by contrast, were less radical. Institutional reforms did not reduce gridlock. Moreover, the configuration of member state preferences did not change in a manner that enhances reform, mainly as a result of the accession of several Eastern European countries. External events did provide an impetus for less drastic reforms, however.

In the area of environmental policy making, we studied the reform of the ETS, adopted in early 2018. This reform represented a significant step toward a further reduction of greenhouse gas emissions. No institutional reform preceded the ETS reform, however. Changes in preferences and external events, most notably the prospect of the Paris Agreement, pushed the EU to further cut its emissions. The recent emergence of a centrist proenvironment coalition in the EP helped achieve this reduction.

The framework presented in this review can be used to analyze the prospects for reform in the policy areas discussed and in other areas as well. It can be applied to a variety of institutional settings, regardless of the configuration of the actors' preferences.

DISCLOSURE STATEMENT

The authors are not aware of any affiliations, memberships, funding, or financial holdings that might be perceived as affecting the objectivity of this review.

LITERATURE CITED

- Alesina A, Rosenthal H. 1996. A theory of divided government. *Econometrica* 64:1311–42
- Arrow KJ. 1951. *Social Choice and Individual Values*. New York: Wiley
- Austen-Smith D, Banks J. 1988. Elections, coalitions, and legislative outcomes. *Am. Political Sci. Rev.* 82:405–22
- Austen-Smith D, Banks J. 1999. *Positive Political Theory I: Collective Preference*. Ann Arbor: Univ. Mich. Press
- Bakker R, de Vries C, Edwards E, Hooghe L, Jolly S, et al. 2015. Measuring party positions in Europe: The Chapel Hill expert survey trend file, 1999–2010. *Party Politics* 21:143–52
- Baron D. 1991. A spatial bargaining theory of government formation in a parliamentary system. *Am. Political Sci. Rev.* 85:137–64
- Baron D. 1993. Government formation and endogenous parties. *Am. Political Sci. Rev.* 87:34–47
- Baron D, Ferejohn J. 1989. Bargaining in legislatures. *Am. Political Sci. Rev.* 83:1181–206
- Benoit K, Laver M, Arnold C, Pennings P, Holsi M. 2005. Measuring national delegate positions at the convention on the future of Europe using computerized word scoring. *Eur. Union Politics* 6:291–313
- Bharara P, Whitman CT. 2018. Trump abuses show we must turn traditions into laws. *USA Today*, Jan. 29. <https://www.usatoday.com/story/opinion/2018/01/29/trump-abuses-show-we-must-turn-traditions-into-laws-preet-bharara-christine-todd-whitman-column/1063619001/>
- Black D. 1948. On the rationale of group decision-making. *J. Political Econ.* 56:23–34
- Black D. 1958. *The Theory of Committees and Elections*. Cambridge, UK: Cambridge Univ. Press
- Brady DW, Volden C. 2005. *Revolving Gridlock: Politics and Policy from Jimmy Carter to George W. Bush*. New York: Westview Press

- Budge I, Klingemann H-D, Volkens A, Bara J, Tanenbaum E. 2001. *Mapping Policy Preferences: Estimates for Parties, Electors, and Governments*. Oxford, UK: Oxford Univ. Press
- Carbon Tracker. 2018. *EU carbon prices could double by 2021 and quadruple by 2030*. Press Rel., Apr. 26. <https://www.carbontracker.org/eu-carbon-prices-could-double-by-2021-and-quadruple-by-2030/>
- Clim. Action Netw. Eur. 2016. Backloading in the ETS. *Clim. Action Netw. Eur. Blog*, July 1. <http://www.caneurope.org/publications/blogs/1215-backloading-in-the-ets>
- Crombez C. 1996a. Legislative procedures in the European Community. *Br. J. Political Sci.* 26:199–228
- Crombez C. 1996b. Minority governments, minimal winning coalitions and surplus majorities in parliamentary systems. *Eur. J. Political Res.* 29:1–29
- Crombez C. 1997. The codecision procedure in the European Union. *Legis. Stud. Q.* 22:97–119
- Crombez C. 2001. The Treaty of Amsterdam and the codecision procedure. In *The Rules of Integration: Institutional Approaches to the Study of Europe*, ed. G Schneider, M Aspinwall, pp. 101–22. Manchester, UK: Manchester Univ. Press
- Crombez C, Groseclose T, Krehbiel K. 2006. Gatekeeping. *J. Politics* 68:322–34
- Crombez C, Hix S. 2015. Legislative activity and gridlock in the European Union. *Br. J. Political Sci.* 45:477–99
- Crombez C, Knopps L, Swinnen J. 2012. Reform of the Common Agricultural Policy under the co-decision procedure. *Interconomics* 47:336–42
- Crombez C, Vangerven P. 2014. Procedural models of European Union politics: contributions and suggestions for improvement. *Eur. Union Politics* 15:289–308
- Cummins J. 2012. An empirical analysis of California budget gridlock. *State Politics Policy Q.* 12:23–42
- Denzau AT, Mackay RJ. 1981. Structure-induced equilibria and perfect-foresight expectations. *Am. J. Political Sci.* 25:762–79
- Denzau AT, Mackay RJ. 1983. Gatekeeping and monopoly power of committees: an analysis of sincere and sophisticated behavior. *Am. J. Political Sci.* 27:740–61
- Diermeier D, Merlo A. 2000. Government turnover in parliamentary democracies. *J. Econ. Theory* 94:46–79
- Diermeier D, Stevenson R. 1999. Cabinet survival and competing risks. *Am. J. Political Sci.* 43:1051–68
- Döring H. 2007. The composition of the College of Commissioners. *Eur. Union Politics* 8:207–28
- Döring H. 2013. The collective action of data collection: a data infrastructure on parties, elections and cabinets. *Eur. Union Politics* 14:161–78
- Döring H, Manow P. 2018. *Parliaments and governments database (ParlGov): information on parties, elections and cabinets in modern democracies*. Development version. <http://www.parlgov.org>
- Downs A. 1957. *An Economic Theory of Democracy*. New York: Harper
- Elkerbout M. 2017a. *A strong revision of the EU ETS, but the future may bring impetus for further reform*. Comment., Cent. Eur. Policy Stud., Brussels. <https://www.ceps.eu/publications/strong-revision-eu-ets-future-may-bring-impetus-further-reform>
- Elkerbout M. 2017b. *Impact of the EU ETS across member states and sectors: insights from the 2016 data*. Comment., Cent. Eur. Policy Stud., Brussels. <https://www.ceps.eu/publications/impact-eu-ets-across-member-states-and-sectors-insights-2016-data>
- Eur. Comm. 2018. *Revision for Phase 4 (2021–2030)*. Eur. Comm., Brussels. https://ec.europa.eu/clima/policies/ets/revision_en
- Eur. Counc. 2014. *Conclusions on 2030 climate and energy policy framework*. Note, Eur. Counc., Brussels. https://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/145356.pdf
- Gilligan TW, Krehbiel K. 1987. Collective decision-making and standing committees: an informational rationale for restrictive amendment procedures. *J. Law Econ. Organ.* 3:287–335
- Gilligan TW, Krehbiel K. 1989. Asymmetric information and legislative rules with a heterogeneous committee. *Am. J. Political Sci.* 33:459–90
- Gilligan TW, Krehbiel K. 1990. Organization of informative committees by a rational legislature. *Am. J. Political Sci.* 34:531–64
- Hix S, Noury A, Roland G. 2007. *Democratic Politics in the European Parliament*. Cambridge, UK: Cambridge Univ. Press
- Hix S, Noury A, Roland G. 2018. *Changing political cleavages in advanced democracies: evidence from the European Parliament*. Work. Pap., London Sch. Econ. Political Sci.

- Hooghe L, Bakker R, Brigevech A, De Vries C, Edwards E, et al. 2010. Reliability and validity of measuring party positions: the Chapel Hill expert surveys of 2002 and 2006. *Eur. J. Political Res.* 49:687–703
- Hörl B, Warntjen A, Wonka A. 2005. Built on quicksand? A decade of procedural spatial models of EU legislative decision-making. *J. Eur. Public Policy* 12:592–606
- Kerry J. 2017. The case for optimism in these strange times. *Time*, May 25. <http://time.com/4792827/john-kerry-climate-change-jobs-terrorism-future/>
- Knopps L, Swinnen J. 2014. *The first CAP reform under the ordinary legislative procedure: a political economy perspective*. Rep., Eur. Parliam., Brussels. [http://www.europarl.europa.eu/RegData/etudes/STUD/2014/529067/IPOL_STU\(2014\)529067_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2014/529067/IPOL_STU(2014)529067_EN.pdf)
- König T, Proksch S. 2006. A procedural exchange model of EU legislative politics. In *The European Union Decides*, ed. R Thomson, F Stokman, C Achen, T König, pp. 211–38. Cambridge, UK: Cambridge Univ. Press
- Krehbiel K. 1988. Spatial models of legislative choice. *Legis. Stud. Q.* 13:259–319
- Krehbiel K. 1991. *Information and Legislative Organization*. Ann Arbor: Univ. Mich. Press
- Krehbiel K. 1998. *Pivotal Politics: A Theory of U.S. Lawmaking*. Chicago: Univ. Chicago Press
- Krehbiel K, Shepsle K, Weingast B. 1987. Why are congressional committees powerful? *Am. Political Sci. Rev.* 81:929–45
- Krukowska E. 2017. EU reaches deal to overhaul world's largest emissions market. *Bloomberg*, Nov. 8. <https://www.bloomberg.com/news/articles/2017-11-09/eu-reaches-deal-to-overhaul-world-s-largest-emissions-market>
- Lieberman RC, Mettler S, Pepinsky TB, Roberts KM, Valelly R. 2018. The Trump presidency and American democracy: a historical and comparative analysis. *Perspect. Politics*. <https://doi.org/10.1017/S1537592718003286>
- McKelvey R. 1976. Intransitivities in multidimensional voting models and some implications for agenda control. *J. Econ. Theory* 12:472–82
- Plott C. 1967. A notion of equilibrium and its possibility under majority rule. *Am. Econ. Rev.* 57:787–806
- Polk J, Rovny J, Bakker R, Edwards E, Hooghe L, et al. 2017. Explaining the salience of anti-elitism and reducing political corruption for political parties in Europe with the 2014 Chapel Hill survey data. *Res. Politics* 4. <https://doi.org/10.1177/2053168016686915>
- Poole K, Rosenthal H. 2007. *Ideology and Congress*. New York: Routledge
- Romer T, Rosenthal H. 1978. Political resource allocation, controlled agendas and the status quo. *Public Choice* 33:27–43
- Shepsle K. 1979. Institutional arrangements and equilibrium in multidimensional voting models. *Am. J. Political Sci.* 28:49–74
- Shepsle K, Weingast B. 1987. The institutional foundations of committee power. *Am. Political Sci. Rev.* 81:85–104
- Steunenberg B. 1994. Decision making under different institutional arrangements: legislation by the European Community. *J. Inst. Theor. Econ.* 150:642–69
- Swenden W. 2002. Asymmetric federalism and coalition-making in Belgium. *Publius* 32:67–87
- Swinnen J. 2008a. Introduction. In *The Perfect Storm: The Political Economy of the Fischler Reforms of the Common Agricultural Policy*, ed. J Swinnen, pp. 1–8. Brussels: Cent. Eur. Policy Stud.
- Swinnen J. 2008b. *The Perfect Storm: The Political Economy of the Fischler Reforms of the Common Agricultural Policy*. Brussels: Cent. Eur. Policy Stud.
- Szymański A. 2018. De-democratization: the case of Hungary in comparative perspective. *Political Sci. Politics* 52:272–73. <https://doi.org/10.1017/S1049096518002275>
- Tsebelis G. 1994. The power of the European Parliament as a conditional agenda setter. *Am. Political Sci. Rev.* 88:128–42
- Tsebelis G, Garrett G. 2000. Legislative politics in the European Union. *Eur. Union Politics* 1:9–36
- van Renssen S. 2012. Saving EU climate policy. *Nat. Clim. Change* 2:392–93
- Volden C, Carrubba C. 2004. The formation of oversized coalitions in parliamentary democracies. *Am. J. Political Sci.* 48:521–37