NEVER LET A GOOD CRISIS GO TO WASTE: AGENDA SETTING AND LEGISLATIVE VOTING IN RESPONSE TO THE EU CRISIS

Short title: Never Let a Good Crisis Go to Waste

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ABSTRACT

The European Union's policy response to the recent global economic crisis transferred significant powers from the national to the European level. When exogenous shocks make status quo policies less attractive, legislators become more tolerant to proposed alternatives, and the policy discretion of legislative agenda-setters increases. Given control of the EU agenda-setting process by pro-integration actors, we argue that this dynamic explains changes in voting patterns of the European Parliament during the crisis period. We observe voting coalitions increasingly dividing legislators along the pro-anti integration, rather than the left-right, dimension of disagreement, but only in policy areas related to the crisis. In line with more qualitative assessments of the content of passed legislation, the implication is that pro-integration actors were able to shift policy further towards integration than they could have without the crisis.

Keywords: crisis; agenda-setting; legislative behaviour; European Union

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Crises are commonly assumed to be catalysts for political action, opening "windows of opportunity" for dramatic and far reaching reform (Kingdon 1995, Keeler 1993, Cortell & Peterson 1999). Similarly, crises can represent "critical junctures" which are central to explanations of the punctuated dynamic of institutional change (Thelen 2004, Collier & Collier 2002, Krasner 1984, Pierson 2000, Peters et al. 2005, Baumgartner et al. 2009, Baumgartner & Jones 2002). One way that crises can facilitate political action is by weakening impediments that constrain agenda setting actors. When this happens, those agenda setters are able to 'make an opportunity out of a crisis', and secure changes that would have been impossible previously. However, beyond broad arguments that impediments to political action are removed, we often lack detailed theory of the effects that crises have on specific political decision-making processes. Further, which actors benefit from crises? Although 'policy entrepreneurs' are well positioned to benefit from crises (Kingdon 1995), it is important to specify why crises represent "an opportunity to be exploited" (Keeler 1993, 441) for some actors, but not for others. We address these questions by describing a model of the relationship between crises, legislative voting behaviour, and agenda-setting, which we apply to understanding the European Union's response to the 2008 global financial crisis.

The model we describe implies that crises weaken a key impediment to policy change: the opposition of legislators. This provides micro-foundations for the broader 'crisis as opportunity' thesis. Legislatures are a key part of the decision-making apparatus of all democracies and act as a major constraint on policy change under 'normal' political conditions. There exist few accounts of legislative behaviour in times of crisis. In contrast, there is extensive work on the impact of exogenous shocks on other political phenomena such as government duration and termination (Browne et al. 1986, Lupia & Strøm 1995), ministerial turnover (Diermeier & Merlo 2000, Martinez-Gallardo 2011), policy change (Luong & Weinthal 2004, Williams 2009), judicial decisions (Epstein et al. 2005, Clark 2006) and public opinion (Ladd 2007, Aldrich et al. 2006). Of the legislative studies that do evaluate the effects of such external shocks, there has been disproportionate focus on the effects of war on voting behaviour in the US Congress (Meernik 1993, Howell & Rogowski 2013, Prins & Marshall 2001, Cohen 1982). This literature provides evidence of the 'rally round the flag' effect, but is largely silent

on the mechanisms that link crises to individual decisions made by legislators. Howell and Rogowski (2013, 164) encourage scholars to "pay closer attention to the micro-foundations of legislative decision making" in times of war, advice that clearly applies more generally to crisis response. Additionally, while existing accounts highlight the potentially destabilising effects of crises on policy, they do not generally provide specific predictions for the direction that policy will shift in response to a crisis. For example, the institutionalist literature is unclear as to what form new institutions will take following an equilibria punctuating shock. As Blyth (2002, 8) argues, "structural theories of institutional supply are indeterminate as to subsequent institutional form."

Our argument applies the core insight of the agenda setting model originally developed by Romer & Rosenthal (1978) to the context of a legislature facing a crisis in the face of pre-existing multidimensional disagreements. By making the outcomes resulting from inaction less attractive, crises strengthen the position of agenda-setting actors in the policy process. Crises can be understood as shocks to the external conditions which frame legislative deliberations. In our model, legislators have preferences over the ideological content of the bills that they pass, but have a common interest in the extent to which policy is well suited to current conditions – which we will call the 'valence' of policy. By changing the external context, a crisis reveals deficiencies in existing policies, makes status quo policies worse for all legislators, and thus encourages them to accept replacements. Accordingly, agenda-setting actors have more discretion during a crisis-period, and are able to propose (and pass) policy that would have been impossible in the absence of a crisis. When standing political disagreements are multi-dimensional, we show that such a model implies changes in legislative voting coalitions. Such shifts not only provide evidence that policy is moving towards the agenda setter's position, but can also constitute a realignment of the primary dimension of political disagreement.

This model is well suited to understanding the effects of the global financial crisis on the voting behaviour in the European Parliament (EP), where politics has traditionally operated in two dimensions: left-right, and pro-anti integration (Kreppel & Tsebelis 1999, Kreppel 2000, Hix 2002, Hix et al. 2006, 2007, Høyland 2010). We argue that, in the context of the crisis, Members of the European Parliament (MEPs) became more tolerant toward policies

that they might previously have opposed, and pro-integration agenda-setters (the European Commission, the Council of the European Union, and the leaders of the large European Parliamentary Groups (EPGs)) exploited this tolerance to pass highly integrationist policy. Following the logic of our theoretical argument, this should have led to a shift in the voting patterns of the legislature, with voting coalitions increasingly dividing legislators into pro vs anti integration coalitions rather than left vs right coalitions.

We provide evidence that this occurred by combining topic modelling with a two-stage least squares procedure in order to construct synthetic control comparisons to legislation in the pre-crisis period. We show that there was a shift towards voting along the pro-anti integration dimension during the crisis period, but only on crisis-related issues. The crisis did not occasion the sort of shift towards integrationist policy that might have resulted if the crisis simply made MEPs more favourable towards integration in general: changes were confined to the crisis-related policy areas where status quo policies were increasingly viewed as untenable.

The EU policy response to the crisis was dramatic and far-reaching, and while some attention has been paid to the crisis response of the Commission (Copeland & James 2014) and the national governments in the European Council (Schimmelfennig 2014, Tsebelis & Hahm 2014), the only research of which we are aware that investigates how the crisis affected MEP votes focusses on the cohesion of EPGs and is based on a limited number of roll-call votes (Braghiroli 2015). While we are not the first to observe that the Commission and the Council were strengthened vis-à-vis other actors during the crisis, our argument attributes this change to how the crisis weakened the Parliament's ability to block policy changes. That the Commission and the Council appeared to be the central actors in the EU policy response is not the entire story: it was the crisis itself that undermined the Parliament's ability to stand in the way.

Politics of Crisis in the EU

Background

In order to evaluate the effects of the crisis on the behaviour of MEPs and on the agenda of the European Parliament, we first discuss two stylised facts supported by past research on EP

politics that constitute key assumptions of our analysis. The first stylised fact is that policy preferences in the European Parliament can be described in terms of two major dimensions. One dimension corresponds to the left-right issues that typically shape national-level politics, while the second dimension relates to the scope of authority of European institutions, with those favouring more European powers at one end and those opposing the expansion of these powers at the other. This structure manifests itself clearly in roll-call (Hix et al. 2006, 2007, Hix & Noury 2009, Høyland 2010, Klüver & Spoon 2013) and expert survey (McElroy & Benoit 2007, 2011) data. The distribution of European Party Group (EPG) positions over these two dimensions are an inverted-U shape, where centrist parties (on the left-right dimension) tend to have relatively strong pro-integration preferences, whereas parties towards the extremes of the left-right space tend to be more anti-integrationist.[1]

The second stylised fact is that although agenda-control in the EU is diffuse (Hix & Hoyland 2011), the main agenda-setting actors—the European Commission, the Parliament's Conference of Presidents, and the European Council—are united by their pro-integration preferences. The European Commission – a supranational body appointed by the governments of EU member states – holds the exclusive right to legislative initiative within the EU. The Commission is the ultimate external gatekeeper in the EU-wide policy process (Hix et al. 2007, 111) and recent literature has emphasised the key role of the Commission as agenda-setter during the crisis period (Copeland & James 2014). The Commission is usually assumed to be pro-integration (Tsebelis & Kreppel 1998, Mattila 2004, Hooghe 2005), and has generally proved to be so in matters relating to the economic crisis.

The internal agenda of the parliament is largely controlled by the leaders of the EPGs through the Conference of Presidents, a political body responsible for the organisation of parliamentary business (Kreppel 2002, 210). Through the Conference, party group leaders determine the agenda for plenary sessions, and a voting system which is weighted by party size allows the larger party groups – such as the EPP, ALDE, and the S&D[2] – to dominate the process. The large parties also hold the vast majority of lower-level agenda-setting offices

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[1]Figure 2 presents the expert survey located positions of the EPGs on these two dimensions for the seventh European Parliament (2009-14).

[2]European People's Party; Alliance of Liberals and Democrats for Europe; Progressive Alliance of Socialists and Democrats

– such as committee seats, chairs and rapporteurships – which are also distributed according to party group size. Thus, in the internal agenda-setting process of the Parliament, the large party groups are dominant, and have significant abilities to restrict the flow of legislative traffic. These parties are centrist on the first dimension, and distinctly pro-integration on the second dimension of conflict (see figure 2).

Leaders of national governments also have the ability to exercise agenda-setting powers. In addition to agreeing inter-governmental treaties between EU states, national governments also play a role in guiding the ordinary legislative process of EU policymaking. For example, the European Council, which is made up of the leaders of national governments, is responsible for setting the "general political direction and priorities" of the Union (Treaty of Lisbon 2007). Similarly, Schmidt (2001) argues that the Council of Ministers, which is comprised of government ministers from each member state, has significant informal influence over the shape of policies proposed by the Commission. While the exact role these bodies play in the agenda-setting process is opaque, it is clear that they have some bearing on which issues arise on the legislative agenda. As Warntjen et. al. (2008) show, preferences for integration in the Council have been positive and stable across a long time period.

Relative to these agenda-setting actors in the Parliament, Commission and Council, the median MEP is more eurosceptic. Not only are there explicitly anti-integration party groups, but even the centrist EPGs are "far more pro-European than their constituent national parties" (McElroy & Benoit 2011, 163) which makes legislative support for integration within these groups far from guaranteed.[3]

Crisis

Europe suffered two major waves of economic crisis between 2007 and the present. First, the collapse of the US subprime mortgage market sparked a global financial crisis which caused major difficulties for European banks (Brunnermeier 2009). Second, in 2010, that banking crisis evolved into a sovereign debt crisis, as market fears spread that national governments would be unable to meet their guarantees to failing banks (Lane 2012). These crises were

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[3]In the specific context of the crisis response Braghiroli (2015, 100) suggests that "the EP's stance on the crisis can hardly be defined as unitary".

extraordinarily damaging for EU countries, causing large declines in GDP, foreign direct investment, global exports and commodity prices, and dramatic increases in unemployment. There was also considerable deterioration in the public finances of EU national governments, with several countries brought to the brink of sovereign default and forced to rely on bailouts from their European neighbours (Paulo 2011).

These crises demonstrated that EU economic policies and institutions, constructed in an extended period of growth, were ill-suited to times of economic turmoil. For example, the banking crisis revealed that European banks, which had become large and over-leveraged, represented a more significant risk to the stability of the financial system than was previously understood (Alessandri & Haldane 2009, Acharya et al. 2011). Furthermore, the pre-crisis regulatory framework was shown to be incapable of coping with the systemic nature of the crisis, providing no tools to respond to the collapse of large international banks (European Commission 2013). As the crisis spread, MEPs were quick to notice the deficiencies in existing regulation.[4] Similarly, the debt crisis revealed structural problems with the design of the currency union as a whole. Existing policy to contain imbalances in public debt and current account deficits between Eurozone countries had proven inadequate, as the main rules to encourage fiscal coordination and discipline – enshrined in the Stability and Growth Pact (SGP) – had been consistently broken (ECB 2011, Lane 2012, Holinski et al. 2012). In the positive economic conditions in which the SGP was formed, governments were able to fund excessive budget deficits relatively cheaply, by borrowing from the international bond markets (De Grauwe 2011). However, as the crisis hit, and these markets dried up, the sustainability of these policies was called into question. As one MEP argued: "The economic and financial crisis has revealed all too clearly the shortcomings and weaknesses of the existing instruments and methods for coordinating economic and currency policy."[5]

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[4]In a debate following the collapse of Lehman Brothers, a prominent member of the EP argued that "the supervision of the financial markets is not working...the status quo is untenable in the medium and long term." Joesph Daul, EPP MEP, 8th October 2008

[5]Richard Seeber, EPP MEP, 20th October 2010

Our theoretical model of how the crisis influenced voting in the European Parliament starts from this observation that the crisis dramatically reduced the attractiveness of existing status quo policies to legislators, and opened a window of opportunity for economic policy change. When voting on policies, legislators operate in specific economic and political contexts which inform their perception of different policy options, and they prefer to select alternatives that are well suited to current conditions. At the time of adoption, policy will be written to 'fit' the external circumstances relatively well, but policy is static and can only be changed with further legislative effort. External circumstances, by contrast, are dynamic and undergo exogenous changes so that as time passes the degree to which a given policy remains effective may decline. In normal times, slowly changing external circumstances open up only limited opportunities to overcome coalitions opposed to policy change. A crisis constitutes a dramatic change to external conditions which leads to a large decrease in the efficacy of extant policy. This makes legislators much more inclined to accept alternatives to the status quo, which (in expectation) will be better suited to the changed environment.

The form that these alternative policies take depends on which actors control the agenda-setting process. Actors who monopolise proposal power are able to exploit the fact that the status quo has become unpopular in order to pass policy that previously would have failed to secure a majority. Romer and Rosenthal (1978) show that agenda-setters with the ability to make take-it-or-leave-it offers can exploit situations in which the status quo is unattractive. "The worse the status quo, the greater this threat and, consequently, the greater the gain to the setter from being able to propose the alternative." (Romer & Rosenthal 1978, 35-36) In the Romer and Rosenthal model a status quo is 'worse' when it is in an extreme position in the policy space, and others have considered the effects of an exogenous shock to the spatial position of the status quo (Tsebelis 2002). However, for modeling a political crisis, we believe it makes more sense to think of the status quo as worse in non-spatial terms. A crisis entails a sudden change to the external conditions in which existing policies operate, rather than an exogenous change to the extent to which those policies are on the political left or right, or the extent to which they are integrationist or not. We therefore build on these previous models

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by modelling a crisis not as an exogenous shift in the position of existing policy, but rather as a non-spatial shock to the status quo.[6]

To motivate this non-spatial conceptualisation of a crisis, consider the example of a typical US state with constitutional requirement to balance its budget each year. The US enters recession, creating a shortfall in the state budget, which is a situation where the current bundle of taxation and spending policies are poorly suited to the new economic environment as they would lead to a government shutdown. The legislators then face a range of choices that would avert this bad outcome: they could move policy to the right by primarily or exclusively reducing services, to the left by primarily or exclusively increasing taxes, or keep it where it is with some balance of the two. Legislators agree that current levels of taxation and spending no longer 'fit' the conditions, but they disagree over the appropriate policy response. In such a situation, all legislators will be more willing (to a degree dependent on how much they want to avoid a shutdown) to tolerate deviations from their ideal tax and spend policies in order to replace the untenable status quo. Existing policy is not itself affected by the crisis in a left-right spatial sense: it is the same policy it was before the crisis.

Here, we will use the widely used term "valence" to refer to this non-spatial quality of policy. In models of elections, valence is understood to reflect voters' preferences for universally valued candidate characteristics such as integrity, competence, and ability to provide local public goods.[7] In our model, valence is the degree to which policy is well suited to external conditions, and can be alternatively understood as the reduced form of an additional policy dimension on which there is universal agreement.[8] In our empirical analysis we exploit the fact that only certain status quo policies are affected by the crisis in order to identify changes in legislative behaviour between crisis and non-crisis periods.

Combining this understanding of crisis politics with the general preference structure of the European Parliament leads us to consider a model where legislators have preferences over

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[6]We discuss alternative ways of modelling a crisis in more detail below, and in section A9 of the appendix.

[7]See, for example, Ashworth & Bueno de Mesquita (2009), Enelow & Hinich (1982), Adams et al. (2011), Ansolabehere & Snyder (2000), Groseclose (2001).

[8]Thus, a valence shock can be alternatively understood as a shock to the spatial position of the status quo that moves policy to a position far outside the range of legislator preferences on this additional dimension, see section A2 in the appendix for a derivation showing these models are equivalent.

Figure 1: Crises, legislative voting, and agenda-setting in two-dimensions
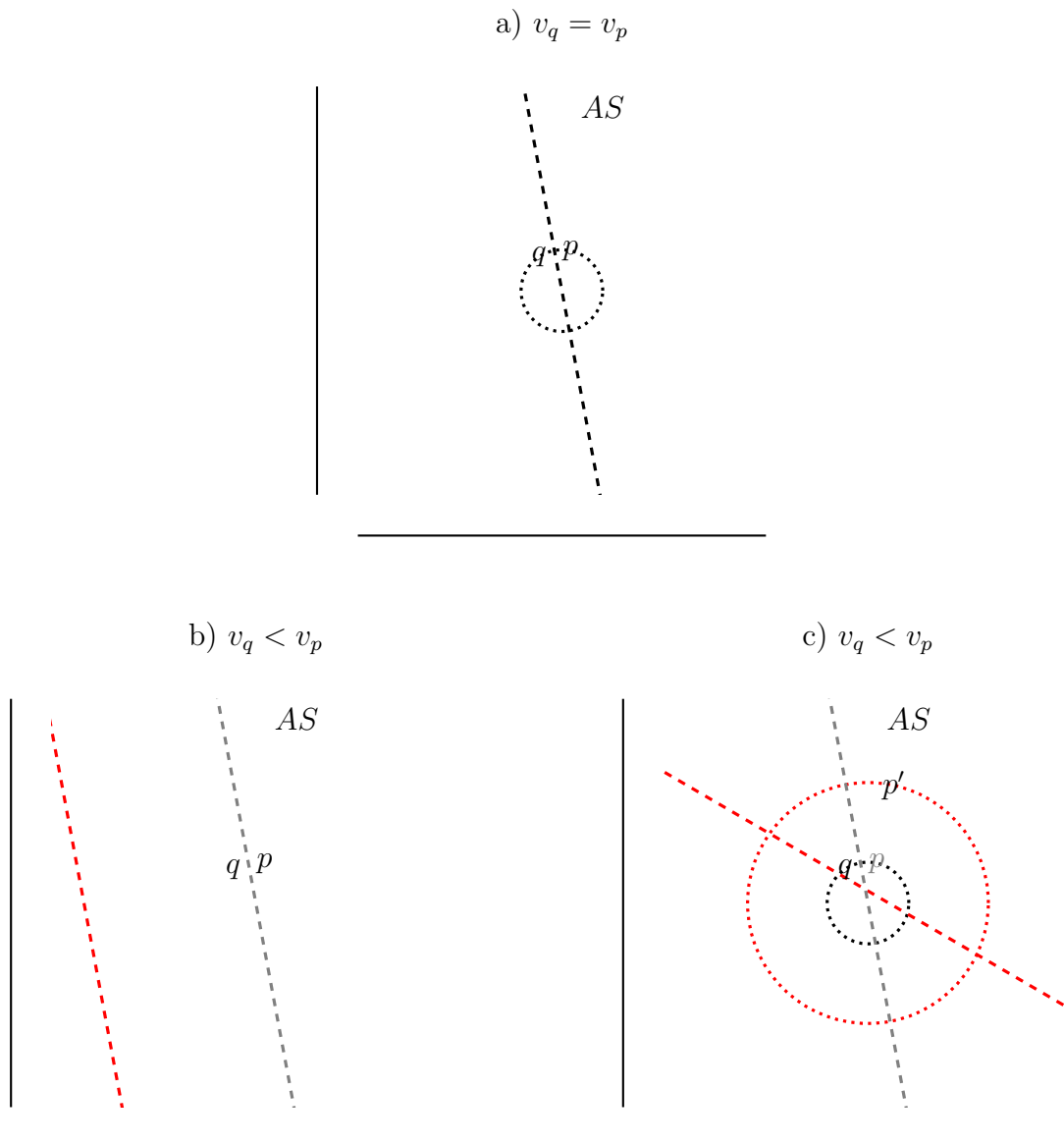
a) $v_q = v_p$

b) $v_q < v_p$

c) $v_q < v_p$

NOTE: In the absence of a crisis (top panel), voting collapses to a simple spatial model, with legislators voting for the proposal p if they are to the right of the cutline, or against the proposal otherwise. If the status quo q receives a negative valence shock, but the proposed policy is fixed at p (bottom left), then the cutline will shift to the left, indicating that some legislators who previously would have voted against p, now would vote 'yea'. In equilibrium, the agenda-setting actor (AS) will exploit this tolerance to propose policy (p') that better represents her interests (bottom right). The agenda-setter 'makes an opportunity out of the crisis'. We can identify the effects of such a proposal in two-dimensional voting patterns, as the cutting-line rotates in the direction of the ideal point of the agenda-setter.

locations in two general policy dimensions, x_1 and x_2, and also prefer policies with higher valence v.[9] This yields quadratic-loss random utility functions for the proposal and alternative:

$$u_{iq} = -(x_{i1} - x_{q1})^2 - (x_{i2} - x_{q2})^2 + v_q + e_{iq} \tag{1}$$

$$u_{ip} = -(x_{i1} - x_{p1})^2 - (x_{i2} - x_{p2})^2 + v_p + e_{ip} \tag{2}$$

where we define the valence terms as follows:

$$v_p = 0 \tag{3}$$

$$v_q \begin{cases} = 0 & \text{absent a crisis} \quad (4) \\ < 0 & \text{during a crisis} \quad (5) \end{cases}$$

In the absence of a crisis, the valence of the status quo and the valence of new policy are equal ($v_p = v_q$). A negative 'shock' to the valence of the status quo occurs when a crisis dramatically changes external conditions, resulting in a smaller value of v_q such that, in expecation, $v_p > v_q$. As legislators preferences over valence are identical, this formulation captures the central intuition: shocks to the valence dimension are painful for everyone. The crisis negatively affects legislators evaluations of the status quo, regardless of their ideological disagreements on other spatial dimensions.

Example cases of voting under these utilities are depicted in figure 1. Consider a situation where there is no valence gap between the status quo and the proposal (top panel, $v_q = v_p$). Absent a crisis, voting accords to a simple spatial model. Legislators vote 'yea' if their own ideal point is closer to the proposal (p) than it is to the status quo (q) and 'nay' otherwise. The dashed cutting-line separates 'yeas' from 'nays'. The dotted circle represents a hypothetical winset[10] – the set of policies that would defeat the status quo in pairwise comparison. Policies located within the winset will defeat q in an up-or-down vote, and policies located outside the winset will fail. The proposal p is determined by the agenda-setter (AS), who makes

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[9]In appendix section A3 we generalise the analysis by considering a '1D plus valence' model that also captures the central intuition that agenda-setters secure more preferable policy outcomes during a crisis. However, in addition to being a poor match to EP politics, the 1D model predicts that voting coalitions remain unchanged while the policy proposal positions change between crisis and non-crisis periods. The former are far more easily measured than the latter.

[10]Analytically deriving the winset is not possible without first specifying the 2D preference distribution of legislators. However, an illustrative version is sufficient for our purposes here.

a take-it-or-leave-it proposal that is as close as possible to her own ideal point, within the constraint that the policy will be approved by a majority vote (that is, within the winset).

Here, the agenda-setter is located at a relatively moderate position on the first dimension, but an extreme positive position in the second dimension and so the proposal is close to the top of the winset. Given the illustrative winset shown, the proposal mostly moves policy from left to right, rather than south to north. Because of this, the cutting line falls nearly vertically, and the 'yea' coalition is formed of legislators on the right side of the policy space.

Consider now the crisis case ($v_q < v_p$), where we temporarily hold fixed the positions of q and p (bottom-left panel). The main implication of the decline in v_q is that any given legislator is willing to accept a broader range of policies because the ideological cost of accepting a more distant p is compensated for by replacing the low-valence q. The decline in v_q therefore leads some legislators to vote for p despite their relative proximity to q, resulting in a larger coalition of support for p during the crisis. This is depicted by the leftward shift of the cutting-line. If the proposed policy p is held fixed, a crisis will lead to a larger 'yea' coalition than in the non-crisis period.

However, because more policies are able to defeat q (the winset expands), the agenda-setter can propose a policy closer to her own ideal point that will still win a majority of support. This means that the agenda-setter can propose p' instead of p (bottom-right panel). As p' is within the enlarged winset it is approved by the legislature, whereas in the equal valence scenario it would have been rejected, and the agenda-setter obtains a policy outcome that would not have been possible in the absence of the crisis. These figures make clear the agenda-setter's advantage during crisis periods. The worse a valence shock (i.e. the lower v_q), the larger the winset grows, and thus the more discretion the agenda-setter has over policy.

PREDICTIONS – POLICY RESPONSE

The first implication of the model is that agenda-setters will propose and obtain policies closer to their ideal points during crises. Legislators take the broader policy-making environment into account when deciding on policy, and while always sensitive to deviations from their own policy preferences, they are also concerned with adopting policies that are congruent

with current conditions. This means that when crises cause sudden changes in the external environment, existing policies (the status quo) become less attractive, and make legislators more receptive to alternative proposals. The model therefore provides micro-foundations for the idea that crises represent 'an opportunity to be exploited' by agenda-setting actors.

Our decision to model crises as a non-spatial valence shock distinguishes our argument from other plausible mechanisms that could link a crisis to changes in legislative behaviour. First, one could model an exogenous shock as a sudden movement of the status quo in the policy space (Tsebelis 2002). Second, one might also model the effects of a crisis as an exogenous shift in the preferences of legislators. The key difference between these models of crisis and our valence-shock model is that in the latter, the worse the valence of the status quo, the greater the discretion of the agenda-setter to move policy *in any direction*. This contrasts with modelling a crisis as a *spatial* shock – either to preferences or to the position of the status quo – where the winset expands in directions determined by the direction of the shock, meaning that agenda-setters benefit only under certain conditions. We prefer to conceptualise a political crisis as a non-spatial shock because this better approximates our intuitive understanding of a crisis: whereas spatial shocks imply that some actors *prefer* the crisis, non-spatial exogenous shocks make the status quo worse *for everyone*.[11]

In the context of the EU, the model implies that that a relatively wide range of policy options could plausibly have won majority support in the EP during the crisis period, as MEPs should have been willing to make ideological compromises in order to replace defunct policy. Although the policies adopted during the crisis had a distinctive ideological profile, two broad policy responses, which proposed opposing shifts along the integration dimension, were in fact discussed. Pro-integrationist actors argued for the integration of banking regulation, the creation of new EU financial oversight institutions, and further empowerment of existing institutions to enforce fiscal discipline on member states. Proponents of this integrationist response included the European Commission President, José Manuel Barroso, who argued that the EU response to the crisis "must be far reaching reform. . . Europe's contribution must be a

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[11]In the appendix (A9) we detail the conditions under which spatial and non-spatial shocks result in equivalent observable implications, and demonstrate that it is not necessary to accept the 'valence-shock' aspect of our model in order to accept most of our argument as to how crises empower agenda-setters.

big step for an ever closer, ever stronger Union" (Barroso 2013). An alternate policy response, supported largely by Eurosceptic actors, focused on streamlining the European institutions to make them more competitive, safeguarding national regulatory powers, and "repatriating" powers from Brussels back to the national level. British Prime Minister David Cameron made this argument in 2013 by emphasising that future EU reforms ought not to include "an insistence on a one size fits all approach which implies that all countries want the same level of integration. The fact is that they don't and we shouldn't assert that they do."(Cameron 2013) Overall, while the crisis led to dissatisfaction with the status quo across the political spectrum, there was substantial disagreement about the ideal strategy for resolving deficient policy, disagreement that largely reflected the pre-existing dimensions of disagreement over EU integration.

This alternate policy response never reached the floor of the European Parliament because agenda-setters in the EP are uniformly pro-integration.[12] It is unambiguous that integrationist legislation passed during this period. The legislative response to the financial crisis included many policies that transferred significant powers from the national to the European level. The EU instigated a major set of banking reforms, including: a common rulebook for banking practice; the establishment of a Single Supervisory Mechanism (SSM) for the oversight of risk in the banking system; a Single Resolution Mechanism (SRM) which makes Eurozone governments jointly responsible for the solvency of private banks; and a host of new institutions which aim to limit systemic risk. The European Commission acquired dramatically increased powers under the new fiscal framework, the harmonisation of banking standards directly affects national law, and the new institutions can be seen as quasi-federal supervisory authorities (Lannoo 2011, 2).

The response to the debt crisis was perhaps even more integrationist. The most high-profile

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[12]That the main agenda-setters worked together to propose integrationist responses to the crisis is clear from the parliamentary debates of the period. For example, in a parliamentary debate on the 'six-pack', András Kármán emphasised that both the European Commission and the leaders of national governments were united by a desire to reform the economic governance of the EU: "It was not the individual decision of the Presidency to designate this file as the top priority. The Commission's initiative has also been supported by the Heads of State and Government of the 27 Member States." (Kármán 2011) Similarly, the rapporteur for the proposal to establish new European institutions for financial supervision highlighted the consensus among the mainstream EPG leaders: "Parliament is firmly committed, politically committed, to European supervision, and I believe that there is great consensus on this among all political groupings." (de Vigo 2010)

changes included legislation to increase the Commission's ability to scrutinise member-state finances; a legislative 'six pack' which bolsters the Stability and Growth Pact by establishing fiscal goals to which member-states must converge; and the creation of the European Stability Mechanism (ESM), a permanent rescue facility for the Eurozone area. Again, these reforms entail a significant deepening of integration in economic affairs, empowering supranational actors such as the Commission and the European Central Bank, and transferring sensitive policy competences to the European level. In sum, integrationist policies relating to sovereign finances, macro-economic coordination and banking reform were proposed by the European Commission, and were adopted by legislators in the EP.[13]

PREDICTIONS – VOTING COALITIONS

If our theoretical model captures the dynamics of the EU case, there is a second implication, which concerns how voting coalitions in the two-dimensional space of EU politics ought to have changed in response to a crisis. The main observable implication of the model is apparent in the bottom-right panel of figure 1, where the cutline separating the 'yea' from the 'nay' voters rotates after the valence shock to become closer to horizontal. The more 'northerly' the policy proposal relative to the status quo, the more legislators will vote based on their preferences regarding the second dimension rather than the first, leading to a more horizontal cutline between the voting coalitions. Extending this logic to the general case, because a crisis enables the agenda-setter to move policy towards her ideal point to a greater degree, the dimension of observed political disagreement will shift towards the dimension along which

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[13]We note that the European Parliament did not play a central role in all parts of the EU's crisis-response. For example, the Parliament was not required to approve the 'Fiscal Compact', a high profile treaty which introduced stricter budgetary surveillance and discipline within the eurozone area. As Tsebelis and Hahm (2014) suggest, the mechanism through which this treaty was adopted can be explained by reference to the changing dimensionality of the policy space between disagreeing member states, rather than a shift to the dimensions of contestation in the Parliament. Nevertheless, a great deal of important crisis-related legislation required passage under the ordinary legislative (codecision) procedure in which the Parliament acts as a full co-legislator with the Council. For example, the 'six pack', 'two pack', and the establishment of the European Systemic Risk Board (ESRB), the European Securities and Markets Authority (ESMA) and the European Banking Authority (EBA) were all dealt with under the co-decision procedure. Although the Fiscal Compact was certainly an important element to the crisis-response, it would have been largely ineffective without these extensive reforms to the EU's economic governance architecture. These were major integrating measures that the EP could have blocked, and our argument addresses why the EP did not do so.

the agenda setter differs most from the typical legislator.[14]

As the preference structure of the EP and the location of agenda-setting actors in the preferences space reflects the theoretical structure we previously used to illustrate our model in figure 1, we expect a similar rotation of the cutlines in the EP in response to the financial crisis. If agenda-setters proposed more pro-integration policy solutions, the cutting-lines separating voting coalitions should have been increasingly horizontal, dividing pro- and anti-European MEPs, rather than vertical, dividing right and left MEPs.[15]

We are therefore interested in assessing the degree to which the cutting-lines of crisis-related EP votes tend towards horizontal. We denote the angle of the cutting line of a vote as φ_j, and define this angle over an arc of 2π such that it equals zero when the cutting line is horizontal.[16] Figure 2 gives a graphical depiction of different values for φ. In the top-left quadrant, when $\varphi = 0$, the coalition of yes voters is pro-integration. The top-right and bottom-left quadrants demonstrate the necessity for the definition of φ over an arc of 2π. In both cases, the cutting-line is vertical, separating left-wing from right-wing voters, but when $\varphi = \pi/2$, the right-wing voters are voting for the vote, and the left-wing voters are voting against. By contrast, when $\varphi = -\pi/2$, it is the left coalition that is on the yes side of the vote. The final quadrant shows the cutting-line (with $\varphi = \pi/4$) where the yes coalition is pro-integration but right-leaning.

In terms of φ_j, we can characterise the average tendency of coalitions to align with yes

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[14]Our expectations regarding the change to voting coalitions that result from a valence shock rely on the assumption that individual legislators vote spatially, and are not subject to significant party discipline. This is reasonable in the case of the EP, where party discipline is notoriously weak. If party discipline were stronger and parties voted spatially, the same logic would apply, but at the level of parties rather than individual legislators.

[15]One possible objection is that the 'take-it-or-leave-it' agenda power assumed by our model is unrealistic in the EP, where floor amendments are permissible. If amendments can be used to rein in proposals that are too integrationist, while still replacing the status quo with a higher valence proposal, then pro-integration agenda-setters would not profit from increased discretion during a crisis. However, evidence strongly suggests that amendments tend to change policy on the left-right dimension of conflict, but not the integrationist dimension (Kreppel & Tsebelis 1999, Kreppel 2000, Kreppel & Hix 2003, Hix et al. 2007). There are technical limitations to proposing such amendments, as doing so would require legislators to propose fundamentally reformed institutional structures. This would require significant legislative resources, expertise, and drafting time. The anti-integrationist party groups (the actors with an incentive to propose such amendments) are resource-poor in comparison with the larger groups and the European Commission. Thus, in the context of the EP, it is unlikely that the power of agenda-setters is significantly diminished by the availability of amendments.

[16]We formally derive the relationship between the cutting line angle and the extent to which policy is moving in the second relative to the first dimension in the supporting information.
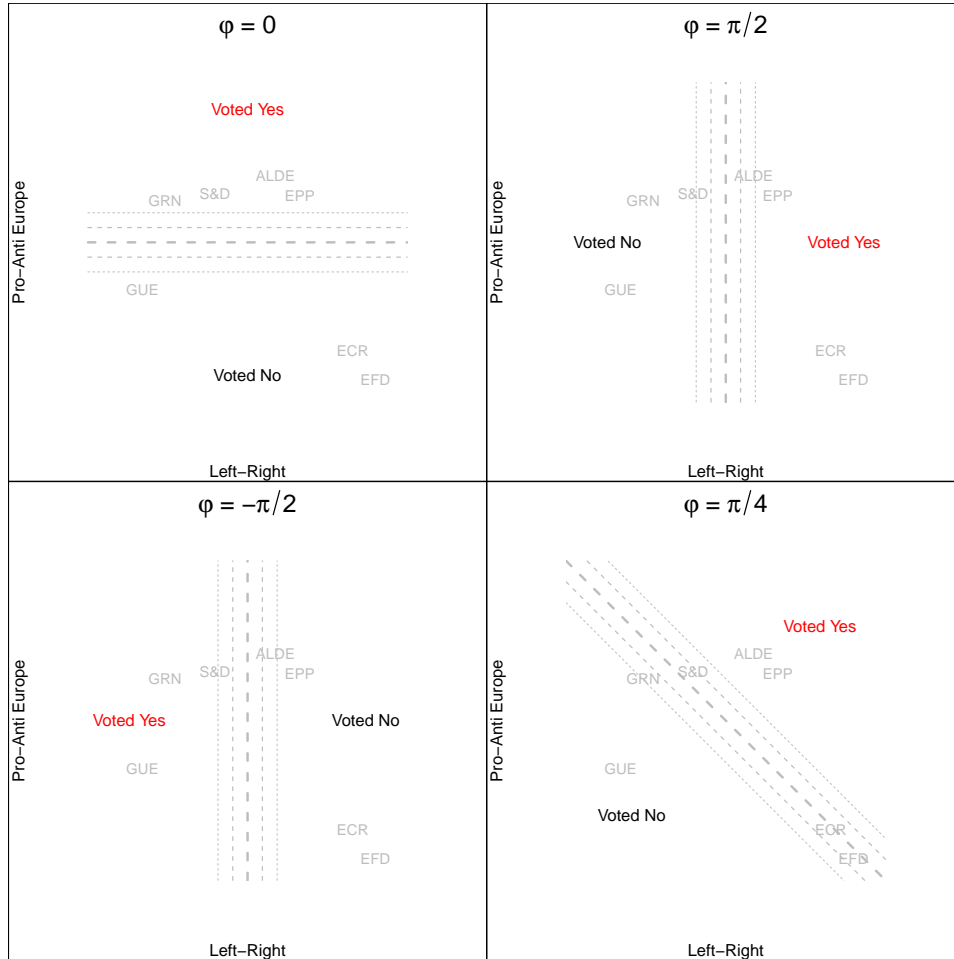
Figure 2: Examples of φ

NOTE: The figure illustrates the voting coalitions for different values of φ. The model we present predicts that more votes will result in a situation similar to the top-left quadrant, where $\varphi = 0$ and the coalition is pro-integration, in the post-crisis period.

votes among pro-integration MEPs using the mean absolute angular deviation (MAAD) from zero:

$$MAAD = \frac{1}{M} \sum_{j=1}^{M} |\varphi_j| \tag{6}$$

The closer to zero the MAAD is, the greater the tendency of votes to have yes voters among pro-integration MEPs and no voters among anti-integration MEPs (of both left and right).

Our argument suggests that when a crisis occurs, the valence of existing policy will decline, leading to more integrationist policy proposals, and a shift in the distribution of the cutting-lines. However, crucial to our argument is that we only expect MAAD to decline in policy

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areas that are affected by the crisis. Our argument is policy-domain specific, as it is only status quo policies in crisis-related areas that will receive a valence shock, and so only in votes on these issues that we expect to observe a rotation of cutting-lines. This yields a testable prediction that has the form of a differences-in-differences: we expect that after the onset of the crisis, cutting lines will shift towards horizontal in crisis-relevant policy areas relative to non-crisis-relevant policy areas.

Data and Methods

Our theoretical model, as applied to the European Parliament, has implications for the voting behaviour we observe during the crisis relative to the counterfactual voting behaviour we would have observed absent the crisis. Since we cannot observe MEPs' votes in the absence of the crisis, the task of our empirical analysis is to construct the most plausible estimate we can of the counterfactual. We do this by using legislative summary texts to identify legislation in the pre-crisis period that addresses the same legislative topics as the legislation that we can observe is crisis-related in the crisis period. Once we have constructed the synthetic control group of comparable legislation, we can compare voting patterns in the pre-crisis and post-crisis period on legislation that is as similar as possible in the issues it addresses.

Scaling votes

We collect voting records for legislators in the EP from `www.votewatch.eu`, which documents every recorded vote in the European Parliament. We collect all votes from the sixth and seventh European Parliaments (2004-2014), therefore including a period before and after the emergence of the crisis. In order to make estimated cutlines for EP6 and EP7 comparable, it is necessary to jointly estimate preferences over both Parliaments. We combine the roll-call votes taken in EP6 and EP7, holding the preferences of individual MEPs serving in both constant. To ensure that we can distinguish left-right political preferences from pro-anti integration preferences, it is necessary to use some kind of auxiliary information to orient the latent preference space along those axes. To identify these dimensions, we implement a hierarchical 2D ideal point estimator in Stan (Stan Development Team 2014) using expert survey data

(McElroy & Benoit 2011) to locate the average positions of party groups in EP6 and EP7. These locations form priors over the average positions of MEPs in each of the two dimensions, with the party group priors for both EP6 and EP7 informing the priors of MEPs who served in both Parliaments. For further details of the ideal point estimation and the derivation of how the cutting angles φ_j are calculated from the estimates, see section A4 of the appendix.

IDENTIFYING CRISIS-RELEVANT AND NON-CRISIS-RELEVANT VOTES

Our model implies that there will be a difference in the distribution of the φ_j between votes that relate to the crisis and votes that do not. We therefore require a method for distinguishing between crisis-relevant and non-crisis-relevant votes.[17] To begin, for each vote we collect a legislative summary text from the European Parliament website.[18] The summaries give a synopsis of the purpose, background, and content of legislation under discussion, and thus provide salient textual information for classification.[19] An example text is provided in the appendix (A1). We search the EP7 summaries for the presence or absence of five key phrases that indicate direct relevance to the crisis: "financial crisis", "economic crisis", "sovereign debt crisis", "euro crisis", and "eurozone crisis". This search returns a binary classification of the 'crisis-relevance' of a vote, and of the 6,916 votes held during EP7, our selection procedure codes 1,071 as 'crisis-relevant'.

In accordance with our theoretical model, votes in EP7 identified as crisis-relevant by

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[17]One approach would be to classify votes according to their committee of origin so that, for example, votes on reports originating from the Economic and Monetary Affairs (ECON) committee could be crisis-relevant, and all other votes non-relevant. However, relying on a simple committee categorisation is problematic. ECON reports include a diverse selection of legislation, only some of which pertain to the crisis. Similarly, many explicitly crisis-related reports did not originate in the ECON committee. For example, an important parliamentary resolution concerning the feasibility of stability bonds (or 'Eurobonds') did not originate in the ECON committee. Such an approach would yield a coding that, at best, only roughly approximated our classification of interest. Another approach would be to manually code votes from EP6 and EP7 that we deem to be crisis-related, however, this would require a great deal of subjective judgement and require coding many thousands of votes.

[18]www.europarl.europa.eu

[19]We opt for the legislative summaries – rather than, for example, debates or the texts of the proposals themselves – because they are relatively short (the median number of words in each text is 789), and are tightly focused on the topical content of the legislation. While other texts would likely recover a similar classification, legislative speeches would contain considerably more noise than the summaries do, and the clauses of the bills are likely to contain a large proportion of legislative jargon which would be common across bills and would not help us to discriminate between crisis-related and non-crisis-related votes.

this key phrase coding were marked by significantly ($t = -6.8$, assuming independence) and substantially (about 18%) lower values of MAAD than non-crisis relevant votes during the same period. That is, during the crisis period, broadly defined as the entirety of EP7, votes on crisis-relevant legislation divided MEPs more along pro-anti lines than did votes on non-crisis-relevant legislation. However, this difference between crisis-relevant and non-crisis relevant votes in EP7 may reflect a pre-existing feature of EP disagreement across different policy domains. Are these differences in voting patterns part of the pre-existing structure of voting on economic and finance versus other issues, or a *change* in voting structure that resulted from the crisis?

Clearly we are unable to observe the relevant counter-factual: what voting would have looked like in EP7 in the absence of a crisis. Therefore, in order to synthesise the most plausible, feasible control group, we look to the preceding European Parliament, where voting coalitions were not subject to the crisis effects that our model contemplates. However, we cannot simply search for mentions of the crisis in EP6 legislative summaries, because the crisis had not yet occurred. Instead, we need to identify votes from EP6 that are substantively similar to the crisis-relevant votes we have already identified in EP7. To classify the full set of votes, we develop a novel text classification strategy to estimate the degree to which pre-crisis votes were 'crisis-relevant' so that we can make a fair comparison of votes pre- versus post-crisis. To do this, we train a linear probability classification of EP6 votes using the binary classification of EP7 votes described above as the training data for a model that predicts crisis-relatedness using features of legislative summary texts. The intuition behind our estimation strategy is to use the information contained in the legislative summaries to find votes in EP6 which are about substantively similar issues to the crisis-related votes in EP7, and to use these votes to compare voting coalitions on these issues across the crisis and non-crisis periods.[20]

We begin by estimating topic models (Blei & Lafferty 2006, Roberts et al. 2014) on the corpus of legislative summaries covering every vote in EP6 and EP7. The key quantity of interest recovered from each of these topic models is a matrix of topic proportions, that describes the fraction of each legislative summary $d \in \{1, 2, ..., D\}$ that is from each topic

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[20]We give further detail on the construction of our approach in section A10 of the appendix.

$t \in \{1, 2, ..., T\}$. These matrices offer a high-dimensional summary of the substantive content of each vote, and give us a basis on which to find thematically similar votes in EP6 and EP7. We then use the topic proportions for the EP7 votes as explanatory variables in "first stage" linear regressions, where the dependent variable is the manually coded 'crisis-relevant' binary classification introduced above. We use the estimated coefficients to generate fitted values, denoted $\hat{\pi}_{j(kd)}$, for all votes in both EP6 and EP7. These values represent the probability that each vote, j, is crisis-relevant, given the vector of topic proportions for legislative summary d from topic model k. The intuition is that the regression coefficients on the topic proportions indicate the thematic elements (the word usage typical of a topic) that predict a vote being crisis-relevant, and the fitted values thus provide a measure for whether the issues addressed in each vote from both EP6 and EP7 were ultimately relevant to the crisis.

The above exercise can be completed for topic models with any number of topics, or indeed using any of the wide variety of topic models that have been developed. Choosing the appropriate number of topics is a common problem in topic modelling, and typical solutions (e.g. Blei et al. (2003)) aim to find the model that best predicts held-out textual data. In our case, we are not interested in predicting *text* data out of sample, but rather in predicting our EP7 classification of 'crisis-relevant' votes. Thus, we fit all $K = 98$ integer topic counts from 3 to 100, and then use several approaches to assess which yields the most predictive first stage regression for crisis-related votes in EP7. For each of the first stage regressions, we calculate BIC, AIC and Adjusted R^2. AIC and Adjusted R^2 agree on the 62 topic model, while BIC (which includes a greater penalty for additional parameters) favours the 29 topic model (the second-best model under AIC and Adjusted R^2).[21]

To complement this model selection based on fit to the EP7 summaries, we have also compared the model based predictions of whether an EP6 summary is crisis-related to human judgements of crisis-relatedness for a hand-coded random subset of 200 summaries, coded by both authors. The goal of this exercise is to establish whether the text based classification of EP6 summaries correlates with human judgements of the types of issues that were likely to become pertinent to the crisis once it began. We provide full details of this validation exercise

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[21]In figure A3 in the supplemental appendix we present the three fit statistics for all 98 models.

in the appendix (A6), however it indicates that topic models with 20-40 topics tend to yield estimates of crisis-relatedness that are more highly associated with human coding than those with higher topic counts. This is consistent with more general results on human validation of topic models (Chang et al. 2009). Therefore, we proceed in this paper with the 29 topic model, and present the (similar) results using the 62 topic and other models in the appendix.

Before turning to our main results, we assess the face validity of our procedure. Our primary concern is obtaining good estimates for which EP6 votes were in policy areas that were to become relevant to the crisis once it arrived. We can directly examine the votes from both EP6 and EP7 which our model estimates to have high 'crisis-relevant' probabilities ($\hat{\pi}_j$). Table A1 in the appendix presents the titles of the top 20 crisis-relevant texts from the 29 topic model, from both parliamentary terms.[22] As expected, the classification procedure successfully recovers the explicitly crisis-related votes from EP7. Many of the well-known economic reforms – such as the 'Six pack', the 'Two pack', and the European Semester – feature in EP7 list. The EP6 votes – which occurred before the crisis – are also all directly related to the issues that became increasingly significant after 2008. Votes relating to the strengthening of national budgetary positions, public finances, financial markets, credit rating agencies, and the common currency all feature prominently at the top of the EP6 list. The procedure is not simply picking up votes from late 2008 and early 2009 in EP6, as several of the vote titles include the year in which they were voted upon, and they cover the whole of the EP6 period.[23] In general, these results suggest that our classification procedure works remarkably well, and that our synthetic control group is a reasonable basis for comparison.

In addition, if our procedure is successfully identifying crisis-relevant summaries, then the coefficient estimates from the first-stage models will also be informative, as we would expect those topics relating to financial and economic affairs to be strongly associated with our key phrase search classification in EP7. Figure A6 in the appendix, which presents the estimated first-stage coefficients for the topic proportions from the 29 topic model alongside their associated topic labels,[24] confirms this expectation: the two topics which are most

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[22]An equivalent table, for the 62 topic model, is given in section A8 of the appendix.

[23]Figure A7 in the appendix shows that our text model recovers crisis-related votes across the entire time-period but, reassuringly, records a peak in crisis-relevant legislation in 2011-2012.

[24]The topic labels are constituted of the of the top four highest probability words characterising each topic.

predictive of our key phrase search classification (i.e. those with the largest positive coefficients in the first stage) are "econom;financi;member;state" and "financi;credit;bank;author".

Throughout the analysis we use the crisis-relevant fitted values for both EP6 and EP7 votes, rather than relying on the discrete categorisation for EP7 that is produced by our key phrase search. There are two rationales for doing this. First, simply for comparability between the two periods: if we are using fitted values in EP6 we should also do so in EP7 to minimise differential measurement error. Second, although the key phrase search provides a quick classification of crisis-relevance, it is unlikely to perfectly separate crisis-relevant legislation from non-crisis-relevant legislation, even within the crisis period. If an EP7 summary does not explicitly mention any of the phrases we include in the search, it will be counted as irrelevant to the crisis. Thus, for example, even if the subject matter of the legislation is tightly connected to matters of finance, banking, and economic governance, if our search terms are absent from the summary, our search will return a false negative – a summary that should be coded as crisis-relevant, but is not. We should also be concerned by false positive results returned by such a search. For example, a legislative summary may include one of the phrases we include in our search, but only be tangentially related to the economic crisis that we wish to study.

Our topic-modelling procedure helps to overcome these difficulties, as we treat the classification provided by the key phrase search as training data for discovering the topics that are generally associated with our crisis search terms. This training data we have is noisy (because of the potential for false negative and false positive classifications), but by regressing the key phrase search classification on the topic proportions for each summary produced by our topic models we are able to identify the topics that are consistently associated with crisis-legislation. Our approach therefore uses the manual coding as a way of finding features (topics) that are common across many different possible crisis-related legislation texts.

Table A3 in the appendix shows that the summaries that have high fitted values from the topic model analysis but lack the key phrases used in our binary classification include several high-profile pieces of crisis legislation, while those which have low fitted values but have those phrases are indeed weakly related to the crisis, which demonstrates the benefits of using the topic proportions to produce fitted values of crisis-relevance. This validity check

further justifies moving beyond a simple key phrase search to define our treatment and control groups. A key phrase search is impossible in the *pre*-crisis-period, as no legislative summary could make explicit mention of the crisis before the crisis occurred. Our topic-model classifier allows us to compare the voting coalitions that form on legislation on thematically similar topics both before and after the crisis commenced. In addition, even *within the crisis period* there is good reason to prefer the text-based classifier over a simple search for key phrases.

<small>DIFFERENCES IN DIFFERENCES RESULTS</small>

Having selected the best fitting first stage model, we use the fitted values of crisis-relevance as explanatory variables in a second-stage linear regression of the following form:

$$\left|\varphi_{j(d)}\right| = \sum_t \left(\alpha_t + \beta_t \cdot I_t \cdot \hat{\pi}_{j(d)}\right) + \epsilon_{j(d)} \tag{7}$$

where φ is the angle of the cutting line, I_t is an indicator variable for whether the vote was taken during a given period t, and $\hat{\pi}_j$ is the fitted value for the crisis-relevance of the vote. Because we are using fitted values for whether the vote was crisis-related, the coefficients β_t remain estimators of the difference between the MAAD of crisis-related ($\hat{\pi} = 1$) and non-crisis-related ($\hat{\pi} = 0$) votes in that period. Our primary quantities of interest are therefore the β_t, but also the fitted values for non-crisis related votes α_t and for crisis-related votes $\alpha_t + \beta_t$. The theoretical model directly implies that the fitted values for crisis-related votes should decline once the crisis begins, indicating increasingly pro-versus-anti integration coalitions, rather than left-versus-right coalitions. We also expect to see that decline in the values of the β_t directly, indicating a shift relative to non-crisis-relevant votes, as evidence against the possibility that some general shift in voting is occurring across all domains.[25]

This approach, which is an unusual application of a two-stage least squares estimator,[26] has two attractive features. First, using the legislative summary texts ensures that we are

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[25]Our second-stage model (equation 7) shares similarities with 'leads and lags' models that are commonly used in difference-in-differences designs (Autor 2003). In addition to allowing us to understand how voting coalitions changed over time during the treatment period, this specification also provides an opportunity for us to assess whether voting coalitions on crisis-relevant and non-crisis-relevant legislation were trending differently before the onset of the crisis. Reassuringly, we find no evidence for this.

[26]Our first stage does not aim to identify a non-endogenous component of the variation in the treatment variable (crisis versus non-crisis), but rather to impute treatment for the half of our data where we cannot observe it (EP6).

Figure 3

Estimated MAAD for crisis–relevant and non–crisis–relevant votes

Difference in MAAD for crisis–relevant and non–crisis–relevant votes
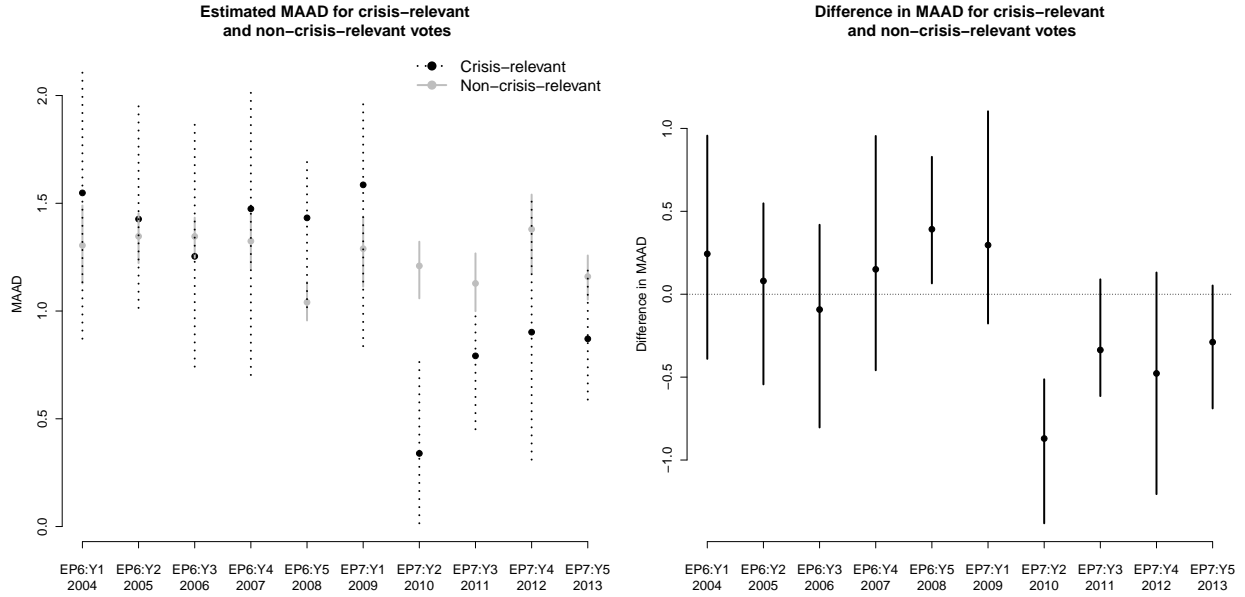
NOTE: The left panel shows our estimates of the mean absolute angular deviation in crisis-relevant versus non-crisis-relevant votes, for each year in EP6 and EP7 (starting 9 June of the labelled year, to align with the 2009 European Parliament elections). The right panel shows the differences between crisis-relevant and non-crisis-relevant votes over the same period.

comparing *thematically* or *topically* similar votes across the entire period. This means that if there had always been a difference between how the EP voted on the issues that ultimately become crisis-related and other issues, we will observe a constant difference over time. Second, using the fitted values for crisis-relatedness for both EP6 and EP7, rather than using the binary coding for EP7, enables a fairer comparison of the two periods.

As votes (j) are grouped within texts (d), and the topic mixtures vary only at that group level, a block bootstrap is needed to account for within-text error correlation in the first stage model (Angrist & Pischke 2008, 315). We jointly bootstrap both regression stages 1000 times, resampling the texts with replacement, and estimating our quantities of interest at each iteration.

Figure 3 presents the fitted values for crisis-relevant and non-crisis-relevant votes (left panel), and the β_t coefficients (right panel) from equation 7.[27] The figure shows that crisis-

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[27]Table A4 in the appendix presents the full results from the regression.

related votes in EP6 and the first year of EP7 (9 June 2009- 8 June 2010) were characterised by voting coalitions that were somewhat *more* left-right than other votes. However, once the political response to the crisis begins in earnest in the middle of 2010, crisis-related votes become more pro-anti than before, and than all other votes occurring at the same time on other issues. The fitted values for the non-crisis-relevant votes (depicted in grey in the left panel of figure 3) are essentially flat across the study period, suggesting that any change in voting behaviour occurred only on crisis-relevant issues.

While the confidence intervals of our β_t coefficients overlap with zero in later years, the point estimates are negative throughout the crisis-period and clearly indicate a change to the voting coalitions on crisis-relevant votes when compared to the pre-crisis period. In table A5 in the appendix, we simplify the analysis by comparing voting coalitions on crisis-relevant and non-crisis-relevant votes using two binary codings for the crisis-period (rather than the yearly approach we take here). We first treat the crisis period as EP7 versus EP6, and second as post-2010 versus pre-2010. In both specifications, the β coefficient we estimate is strongly statistically significant and substantively large. In further specifications presented in table A5 of the appendix, we control for whether a given vote was an amendment or a final passage vote, and for the legislative procedure under which the vote was taken.[28] In addition, in appendix section A13, we present the main results from all K topic model specifications. Regardless of the model specification, we find that voting coalitions on crisis-relevant legislation during the crisis period are significantly more pro-anti than are those for non-crisis-relevant legislation, relative to the same difference in the non-crisis period.

Recall that the purpose of creating the synthetic control comparison using EP6 was to rule out the possibility that the kinds of issues that became crisis-relevant had always exhibited relatively pro-anti voting coalitions, even before the crisis. The estimates here suggest otherwise: pro-integration coalitions formed more frequently on crisis-related votes in the post-crisis period relative to non-crisis-related votes but the opposite was true in the pre-crisis period. Overall, these results indicate that the coalition structure of voting in the European Parliament changed meaningfully after the onset of the financial crisis in those issue areas that the

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[28]The EP adopts legislation under a variety of different legislative procedures.

crisis affected, but not other issue areas. This is what we expected to observe if pro-integration agenda-setters were able to exploit the crisis in order to pass integrationist policy that would previously have failed to win a majority of support.

THREATS TO INFERENCE

One concern with the above analysis is that the change observed in voting behaviour could be the result of factors other than the crisis. In particular, two alternative explanations deserve attention. First, changing voting behaviour could be the result of a change to the composition of the Parliament after the European elections in 2009. The EP became more fragmented after the election, with smaller parties winning seats from the larger parties, with the implication that fewer pro-integration MEPs were elected. This fragmentation may have lead to more 'grand coalition' votes, where the large party groups vote together due to their decreased parliamentary strength (Hix 2009).

Second, the European Parliament changed the rules governing which roll-call votes were recorded in EP7. Previously, roll-call votes were recorded only when requested by a political group or one-tenth of the MEPs, meaning that roll-calls were called on approximately one-third of all votes (Hix 2009, Carrubba et al. 2006). However, from June 2009, and the start of EP7, all final legislative votes were automatically taken by roll-call. The effects of roll-call selection in the European Parliament are unclear (Carrubba et al. 2006, Muehlboeck & Yordanova 2012), but it is possible that this change could result in increasingly pro-anti voting coalitions. For example, if roll-call votes had previously been avoided on final votes that were supported by a pro-integration coalition, then the rule change would possibly have resulted in increased observations of pro-integration coalitions (and, thus, lower MAAD scores) in EP7.

While we are unable to entirely discount these alternative explanations that involve the EP6/EP7 changeover, two aspects of our results do not fit with these alternatives. First, we observe a shift in voting behavior one year after the changeover, in 2010 rather than 2009. Second, if either the electoral explanation or the rule change explanation were true, we would expect to observe decreasing MAAD scores *across all policy areas* rather than just those related to the crisis. The logic of these arguments is that there was some structural

or institutional change that affected the entire parliament in 2009, but our analysis uncovers significant change in voting behaviour only on crisis-relevant issues. As figure 3 makes clear, there is essentially no change in the average cutting line on non-crisis-relevant votes between the two parliaments. Any alternative explanation for our findings must explain the change in behaviour over time, the fact that change occurs only in crisis-related votes, and the fact that the change occurred one year after the new parliament began, when the crisis became acute.

A possible objection to the theoretical framing that we have provided for our analysis is that the crisis did not affect the valence of the status quo, but rather influenced the *spatial* elements of legislators' utility by making MEPs more favourable to increased integration. To account for the fact that observed changes are only in crisis-related policy areas, it would need to be the case that the crisis changed preferences of MEPs in just those areas, which is possible if you take the view that the crisis specifically signalled a need for more integration in only those policy areas. As discussed in our theoretical section, and in section A9 of the appendix, this argument is plausible, but not necessarily incompatible with our own. Both spatial and non-spatial crisis models in this context engage with the idea that the crisis somehow changed the incentives to integrate for MEPs. We think it makes more sense to think about the valence of existing policy, rather than the spatial preferences of legislators for integration, being differentially affected by the crisis, and so we understand the crisis to affect voting behaviour through the non-spatial component of utility. In general, however, the most interesting theoretical implications of both our story and the changing preferences story focus on the same counterfactual. Under either account, the primary dimension of conflict in the EP shifted towards pro-anti votes in crisis-relevant areas and policies were passed following the financial crisis that would not have passed in the absence of the crisis.

Conclusion

When José Manuel Barroso, the President of the European Commission, gave his State of the Union speech to the European Parliament in 2013, he argued that, "If we look back and think about what we have done together to unite Europe throughout the crisis, I think it is fair to say that we would never have thought all this possible five years ago." (Barroso

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2013) The degree of integration in financial and economic affairs following the crisis was indeed unprecedented, and the argument we have made here is that these policies succeeded because the crisis strengthened the position of pro-integration agenda-setting actors (including Mr Barroso). Such significant increases in EU competences might not have occurred in the absence of a crisis.

More generally, our model provides micro-foundations for the intuition that crises represent 'opportunities to be exploited' by industrious agenda-setters in the legislative process. Exogenous shocks decrease the efficacy of existing policy in the context of changing real world conditions, and make status quo policies less attractive to all legislators. Because legislators want to replace deficient policy, those with proposal power are able to secure outcomes that would be impossible without a crisis. In contrast to previous literature on crises, we demonstrated how a specific impediment to reform is reduced by exogenous shocks, and also provided predictions about the direction of policy movement during crisis periods which have empirically observable implications for voting patterns which we were able to test.

In the case we examine, pro-integration actors hold the major agenda-setting powers pertaining to financial regulation, and thus in this crisis we expected to observe policy moving towards a more integrationist position. However, given a different distribution of agenda-setting preferences, our model would produce different predictions for the direction of policy movement in the event of a crisis. For example, the unprecedented increase in migrants arriving in Europe since 2014 has uncovered significant deficiencies in current EU policies. Pro-integration actors have the power to initiate legislation pertaining to migration at the EU level, and the European Commission has drafted legislative proposals that would create a new common border force equipped with powers to overrule national authorities (Commission 2015). However, support for the Commission's proposal is limited amongst member state governments, implying that the agenda-setting power of pro-integration actors is diluted in the area of migration. The relatively equal distribution of proposal powers between EU and national levels will have consequences for the policies that are adopted in response to this crisis. In this case, although there is increasing dissatisfaction with status quo policies, because agenda-setters are not united by common integrationist preferences and proposal powers

are diffuse, reforms to border protection policies are likely to be less integrationist than were the reforms to economic policy in the post-financial crash world. As partial evidence in support of this view, several countries within the Schengen free-movement area have recently reintroduced national border controls in an attempt to curb the number of migrants.

Our model may also be a useful heuristic for understanding the legislative effects of other crises, particularly when pre-existing policy disagreement is multidimensional. For example, in 1957, Lyndon Johnson, then US Senate majority leader and a powerful agenda-setter, recognised that the civil rights bill proposed by President Eisenhower was likely to be filibustered by the Senate southern Democrats. The opposition of these legislators was a significant constraint on executive action, and forced Johnson to admit amendments that significantly weakened the enforcement of the bill (Jeong et al. 2009). By 1964, however, Johnson, now President, was able to pass the more robust Civil Rights Act. It is commonly accepted that the racial tensions of the early 1960s gave momentum to the civil rights movement, and offered Johnson a window of opportunity in which to pass reform (Keeler 1993, 462). One reading of this is that legislators' preferences shifted towards wanting civil rights legislation, but our model indicates that the marginal legislators could instead have simply recognized that the status-quo was increasingly untenable. As a pro-civil rights agenda-setter, Johnson was able to pass reforms that had previously proved intractable in the legislature, shifting patterns of voting towards a north-south dimension during this period (Poole & Rosenthal 2011, 141-142). Our model has an important implication for the counter-factual: what policies might have been successfully advanced by an anti-civil rights President in the context of the diverse events of the early 1960s, from the "March on Washington" to the Birmingham church bombing? Civil rights legislation might now seem like the obvious policy response, but there is no shortage of historical crises that have been exploited by political agenda setters to achieve less righteous ends. The kinds of crises we model facilitate shifts in any policy direction.

A further theoretical implication is that strategic agenda-setters may have an incentive to exaggerate crisis severity in order to maximise their discretion over policy outcomes. There are anecdotal suggestions that certain EU institutions behaved in this manner during the financial crisis. For example, the bond-buying policy of the European Central Bank (ECB) enabled

indebted governments to secure enough liquidity to stave off immediate sovereign default, but stopped short of providing a blank cheque which would have fundamentally reassured nervous market actors. Although not itself an agenda-setting actor, the ECB's piecemeal strategy allowed other pro-integration actors such as the Commission to put additional pressure on national leaders and MEPs to agree to reforms of the Eurozone's institutional architecture. As one observer argues, "The central bank cannot directly compel democratically elected leaders to comply with its wishes, but it can refuse to bail their countries out and thereby permit the crisis to pressure them to act."(Bergsten 2012) In short, by emphasizing the deficiencies of existing policy, and exaggerating the likely future trajectory of a crisis, agenda-setting actors can cajole decision-makers into passing the policies that they propose. While this logic suggests strong incentives for agenda-setters to exaggerate crisis-severity, their ability to do so will be limited by the credibility of their claims with legislators, the public, and the press.

We describe how crises enable agenda-setters to overcome legislative opposition to policy change, but there is no explicit role for voters in our model. An enrichment of the model would be to make legislators subject to voter pressure. However, for this to make a difference to the power of the agenda-setter, voters would have to respond to crises by sanctioning some courses of action whilst prohibiting others. More likely, we believe, is that voters' main desire is for politicians to 'get something done' in the face of a crisis, thus endowing agenda-setting actors with a *public* mandate that reinforces the *legislative* mandate they gain in our model. If anything, this will further discourage legislators from voting for the status-quo. As Keeler (1993, 441) argues, a sense of public urgency "may serve to override . . . caution . . . and allows for unusually rapid and uncritical acceptance of reform proposals intended to resolve the crisis." This urgency therefore makes the electorate more permissive of policy proposals, and so reinforces agenda-setters discretion. The incorporation of electoral effects into our model may well serve to reinforce the central implication that agenda-setters benefit, regardless of what they aim to use the crisis to accomplish.

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SUPPLEMENTARY MATERIALS FOR NEVER LET A GOOD CRISIS GO TO WASTE:
AGENDA SETTING AND LEGISLATIVE VOTING IN RESPONSE TO THE EU CRISIS

A1. EXAMPLE OF LEGISLATIVE SUMMARY TEXT

```
TITLE: Prudential requirements for credit institutions and investment firms


PURPOSE: to strengthen prudential requirements for credit institutions and
investment firms that relate strictly to the functioning of banking and financial
services markets and are meant to ensure the financial stability of the operators on
these markets as well as a high level of protection of investors and depositors.
PROPOSED ACT: Regulation of the European Parliament and of the Council. BACKGROUND:
the extent of the financial crisis has exposed unacceptable risks pertaining to the
current regulation of financial institutions. According to IMF estimates,
crisis-related losses incurred by European credit institutions between 2007 and 2010
are close to 1 trillion or 8% of the EU GDP. In order to restore stability in the
banking sector and ensure that credit continues to flow to the real economy, both
the EU and its Member States adopted a broad range of unprecedented measures with
the taxpayer ultimately footing the related bill. In this context, by October 2010
the Commission has approved 4.6 trillion of state aid measures to financial
institutions of which more than 2 trillion were effectively used in 2008 and 2009.
The level of fiscal support provided to credit institutions needs to be matched with
a robust reform addressing the regulatory shortcomings exposed during the crisis.
Priorities and challenges: it should be noted that one of the priorities of the
Commission in the reform of EU financial services regulation has been to ensure that
the banking sector is able to fulfil its fundamental purpose, namely lending to the
real economy and providing services to citizens and businesses in Europe. The
proposal is designed to tackle regulatory shortcomings in the following areas:
Management of liquidity risk: existing liquidity risk management practices were
shown by the crisis to be inadequate in fully grasping risks linked to
originate-to-distribute securitization, use of complex financial instruments and
reliance on wholesale funding with short term maturity instruments. Definition of
capital: institutions entered the crisis with capital of insufficient quantity and
quality. Given the risks they faced, many institutions did not posses sufficient
amounts of the highest quality capital instruments that can absorb losses
effectively as they arise and help to preserve an institution as a going concern.
Counterparty credit risk: the crisis revealed a number of shortcomings in the
current regulatory treatment of counterparty credit risk arising from derivatives,
repo and securities financing activities. It showed that the existing provisions did
not ensure appropriate management and adequate capitalisation for this type of risk.
Options, discretions and harmonisation (entire Regulation): in 2000, seven banking
directives were replaced by a single Directive. This directive was recast in 2006
...
```

Figure A1: Example legislative text summary

A2. Valence as a spatial policy dimension with universal agreement

Consider an n-dimensional model, where the utilities for legislator i, for the status quo (q) and a proposal (p), given positions x, and an idiosyncratic (legislator-specific) error term e_i, are:

$$u_{iq} = -(x_{i1} - x_{q1})^2 - (x_{i2} - x_{q2})^2 - \ldots - (x_{in} - x_{qn})^2 + e_{iq} \tag{8}$$

$$u_{ip} = -(x_{i1} - x_{p1})^2 - (x_{i2} - x_{p2})^2 - \ldots - (x_{in} - x_{pn})^2 + e_{ip} \tag{9}$$

To derive a valence dimension, we simply constrain all legislators to have the same ideal point on the vth dimension so that $x_{iv} = x_v \forall i$. As preferences on this dimension are identical, all legislators prefer policies that satisfy $x_v = x_{pv}$, all else equal. Our assumption is that during a crisis, x_{qv} will diverge sharply from the shared preferences of legislators. We therefore define the valence of the proposal p, and the status quo q as follows:

$$v_p = -(x_v - x_{pv})^2 = 0 \tag{10}$$

$$v_q = \begin{cases} -(x_v - x_{qv})^2 = 0 & \text{absent a crisis} \tag{11} \\ -(x_v - x_{qv})^2 < 0 & \text{during a crisis} \tag{12} \end{cases}$$

A negative 'shock' to the valence of the status quo occurs when a crisis dramatically changes external conditions, shifting x_{qv} away from x_v, and resulting in a smaller value of v_q. As legislators preferences over valence are identical, this formulation captures the central intuition: shocks to the valence dimension are painful for everyone. The crisis negatively affects legislators evaluations of the status quo, regardless of their ideological disagreements on other spatial dimensions.

A3. Uni-dimensional model, plus valence

The central intuition of our model – that agenda-setters have more discretion over policy outcomes during a crisis – holds when the policy space is uni-dimensional. Consider the one-dimensional case where there is no valence gap between the status quo and proposed alternatives, $v_q = v_p$ (top panel, figure A2). The median voter, m, is decisive, and the spatial discrepancy between the status quo and her position is always influential in determining the size of the winset, $W(q)$. Policies (p) located within the winset will defeat the status quo (q) in an up-or-down vote, and policies located outside the winset will fail. As in the two-dimensional case, the choice of policies to be considered against q is determined by the agenda-setter (AS), who makes a take-it-or-leave-it proposal that is as close as possible to her own ideal point, within the constraint that the policy will be approved by a majority vote (that is, within $W(q)$). Thus, when valence is equal, voting collapses to the normal spatial model, with the median voter separates those voting 'yea' from those voting 'nay'.

During a crisis, when $v_q < v_p$, the main implication of the decline in v_q is identical to that of the two-dimensional model: legislators will vote to approve a wider range of policy proposals. Holding the proposed policy fixed at p (middle panel, figure A2), the valence shock increases the size of the winset, meaning that legislators in the shaded area of the 'yea' coalition vote to approve the proposal. These legislators, when valence is equal, vote against the proposal. As with the 2D model, the negative shock to q implies that more policies are able to defeat q in pairwise competition, and so in equilibrium, the agenda-setter will propose a policy that is closer to her own ideal point that will still win a majority of support. The agenda-setter proposes p' instead of p (bottom panel, figure A2). As p' is supported by m, it is approved by the legislature, whereas in the equal valence scenario it would have been rejected.

This shows how the valence shock gives greater discretion to the agenda-setter. In the absence of a crisis (when $v_q = v_p$), the winset is determined by the spatial discrepancy between the status quo and the ideal point of the median legislator x_m. During a crisis (when $v_q < v_p$), the winset is determined by both the discrepancy between the status quo and the median, and also the valence differential between the status quo and the proposed policy alternative.

$$W(q) = \begin{cases} x_q, 2x_m - x_q & \text{if } v_q = v_p \text{(13)} \\ x_m - \sqrt{(x_m - x_q)^2 + (v_p - v_q)}, x_m + \sqrt{(x_m - x_q)^2 + (v_p - v_q)} & \text{if } v_q \neq v_p \text{(14)} \end{cases}$$

As in the 2D model, as v_q declines, the winset grows, and the agenda-setter's discretion over policy outcomes increases. In short, the 1D model with a valence shock captures the same intuition as the 2D model: agenda-setters can exploit a crisis by trading off surplus legislative votes to achieve spatial outcomes that are closer to their own preferences.

However, the one-dimensional model illustrates an inferential problem for empirical analysis. While the size of the winset and the spatial position of the policy proposal changes between non-crisis (top panel) and crisis (bottom panel) periods, the most easily measurable quantity (the membership of the winning coalition) is identical in both periods. This is because the agenda-setter always proposes a policy that makes m indifferent between q and p, meaning that the 'yea' coalition will always consist of m and those legislators who are

located on the same side of m as the agenda-setter. As status quo and policy positions are poorly identified in standard roll-call voting models, if the model predicts the same crisis and non-crisis coalitions, the opportunities for validation are limited. It is for this reason that we devote most of our attention to the 2D model, and evaluate our theory in the two-dimensional setting of the European Parliament.

Figure A2: Crises, legislative voting, and agenda-setting in one dimension
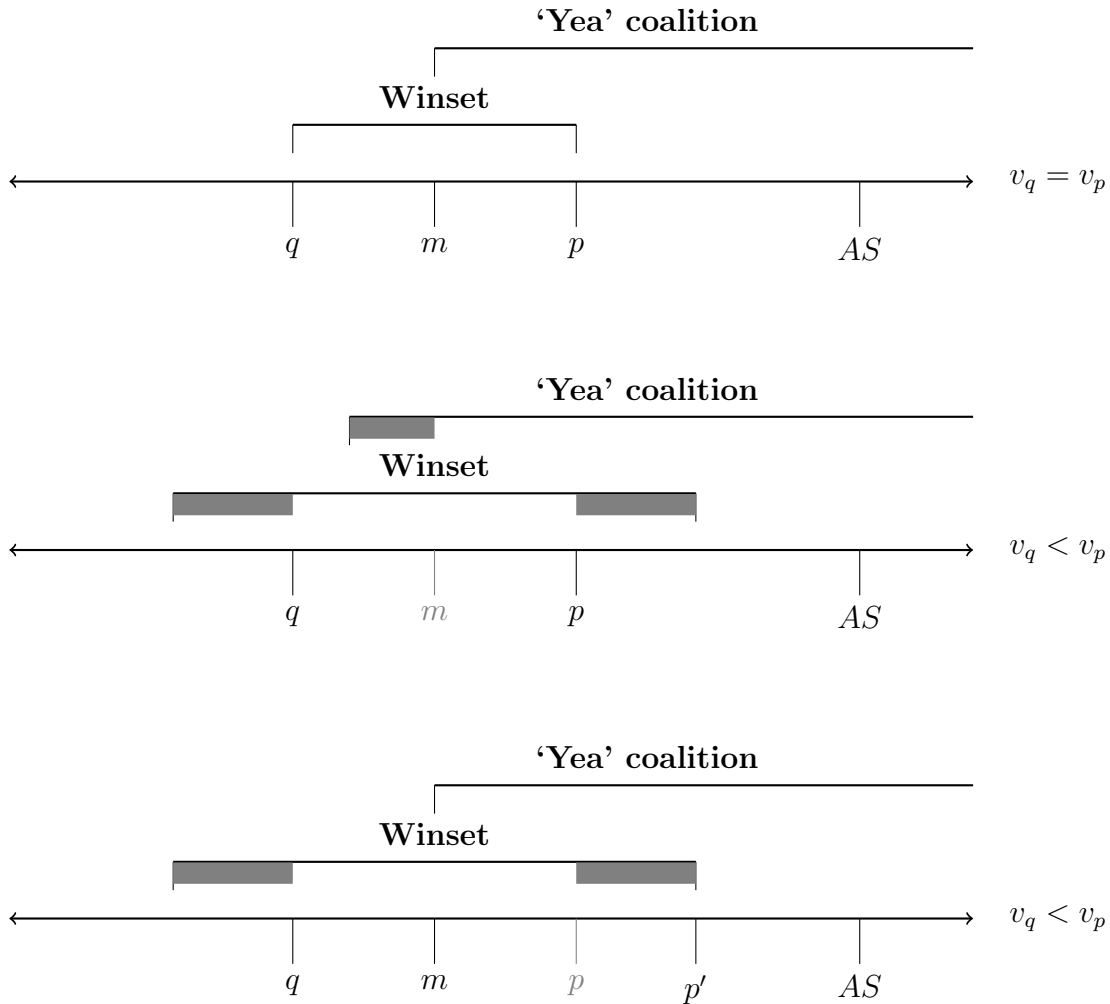
NOTE: In the absence of a crisis (top panel), voting collapses to a simple spatial model, with legislators voting for the proposal p if they are to the right of the median voter m, or against the proposal otherwise. If the status quo q receives a negative valence shock, but the proposed policy is fixed at p (middle panel), then legislators falling in the grey zone of the 'yea' coalition will vote for the policy, where previously they would have voted against. In equilibrium, however, such a situation should not emerge as the agenda-setter, AS, exploits the expanded winset to propose a policy at p' (bottom panel), to secure an outcome that is closer to her ideal point. The agenda setter 'makes an opportunity out of the crisis' to obtain favourable policy outcomes. The median voter is indifferent when $v_q = v_p$ and the proposed policy is p, as well as when $v_q < v_p$ and the proposed policy is p'. This implies that, in one-dimension, the 'yea' coalition is identical in crisis and non-crisis periods.

A4. IDEAL POINT ESTIMATES AND CUTTING ANGLE DERIVATION

Where β_{jd} are the vote parameters for each dimension d for roll call j, and θ_{id} are the preferences of MEP i on each dimension d, and $x_{g(i)d}$ is the expert survey estimate of the party group g of legislator i on dimension d, the core of the ideal point model is:

$$p(Y_{ij} = 1) = \Phi\left(\beta_{j0} + \beta_{j1}\theta_{i1} + \beta_{j2}\theta_{i2}\right) \tag{15}$$

$$\beta_{jd} \sim N(0, 2^2) \tag{16}$$

$$\theta_{id} \sim N(x_{g(i)d}, \sigma_d^2) \tag{17}$$

Because individual MEPs are treated as draws from the expert survey party group mean, with an estimated degree of dispersion around that mean in both dimensions, the expert survey data provides a weak constraint on the estimated locations of MEPs. The effect of this prior is to orient the 2D ideal point space as close to the survey data as possible, but it only weakly influences the locations of individual MEPs relative to their colleagues, and only to the extent that the prior generally fits the relative locations of MEPs.

We can formally derive this connection between integrationist policy proposals and the angle of the cutting line between voting coalitions. The estimated cutting angle φ_j is calculated from the estimated values of the β_{jd} as follows.

For each legislator i, the utility difference between the status quo and the alternative is:

$$
\begin{aligned}
u_p - u_q &= (v_p - v_q) + (e_{ip} - e_{iq}) - \left(x_{p1}^2 - x_{q1}^2\right) - \left(x_{p2}^2 - x_{q2}^2\right) \\
&\quad + x_{i1}(2x_{p1} - 2x_{q1}) \\
&\quad + x_{i2}(2x_{p2} - 2x_{q2})
\end{aligned} \tag{18}
$$

It is not possible to identify the effect of the crisis directly, because the valence gap $(v_p - v_q)$ is just one of a set of linearly additive, vote-specific terms in the model. If we redefine the parameters of the model in terms of identifiable quantities:

$$\beta_{j0} = (v_p - v_q) - \left(x_{p1}^2 - x_{q1}^2\right) - \left(x_{p2}^2 - x_{q2}^2\right) \tag{19}$$

$$\beta_{j1} = (2x_{p1} - 2x_{q1}) \tag{20}$$

$$\beta_{j2} = (2x_{p2} - 2x_{q2}) \tag{21}$$

$$\epsilon_{ij} = (e_{ip} - e_{iq}) \tag{22}$$

this gives us a model of the form:

$$u_p - u_q = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \epsilon_{ij} \tag{23}$$

which is a standard 2D random utility model for voting (Jackman 2001).

While we cannot identify the proposal and status quo locations or the valence gap, the definitions of β_{j1} and β_{j2} reveal why the cutting-line orientation is relevant. These are, respectively, two times the gap between the proposal and the status quo in dimensions one and two. Therefore, if the β_{j2}, corresponding to the integration dimension, get larger relative to

the β_{j1}, that indicates that policy proposals are shifting more towards integration than was previously the case. The connection to the cutting-line orientation can be seen by solving for the set of positions that yield zero utility difference (assuming $\epsilon_{ij} = 0$):

$$
\begin{align}
0 &= \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} \tag{24} \\
\beta_2 x_{i2} &= -\beta_0 - \beta_1 x_{i1} \tag{25} \\
x_{i2} &= -\frac{\beta_0}{\beta_2} - \frac{\beta_1}{\beta_2} x_{i1} \tag{26}
\end{align}
$$

That is, the cutting-line has an intercept on the second dimension (x_{i2}) at $-\frac{\beta_0}{\beta_2}$, and more relevantly, a slope of $-\frac{\beta_1}{\beta_2}$. When proposed policy is more integrationist, we will observe cutting-lines with a different angle than when a proposal mainly operates on the first dimension. This cutting angle φ_j is related to the β parameters:

$$
\varphi_j = -\arctan\left(-\frac{\beta_{j1}}{\beta_{j2}}\right) \tag{27}
$$

We define this cutting angle over an arc of 2π in order to distinguish between parallel cutting lines with yea coalitions on opposing sides. A pro integration coalition on the yes side of the vote corresponds to $\varphi_j = 0$. A right coalition on the yes side of the vote corresponds to $\varphi_j = \pi/2$ A left coalition on the yes side of the vote corresponds to $\varphi_j = -\pi/2$. An anti-coalition on the yes side of the vote corresponds to $\varphi_j = -\pi$ or $\varphi_j = \pi$, the scale wrapping around from a slightly left-leaning anti-integration coalition at $\varphi_j = -\pi + \epsilon$ shifts into a slightly right-leaning anti-integration coalition at $\varphi_j = \pi - \epsilon$.
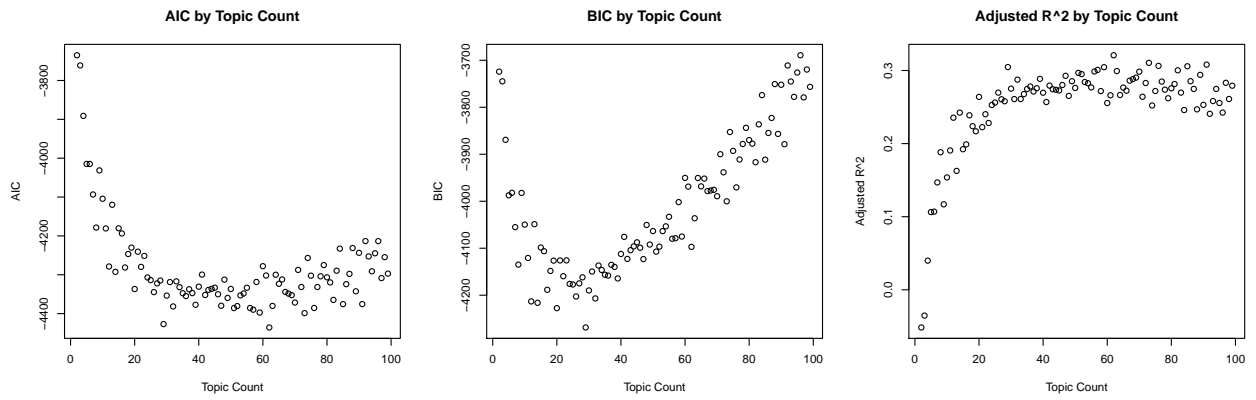
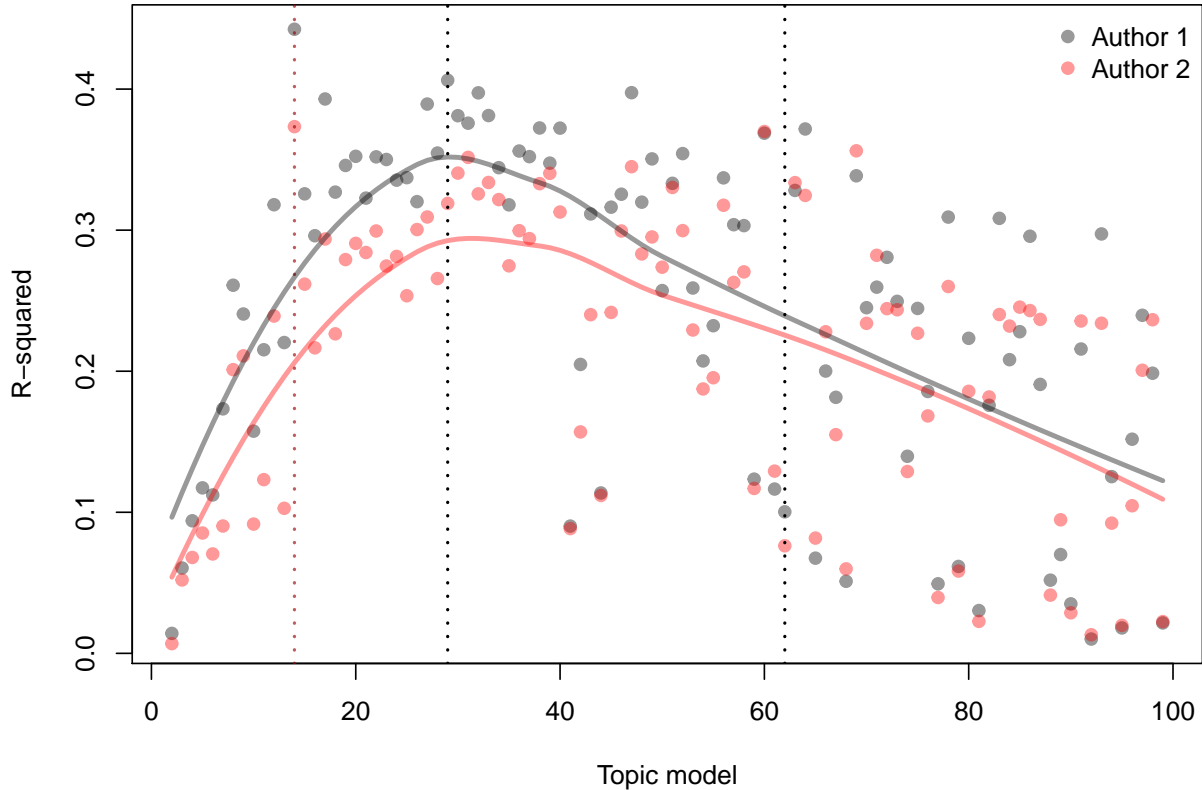Figure A3: Fit statistics for first stage regression model

Figure A4: R^2 for predicting topic model fitted value $\hat{\pi}$ using three-level human coding of a sample of 200 EP6 legislative summaries.

The two authors each hand-coded a common set of 200 EP6 legislative summaries that were randomly selected from the full corpus. The coding task was completed using a Shiny R web application that was created for the purpose of efficiently coding these texts. For each text to be coded, the app provided the legislative summary, the prompt "Crisis-relevant?" and three response options, "Not at all", "Somewhat" and "Totally".

While the first author demonstrates a better understanding of which legislation was crisis-related than the second author, the general pattern is the same for both authors. Topic models with 20-40 topics generally yield fitted values that are most highly correlated with the human codings, although some smaller and larger models perform well too. Some of the variation around the general trend is due to the sample of 200 texts, however some is due to certain topic models performing better as observed in the fit statistics for the full corpus in Figure A3. Cohen's κ between the two coders' ordinal codings was 0.47.

	EP6 vote titles	EP7 vote titles
1	Strengthening of surveillance of budgetary positions and surveillance and coordination of economic policies	Macro-financial assistance to Armenia
2	Public finances in economic and monetary Union EMU in 2004	Economic governance & strengthening of surveillance of budgetary positions and surveillance and coordination of economic policies & 'Six pack'
3	2006 annual report on the euro area	Macro-financial assistance to Georgia
4	Financial markets & banks affiliated to central institutions, certain own funds items, large exposures, supervisory arrangements, and crisis management	Economic governance: implementation of the excessive deficit procedure. 'Six pack'
5	Public Finances in EMU 2006	Macro-financial assistance to Ukraine
6	Public finances in EMU2007 and 2008	Macro-financial assistance to Serbia
7	Credit institutions: taking up and pursuit of the business. Recast	Economic governance: strengthening of economic and budgetary surveillance of Member States experiencing or threatened with serious difficulties with respect to their financial stability in the euro area. 'Two pack'
8	Mobilisation of the European Globalisation Adjustment Fund: redundancies in mobile phone sector	Macro-financial assistance to Bosnia and Herzegovina
9	Credit rating agencies	Economic governance: effective enforcement of budgetary surveillance in the euro area. 'Six pack'
10	Report on the ECB annual report for 2007	Economic governance: facility for financial assistance for Member States whose currency is not the euro
11	Lamfalussy follow up - Future structure of supervision	Improving the economic governance and stability framework of the Union, in particular in the euro area
12	European Central Bank ECB. 2004 annual report	Long-term sustainability of public finances for a recovering economy
13	Resolution on the London G20 Summit of 2 April 2009	European Central Bank annual report for 2011
14	European Central Bank ECB. Annual Report 2003	ECB annual report for 2010
15	Medium-term financial assistance for Member States' balances of payments	Financial institutions: capital requirements for the trading book and for re-securitisations; supervisory review of remuneration policies
16	EMU@10: The first 10 years of Economic and Monetary Union and future challenges	Macro-financial assistance to Kyrgyzstan
17	Mobilisation of the European Globalisation Adjustment Fund: redundancies in textiles sector in Italy	Further macro-financial assistance for Georgia
18	Facing oil challenges	Feasibility of introducing stability bonds
19	Euro zone enlargement	European Bank for Reconstruction and Development (EBRD): subscription by the EU to additional shares in the capital
20	Euro & adoption by Slovenia of the single currency on 1 January 2007 (Article 122(2), Treaty TEC)	European Semester for economic policy coordination: implementation of 2013 priorities

Table A1: Top 'fitted values' votes - 29 topics

	EP6 vote titles	EP7 vote titles
1	Facing oil challenges	State aid to facilitate the closure of uncompetitive coal mines
2	Euro zone enlargement	Economic governance & strengthening of surveillance of budgetary positions and surveillance and coordination of economic policies & 'Six pack'
3	Resolution on the input to the Spring 2009 European Council in relation to the Lisbon Strategy	Long-term sustainability of public finances for a recovering economy
4	2006 annual report on the euro area	Macro-financial assistance to Bosnia and Herzegovina
5	Fishing industry: improving the economic situation	Economic governance: implementation of the excessive deficit procedure. 'Six pack'
6	Strengthening of surveillance of budgetary positions and surveillance and coordination of economic policies	ECB annual report for 2010
7	European Central Bank ECB. 2004 annual report	Macro-financial assistance to Serbia
8	Relocation in the context of regional development	European Central Bank annual report for 2011
9	Social reality stocktaking	Feasibility of introducing stability bonds
10	Macro-economic impact of the increase in the price of energy	Macro-financial assistance to Georgia
11	Employment and productivity and their contribution to economic growth	Economic governance: effective enforcement of budgetary surveillance in the euro area. 'Six pack'
12	Fisheries sector: temporary specific action aiming to promote the restructuring of the EU fishing fleets affected by the economic crisis	Macro-financial assistance to Armenia
13	Restructuring and employment	Economic governance: strengthening of economic and budgetary surveillance of Member States experiencing or threatened with serious difficulties with respect to their financial stability in the euro area. 'Two pack'
14	Deterioration of the situation in Georgia	Improving the economic governance and stability framework of the Union, in particular in the euro area
15	Resolution on the preparation of the EU-India Summit (Marseille, 29 September 2008)	External Borders Fund: increasing the Union co-financing rate
16	Resolution oncombating the rise of extremism in Europe	Resolution on the feasibility of introducing stability bonds
17	Resolution on the situation in the Republic of Moldova	European semester for economic policy coordination
18	Resolution on combating cancer in the enlarged EU	Macro-financial assistance to Ukraine
19	Report on the ECB annual report for 2007	Mobilisation of the European Globalisation Adjustment Fund: redundancies in textiles sector in Belgium and computer manufacturing industry in Ireland
20	Resolution on the situation in Burma	Agricultural Fund for Rural Development (EAFRD): increased contribution rates for certain Member States

Table A2: Top 'fitted values' votes - 61 topics

A9. Alternative mechanisms

The central implication of our model also holds, under many conditions, when we consider two other plausible mechanisms (within our general theoretical setting) through which crises might lead to legislative change. First, we consider a model in which crises cause *the status quo to shift* in the ideological space (as in Tsebelis (2002)). A second alternative model considers how *the preferences of legislators might shift* in response to a crisis. The figures below indicate how these alternative models would affect the predictions we make in the paper.

In the top panel of figure A5 we consider a one-dimensional space under three different models of crisis:

- Preference-shift model: The crisis shifts the preferences of legislators, moving the median voter from m to a position *closer to* the agenda-setter at m'.

- SQ-shift model: The crisis moves the status quo q *away from* the position of AS to q'

- Valence-shock model: The crisis causes a decline in the valence of the status quo ($v_q < v_p$)

For each model, we can evaluate the effect of the crisis by comparing the new winset with the "Original winset" that applies in non-crisis conditions. If the crisis moves the preferences of the legislative median toward the position of the agenda-setter ($m \to m'$), the preference-shift winset extends rightwards, and allows the agenda-setter the same discretion as in the valence-shock model, although in this case the winset expands asymmetrically. By contrast, if the status quo is shocked away from the positions of the median and the agenda-setter ($q \to q'$), the SQ-shift winset expands symmetrically around m.

As is clear, under each of these models, the main qualitative predictions remain the same: the agenda-setter benefits from the crisis. Under each model, a crisis expands the size of the winset, making it possible for AS to propose and pass policy at p', where previously the best she could have achieved would have been at p. Although the implications of the three models are the same, the mechanisms are different. In the preference-shift and SQ-shift models, the agenda-setter is empowered because the median voter is ideologically more distant from the status quo, and will thus accept policy proposals that diverge further from her ideal point than in non-crisis conditions. In the valence-shock model, the median voter will also accept such deviations from her ideal point, but here the winset expands because the non-spatial utility she receives from the status quo decreases ($v_q < v_p$).

The top panel of figure A5 also makes clear why it is difficult to empirically discriminate between these alternative mechanisms: in all three, the crisis-winset gives the same degree of discretion to the agenda-setter, and therefore results in the same proposal (p') from the agenda-setter. However, the main point revealed by this analysis is that, under a broad set of conditions, the central implication of our (preferred) valence-shock model – that agenda-setting actors benefit from crises – is robust to alternative conceptualisations of crisis politics.

However, in certain scenarios (second panel of figure A5), the predictions of these alternative models differ with regard to the discretion of the agenda-setter during a crisis period. Consider the following scenarios:

- Preference-shift model: The crisis shifts the median voter from m to a position *further away* from the agenda-setter at m'.

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- SQ-shift model: The crisis moves the status quo q *toward* the position of AS to q'

- Valence-shock model: The crisis causes a decline in the valence of the status quo $(v_q < v_p)$

When the median voter moves *away* from the agenda-setter to m', the winset contracts, giving the agenda-setter *less* discretion than in the pre-crisis period. This is because the median voter is now closer to the position of the status quo. Similarly, if the status quo receives a spatial shock such that it shifts *toward* the position of the median voter, from q to q', the winset also contracts around m. Thus, as the second panel demonstrates, if a crisis results in a convergence of the preferences of the median voter and the position of the status quo, the discretion of the agenda-setter would *decrease* during the crisis. This is because the decisive voter prefers the crisis-status quo to the non-crisis status quo, and therefore is less willing to accept deviations from her ideal than she would have been previously. In these scenarios, then, the models offer implications that are qualitatively different from those of the valence-shock model.

Motivating the types of movement that would lead to such restrictions of the winset is difficult, as doing so implies that some legislative actors *prefer* the crisis-stricken status quo policies. Nonetheless, the second panel makes clear the salient differences between our preferred model, and the alternatives: the valence-shock model suggests an unambiguous increase in agenda-setter discretion during a crisis, while the alternative models suggest that the discretion of the agenda-setter increases only under certain conditions.
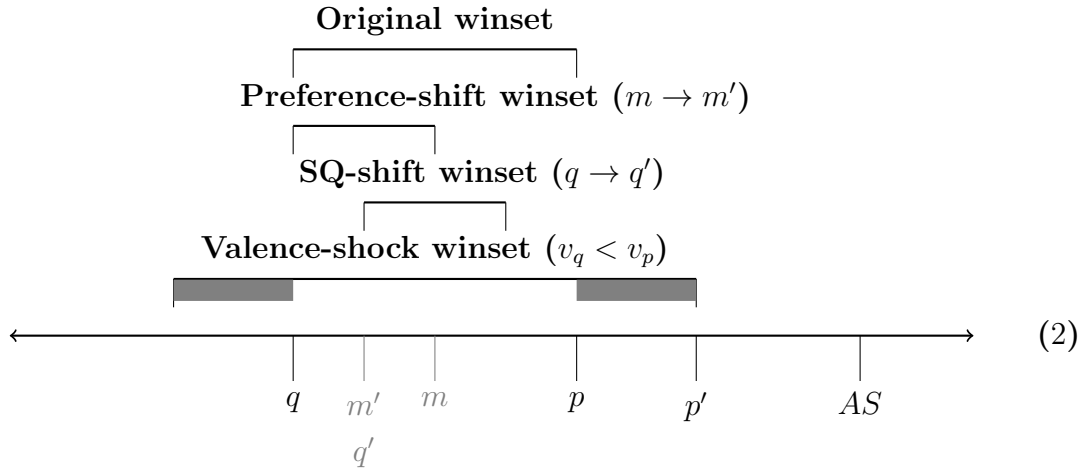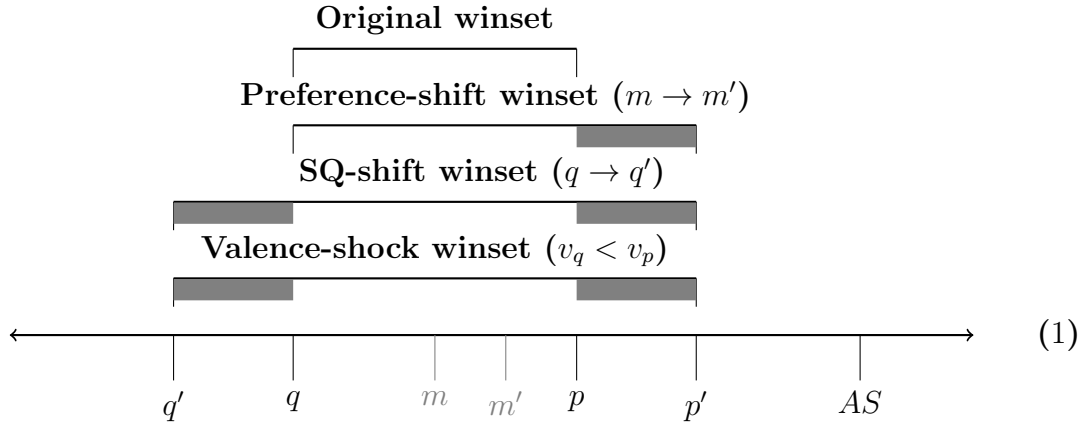
We prefer the valence-shock model for a number of reasons. First, we think it is more intuitive to think of political crises as non-spatial shocks, rather than shifts in the ideological position of the status quo. A crisis entails a sudden change to the external conditions in which existing policies operate, rather than an exogenous change to the policies themselves. Accordingly, conceptualising a crisis as an exogenous shift in the position of the status quo does not fit well with our intuitive notion of what a crisis is. While a spatial shock to the status quo would imply that some actors *prefer* a crisis, the non-spatial model we prefer implies that crisis are bad *for all actors.*

Second, while our model holds (spatial) preferences fixed, it is certainly plausible that legislatures update their policy preferences in light of new evidence, and that crises would play an important role in this process. However, the preference-shift model is not entirely contradictory with our account. One way of understanding the static preferences that we assume in the valence-shock model is to consider the legislators spatial preferences as their long-term ideological beliefs, and the valence component of their utilities as their short-term analyses of current conditions. We think that this is a reasonable approximation of the way that legislators consider policy: longstanding ideological dispositions underpin and guide short-run responses to change.

Note that, in many circumstances, it is not necessary to accept the 'valence-shock' aspect of our argument in order to accept that crises empower agenda-setters. Our main contention is that exogenous shocks will empower agenda-setters and enable them to pass policy that would otherwise have failed to win support. The alternative models discussed here do not contradict this basic argument, but rather imply different *mechanisms* by which agenda-setters are empowered. Agenda-setter discretion will increase when a crisis moves either the status quo or

legislative preferences in certain directions. Our mechanism gives a more unambiguous benefit to agenda-setters during crisis periods than the alternatives. Nevertheless, the differences between these alternative models should not be overstated, as, in general, all three arguments lead to the same substantive conclusion: in a variety of circumstances, agenda-setters are likely to gain legislative discretion after the onset of a crisis.

Figure A5: Alternative models

Original winset

Preference-shift winset $(m \to m')$

SQ-shift winset $(q \to q')$

Valence-shock winset $(v_q < v_p)$

q' q m m' p p' AS (1)

Original winset

Preference-shift winset $(m \to m')$

SQ-shift winset $(q \to q')$

Valence-shock winset $(v_q < v_p)$

q m' m p p' AS (2)
q'

NOTE: The figure indicates that the different models often result in equivalent implications for agenda-setter discretion during crisis periods. In the first panel, all three models result in greater policy discretion for the agenda-setter (AS) in the crisis period. All three models allow the agenda-setter to propose and pass p', where she would only have been able to achieve p previously. In the second panel, the three models lead to different implications for agenda-setter discretion. If preferences shift away from the agenda-setter, moving the median voter from m to m', then the winset of the status quo becomes smaller, giving the agenda-setter less discretion. If, rather, the status quo moves toward the position of the median m, the winset likewise shrinks, again restricting the ability of AS to secure favourable policy outcomes. In the second panel, it is only the valence shock that gives AS additional legislative discretion.

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A10. Constructing a synthetic control group

This section outlines our approach for synthesising a plausible control group for the crisis-related votes in EP7 (the crisis period) using the legislative summaries of votes held in EP6 (the non-crisis period).

We start by applying a series of unsupervised topic models to all legislative summaries in our data. We use the Correlated Topic Model (CTM) as introduced by Blei and Lafferty (2006) and implemented as the null model for the Structural Topic Model (Roberts et al. 2014). The CTM is similar to Latent Dirichlet Allocation (LDA), but allows for a covariance structure between topics, and has been shown to have greater predictive accuracy than LDA (Blei & Lafferty 2006). The crucial assumption behind this model, as with all topic models, is that the relative frequency with which terms co-occur within different documents gives information about the topics that feature in those documents. The two main inputs into the model are a user-specified number of topics, T, and the unordered word tokens within each document.

The key quantity of interest recovered from the STM is θ, which is a J x D matrix of topic proportions that describe the fraction of each legislative summary $d \in \{1, 2, ..., D\}$ that is from each topic $t \in \{1, 2, ..., T\}$. Choosing the appropriate number of topics is a common problem in topic models, and typical solutions (e.g. Blei et al. (2003)) aim to find the model that best predicts held-out textual data. In our case, we are not interested in predicting *text* data out of sample, but rather in predicting our manual classification of 'crisis-relevant' votes ($j \in \{1, 2, ..., J\}$). Because the number of topics that will do this best is unclear *a priori*, we estimate topic models for all $K = 98$ integer topic counts from 3 to 100. This results in 98 separate θ_k matrices, with typical elements $\theta_{td(k)}$: the proportion of vote-text d in topic t from topic-model k.

We then use each θ_k matrix as the model matrix[29] for a linear regression predicting Y_{jd}, the manual binary coding of crisis-relevance for vote j in text d.[30] We repeat this exercise K times, once for each topic model.

$$\mathbb{E}[Y_{j(d)}|\theta_k] = \pi_{j(kd)} = b_{k1}\theta_{k1d} + b_{k2}\theta_{k2d} + ... + b_{kT}\theta_{kTd} + \epsilon_{jd} \tag{28}$$

We then use the estimated b coefficients to calculate fitted values for all votes in EP6 and EP7:

$$\hat{\pi}_{j(kd)} = \hat{b}_{k1}\theta_{k1d} + \hat{b}_{k2}\theta_{k2d} + ... + \hat{b}_{kTd} \tag{29}$$

where $\hat{\pi}_{j(kd)}$ is the probability that vote j is crisis-relevant, given the topic mixture matrix θ_k.

Finally, to evaluate whether there is evidence of the predicted change between EP6 and EP7, we use the estimated 'crisis-relevant' probabilities $\hat{\pi}_{j(kd)}$, as an explanatory variable in

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[29]Because the topic proportions for each vote ($\theta_{td(k)}$) sum to one, we could exclude one of the topics or the intercept term. The two approaches give identical fitted-values, and we choose to exclude the intercept term.

[30]Our approach is analogous to a two-stage-least-squares regression, where the topic weights are 'instruments' and the 'treatment' variable is whether a vote is crisis-relevant or not. As such, we follow the advice of Angrist and Pischke (Angrist & Pischke 2008, 190) and use a linear model for the first stage even though the 'treatment' variable is dichotomous.

second-stage linear regression models for φ_j, which is the angle of the cutting line. Because we are using fitted values for whether the vote was crisis-related, the β_t coefficients remain estimators of the difference between the MAAD of crisis-related ($\hat{\pi} = 1$) and non-crisis-related ($\hat{\pi} = 0$) votes in each year.

A11. Validating crisis-relevant coding

Table A3 demonstrates the benefits of using the topic proportions to produce fitted values of crisis-relevance. The left column of the table presents the titles of 10 EP7 summaries that our key phrase search classifies as unrelated to the crisis but which have the highest fitted-values under our text procedure (of those summaries that are coded as non-relevant by the key phrase search). As the list includes several high-profile pieces of crisis legislation including the 'six-pack', the 'European Semester' and legislation relating to credit institutions, this suggests that the key phrase search is indeed failing to capture some salient legislation that our text procedure does find.

Similarly, the right column of table A3 presents the titles of 10 EP7 summaries coded as crisis-relevant by the key phrase search but which are marked by the lowest fitted values under our text model. The titles in this list suggest legislation that comes from a wide range of policy areas from agriculture, to transport, to healthcare, to the rule of law. On further inspection, the summary texts indicate tangential relationships to the crisis for most of these, despite the presence of one of the key phrases.

Table A3: Manual coding versus fitted values

|	Manual coding = not-crisis-relevant	Manual coding = crisis-relevant
1	Mobilisation of the European Globalisation Adjustment Fund: redundancies in the textile sector in Spain	Outermost regions: specific measures for agriculture
2	Further macro-financial assistance for Georgia	2009 discharge: EU general budget, Court of Auditors
3	European Bank for Reconstruction and Development (EBRD): subscription by the EU to additional shares in the capital	Exceptional trade measures for countries and territories participating in or linked to the Stabilisation and Association process
4	European semester for economic policy coordination	2011 discharge: EU general budget, Economic and Social Committee
5	Economic governance: strengthening of economic and budgetary surveillance of Member States experiencing or threatened with serious difficulties with respect to their financial stability in the euro area. 'Two pack'	2011 discharge: EU general budget, Committee of the Regions
6	Macro-financial assistance to Kyrgyzstan	EU Charter: standard settings for media freedom across the EU
7	Access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms	State aid rules: handling of complaints and gathering of information
8	European Semester for economic policy coordination: implementation of 2013 priorities	Location of the seats of the European Union's institutions
9	European Central Bank. Annual report for 2012	Canary Islands: exemptions from or reductions in the AIEM tax, period of application
10	Macro-financial assistance to Tunisia	Evaluation of justice in relation to criminal justice and the rule of law

NOTE: The table shows, in the left column, the titles of 10 legislative summaries that are coded as "not crisis-relevant" by our key phrase search, but which generate the largest fitted values in the text classification procedure (of those bills that are coded non-relevant). The right column gives the titles of the legislative summaries coded as "crisis-relevant" by our key phrase search, but which generate the smallest fitted values in the text classification procedure (of those bills that are coded as relevant by the key phrase search). As the table makes clear, our text-based approach outperforms a simple key word search in retrieving legislation that was relevant to the crisis, and excluding legislation that was not relevant to the crisis.

Figure A6: First-stage topic-model coefficients

First stage regression coefficients
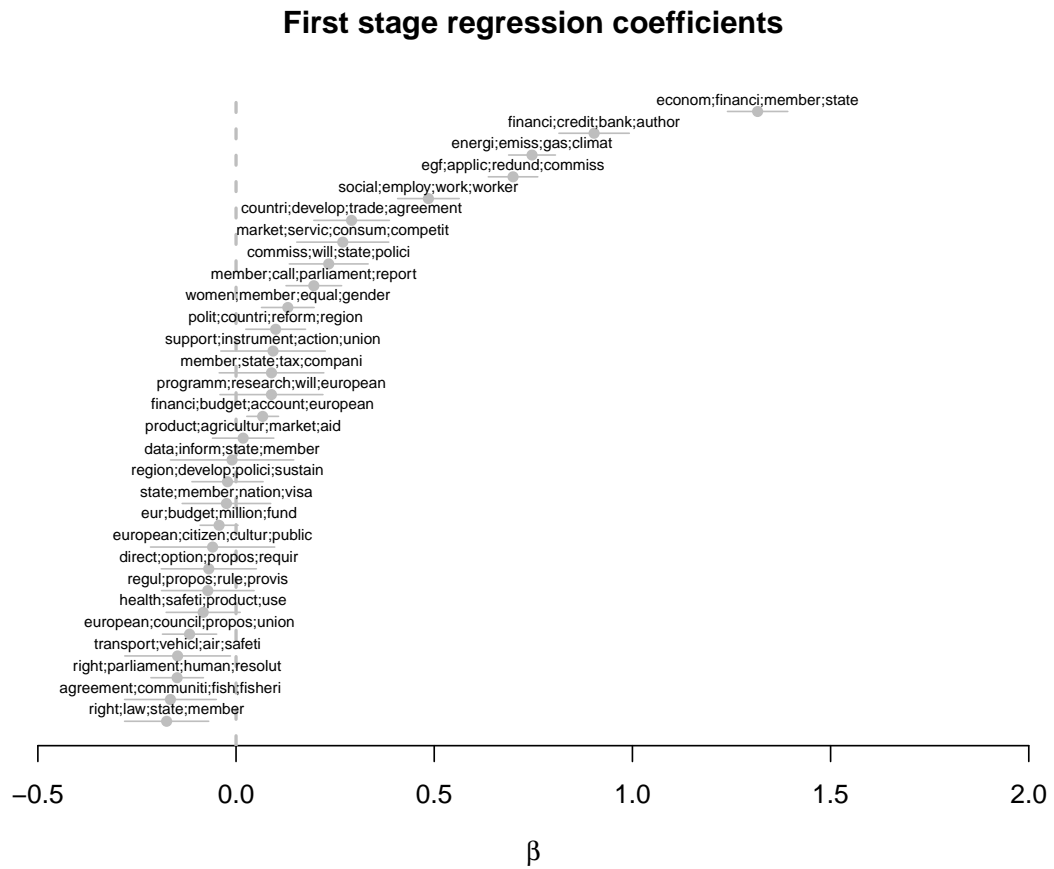
NOTE: The figure presents the estimated first-stage coefficients for the topic proportions from the 29 topic model alongside their associated topic labels. The larger the value of β, the more predictive the presence of a topic in a legislative summary is of that summary being classified as 'crisis relevant'.

Figure A7: Distribution of 'crisis-relevant' votes over time
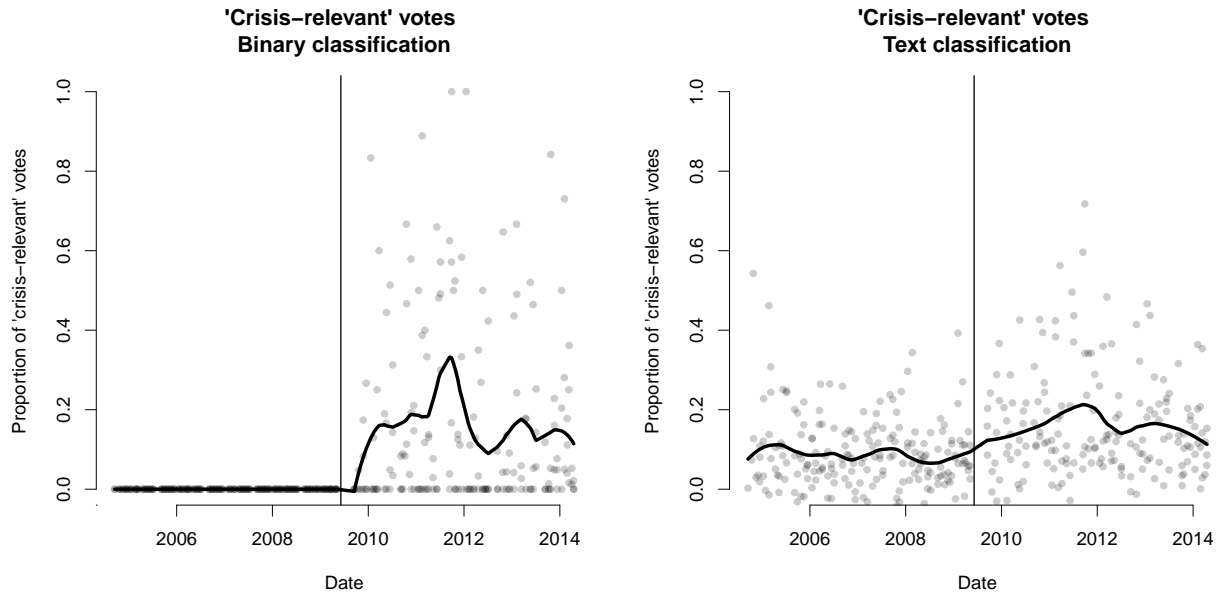
NOTE: The plot shows, in the left panel, the proportion of votes classified as crisis-relevant by our key phrase search by calendar month. In the right panel, we plot the mean fitted values produced from our first stage regressions by calendar month. Reassuringly, in both panels the proportion of crisis-relevant votes peaks around 2011/2012.

Table A4: Second-stage regression (29 topic model)

| | MAAD | |
	Coefficient	Std. Error
$\hat{\pi}$	0.244	(0.359)
2005	0.042	(0.110)
2006	0.042	(0.106)
2007	0.020	(0.115)
2008	-0.264	(0.106)
2009	-0.015	(0.128)
2010	-0.095	(0.116)
2011	-0.176	(0.117)
2012	0.075	(0.132)
2013	-0.145	(0.108)
$\hat{\pi}*2005$	-0.163	(0.424)
$\hat{\pi}*2006$	-0.336	(0.476)
$\hat{\pi}*2007$	-0.093	(0.545)
$\hat{\pi}*2008$	0.148	(0.416)
$\hat{\pi}*2009$	0.053	(0.485)
$\hat{\pi}*2010$	-1.114	(0.442)
$\hat{\pi}*2011$	-0.580	(0.404)
$\hat{\pi}*2012$	-0.721	(0.504)
$\hat{\pi}*2013$	-0.532	(0.391)
Intercept	1.305	(0.096)
Observations	12,736	
R^2	0.027	

NOTE: Table shows the coefficient estimates for our second-stage (29 topic) model (equation 7). Bootstrapped standard errors are given in parentheses.

Table A5: Second-stage regression, discrete crisis-period coding (29 topics)

| | MAAD | | | |
| | EP6 v EP7 | | Pre-2010 v Post-2010 | |
	(1)	(2)	(3)	(4)
$\hat{\pi}$	0.236*	0.166	0.240**	0.137
	(0.124)	(0.113)	(0.122)	(0.108)
Crisis-period	−0.024	−0.115***	−0.026	−0.127***
	(0.046)	(0.038)	(0.046)	(0.038)
$\hat{\pi}*$Crisis-period	−0.640***	−0.594***	−0.664***	−0.572***
	(0.171)	(0.147)	(0.176)	(0.148)
Covariates	×	✓	×	✓
Observations	12,736	12,736	12,736	12,736
R^2	0.010	0.205	0.010	0.206

NOTE: Table shows the coefficient estimates for our second-stage (29 topic) model where we treat the crisis period as (in the left two columns) EP7 relative to EP6 and (in the right two columns) post-2010 relative to pre-2010. Bootstrapped standard errors are given in parentheses.

Table A6: Second-stage regression, discrete crisis-period coding (62 topics)

| | MAAD | | | |
| | EP6 v EP7 | | Pre-2010 v Post-2010 | |
	(1)	(2)	(3)	(4)
$\hat{\pi}$	0.071	−0.017	0.084	−0.009
	(0.093)	(0.095)	(0.091)	(0.091)
Crisis-period	−0.055	−0.152***	−0.055	−0.160***
	(0.046)	(0.039)	(0.046)	(0.039)
$\hat{\pi}*$Crisis-period	−0.355**	−0.295**	−0.394***	−0.316**
	(0.139)	(0.132)	(0.140)	(0.129)
Covariates	×	✓	×	✓
Observations	12,736	12,736	12,736	12,736
R^2	0.007	0.203	0.008	0.204

NOTE: Table shows the coefficient estimates for our second-stage (62 topic) model where we treat the crisis period as (in the left two columns) EP7 relative to EP6 and (in the right two columns) post-2010 relative to pre-2010. Bootstrapped standard errors are given in parentheses.

Figure A8 presents the coefficients for our second-stage regressions for all topic models. Here, we simplify the analysis by comparing voting coalitions on crisis-relevant and non-crisis relevant votes using the EP6 vs EP7 coding for the crisis period (as in tables A5 and A6 above). The top panel presents the effect of a proposal being crisis relevant in EP6 on the angle of the cutting line, and the middle panel shows the equivalent estimate for votes in EP7. The bottom panel presents the difference-in-differences coefficient, and is our main quantity of interest. Our theoretical expectation is that the interaction between the EP7 indicator and the fitted value for a vote being crisis-relevant will have a negative sign. This would imply that coalitions on crisis-relevant votes formed increasingly on the pro-versus-anti integration dimension of conflict during the crisis period, relative to non-crisis-relevant votes, relative to that difference during the non-crisis period. The solid black points and intervals show the estimated coefficients preferred by BIC/hand-coding (29 topics) and AIC/Adjusted R^2 (62 topics).

Crisis-related votes in EP6 were characterised by voting coalitions that were somewhat *more* left-right than other votes, although this is inconsistently significant across the various topic models (top panel, figure A8). Aside from the very small topics, which generate imprecise estimates, nearly all of the topic models yield a significant negative estimate of the EP7 difference. Accordingly, this leads to significant differences in differences, not only in the two models that we focus on in the body of the paper (i.e. 29 and 62 topics), but in all topic models except two of the poorly fitting ones with very small numbers of topics. The negative difference-in-differences indicates that cutting lines on crisis-relevant votes were closer to horizontal in EP7, relative to non-crisis votes, relative to the same difference in EP6.

Figure A8: Estimated effect of crisis-relevant and EP7 interaction
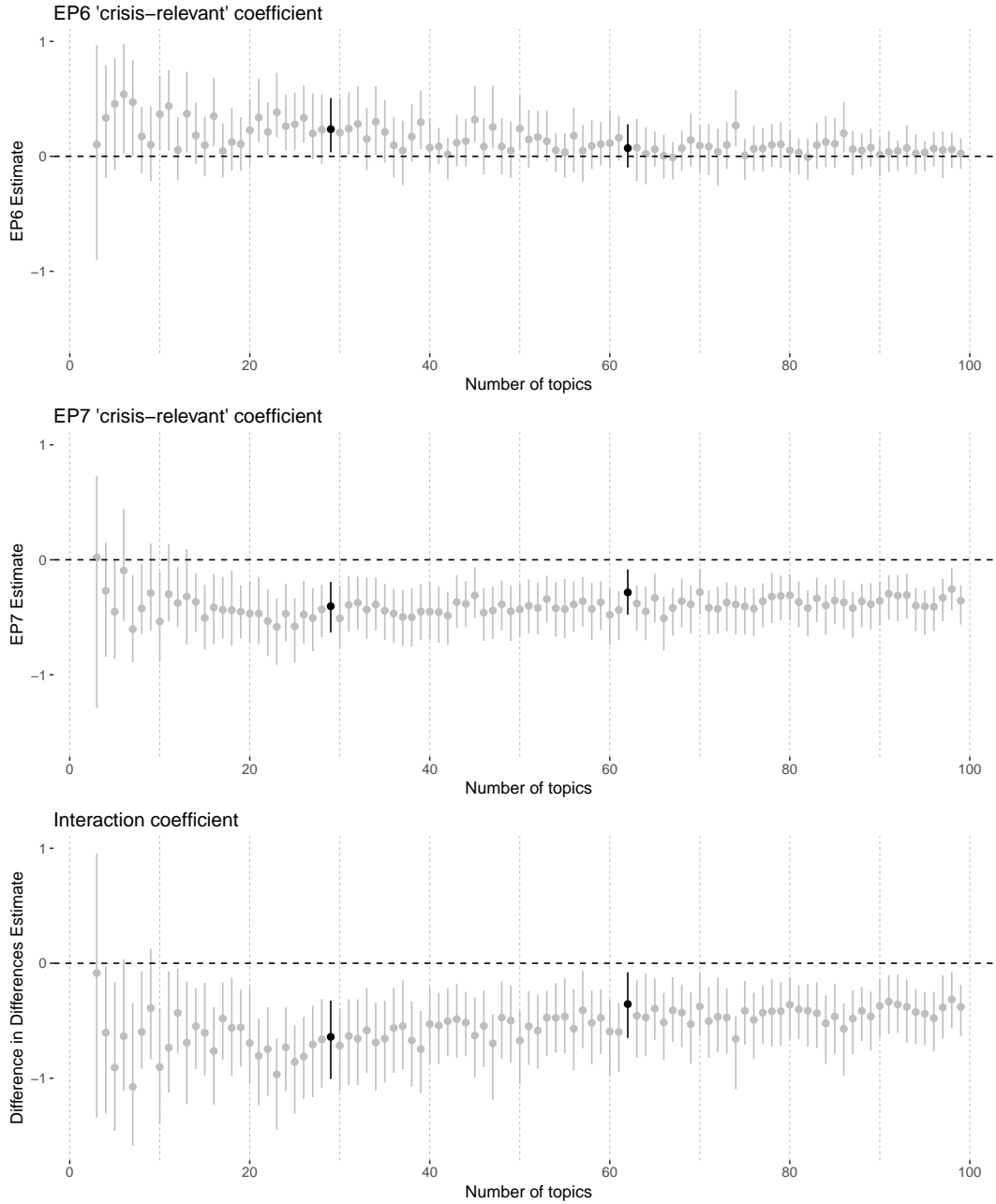
NOTE: The top two panels show estimates of the EP6 (top) and EP7 (middle) difference between crisis- and non-crisis-related votes. The bottom panel shows the difference in differences. The solid black points and intervals show the estimated coefficients preferred by BIC/hand-coding (29 topics) and AIC/Adjusted R^2 (62 topics).