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EXPLAINING POLITICS THROUGH GAME THEORY: PARADOXES AND STRATEGIES IN THE MODERN WORLD

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Why Do Governments Flip-Flop on Policies?

A Game-Theoretical Explanation

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1. Introduction

Sometimes it is seen that governments change their mind on a specific policy quasi overnight. For example, they can pass a law that extends the maximum lifetime of nuclear power stations and decide to back out of the nuclear energy programme shortly after, although there was no majority change in the meantime. But what drives them to do this? Isn't it costly – and what are the benefits? *Why do governments flip-flop on policies?*

We investigate this research question using a game-theoretic model based on theories of issue ownership and government responsiveness. This approach allows us to examine the strategic incentives that issue ownership and government responsiveness theories suggest to drive the government's decisions. In addition, we choose the case of the second Merkel cabinet in Germany and its attitude towards nuclear energy to show empirical evidence for our game. It is a typical flip-flopping case as a law on lifetime expansion for nuclear power plants was passed in 2010 and in spring 2011, after the incident of Fukushima, the same government declared nuclear phase-out (Jahn & Korolczuk, 2012). Both theoretic and empirical papers neglected investigation of strategic incentives up to now.

The paper is structured as follows: Section 2 provides an overview of the theoretic background literature, introducing the concepts of government responsiveness and issue ownership. In section 3 we point out why a game-theoretic model is useful to address this question. The game-theoretic model is developed and explained in section 4. The choice of variables is justified, along with discussion of the actors' strategies and incentives following the outlined theory, and hypotheses are stated. Afterwards, the game is solved and its implications are discussed using comparative statics. Section 5 applies the model to the empirical case of nuclear phase-out in Germany, discussing the incentives that must have led the game to the observed outcome. Conclusions are drawn in section 6.

2. Background Literature: Issue Ownership and Government Responsiveness

As we want to examine what drives the government to flip-flop on policies, our underlying theory has to be one that can explain governmental behaviour or – as governments consist of one or more political parties – party behaviour. Parties might propose a certain policy not only because they believe it is the right thing to do, but also because they want to convince voters to vote for them, so that they can strengthen their power position and increase their influence in the policy-making process. To a certain extent, parties are expected to be vote-seeking, that is "seeking to maximize their electoral support for the purpose of controlling

government" (Strom, 1990, p. 566). The issue ownership framework, together with government responsiveness theory, can provide an explanation of which incentives are driving the process of vote-seeking, and is therefore considered as appropriate for our purpose.

The issue ownership theory, as developed by Petrocik (1996), describes the phenomenon that "a candidate successfully frames the vote choice as a decision to be made in terms of problems facing the country that he is better able to 'handle' than his opponent" (Petrocik, 1996, p. 826). Voters are thus expected to "use their party linked perception of the issue handling ability of the candidates to choose between (or among) them" (Petrocik, 1996, p. 827). This can also be applied to parties analogously: "Issue ownership refers to the fact that specific political parties are, in voters' minds, identified with specific policy issues and considered best able to deal with them." (Walgrave, et al., 2012, p. 771) "A party that enjoys a significant reputational advantage over its opponents is, therefore, said to 'own' that issue, and stands to benefit when that issue is made salient during a campaign." (Therriault, 2015, p. 930) Walgrave et al. (2012, p. 779) emphasize, however, that there is a difference in impact between associative and competence issue ownership – the first having a direct effect on voting whereas the second "affects vote choice only when voters deem an issue to be important", that is when issue salience is high.

Issue salience itself can be the result of priming attempts. Through priming the voters' attention can be shifted from one issue to another (Aragonès, et al., 2015, p. 72). However, issue salience can also be increased or reduced through exogenous shocks. In this case, a party having a reputation advantage on the "shocked" issue should have better chances in upcoming elections than its opponents (Aragonès, et al., 2015, p. 86). On top of that, "the opposition can propose to keep the incumbent party policy long-term effect" and at the same time promise to provide an additional policy that is seen as a public good in a policy area where "it has a comparative advantage upon", resulting in having an "opposition advantage" (Soubeyran & Gautier, 2008, p. 488). In contrast to issue salience which can change very quickly, issue ownership is shown to be rather stable over time (Seeberg, 2017, p. 488).

Besides issue ownership also government responsiveness – defined as the "responsiveness of government policy to citizens' preferences" (Page & Shapiro, 1983, p. 175) – is dependent on issue salience, as opinion changes seem to be "important causes of policy change", especially when issues are salient (Page & Shapiro, 1983, p. 188 f.). Issue salience, however, is not seen as the only determinant of government responsiveness. Canes-Wrone & Shotts (2004, p. 691) show that responsiveness is higher the closer elections come and Hobolt & Klemmensen (2008) argue that political contestation plays an important role, so that "institutions, which enhance the executives' uncertainty about remaining in office and

constrain their power, increase levels of executive responsiveness" (Hobolt & Klemmensen, 2008, p. 332).

Government responsiveness and issue ownership have in common that both can be decisive for the government party's fate in upcoming elections. It's the opposition who has the power to "influence policy through policy agenda-setting" (Seeberg, 2013, p. 89) and can play government responsiveness and issue ownership out against the government. As a government that is completely non-responsive to some increasingly salient issue risks losing votes in the next elections, it will always be anxious to react to perceived problems in the electorate. Thus, it tries to mute issues that it does not want to address and keep the electorate attentive to issues where it is perceived as competent, that is issues that it owns. In other words, "a re-election-oriented government has obvious reasons to remove issues fuelling opposition criticism from the policy agenda" (Christiansen & Seeberg, 2016, p. 1164). Given this, the opposition can sort of "blackmail" the government by putting its own issues on the policy agenda, forcing the government to either address these issues or to accept the unwanted politicisation of the issues (Seeberg, 2013, p. 89 f.; Christiansen & Seeberg, 2016, p. 1163 f.). In case of issue politicisation the government is in pressure to "address the underlying problems through legislation to depoliticise the issue" again (Seeberg, 2013, p. 92), because it bears policy responsibility and is "held accountable for its performance by the electorate" (Christiansen & Seeberg, 2016, p. 1164), and it becomes vulnerable to blame if it does not even try to solve the problem (Seeberg, 2013, p. 92; Christiansen & Seeberg, 2016, p. 1164). In this sense, "[t]he power of the opposition to criticise is of value, positively or negatively, to both the opposition and the government" (Christiansen & Seeberg, 2016, p. 1161), because "the opposition holds the government responsible to the voters through criticism" (Christiansen & Seeberg, 2016, p. 1163). So "the government's motivation for re-election in combination with the opposition's opportunity to set the policy agenda" (Christiansen & Seeberg, 2016, p. 1166) makes the government face a dilemma between either addressing an issue owned by the opposition or risking losing votes in the next elections as a consequence of being criticized and blamed by the opposition for not doing anything. This is the dilemma we want to explore in our game. Why a game-theoretic model is useful for this purpose is pointed out in the next section.

3. Methodological Justification: Why a Game-Theoretic Model is Useful

In parliamentary systems political parties have to respond to problems and, therefore, they have to decide on strategies and solutions. These decisions are not made arbitrary.

Nevertheless, it is not always obvious which incentives lie beneath a specific decision. Game theory provides us with tools to systematically assume the incentives and strategies of political actors. With the aid of these assumptions we are able to generalize the political process of problem solving. Especially in the case of quick policy shifts, it is necessary to understand the actors' underlying incentives and strategies, because the actors change their valuation of possible political benefits and costs in a short period of time. A game theoretic model allows us to examine the incentives and strategies of the actors specifically.

Nuclear phase-out in Germany is one of these empirical cases in which the government decided on a policy shift quasi overnight. Therefore, it is an interesting question to examine how the changes in assessment of value occur. In the bunch of literature about the second German nuclear phase-out we find different methods to explain this empirical puzzle. Haunss et al. (2013) focus on a discourse network analysis and are able to show the changes in policy beliefs of single actors in political parties but they are missing to explain the actors' underlying incentives. Further papers (cf. Huß 2014, 2015) embed the decision for nuclear phase-out in the context of the energy transition ("Energiewende") and are able to show that the instruments and policy contents of the nuclear phase-out are more like a garbage can model. Huß (2015, p. 545) argues that the German government was forced by salience to take up the topic. These papers also argue that the government is driven to a great extent by structural factors like veto points and party competition. So government responsiveness is seen as a passive capacity and not as one of the government's incentives. We focus on government responsiveness as an active capacity and argue that the government has had a strategic incentive to use the opportunity for a policy shift.

Other papers like Kramm (2012), Rehner & McCauley (2016) and Winter (2013) are focusing on the connection between the nuclear phase-out and for example questions of law, justice and energy security. All of these explanations for the phase-out decided on by the christian democratic and liberal coalition government miss a systematic overview of the government's incentives and options. We provide this overview with a game-theoretic model which allows us to structure the possible strategies of the involved actors. We can state if the actors' actions were rational under the given circumstances. These insights are missing in the existing literature. In the following section we present our game-theoretic model.

4. THE GAME-THEORETIC MODEL

Our game-theoretic model consists of an extensive form game that shows the parliamentary decision making process. An extensive form game seems appropriate for this purpose because the players act in succession and there is complete information. The issue on which

a decision is made is an issue owned by the opposition, so that the opposition faces a dilemma between addressing the problem or keeping their issue. The government's dilemma, however, is between addressing a problem that they actually do not want to or risking loss of electoral support. The corresponding game tree is shown in figure 1.

The two actors in our game are the government and the parliamentary opposition. The government is the first actor and can decide to propose a bill or not to propose a bill. This is the case because we assume that the government usually has agenda-setting power. The parliamentary opposition is more like an actor of checks and balances and has an interest in controlling the government, so that it responds to important issues. Both actors have incentives to be responsive to the public mood, as election or re-election, respectively, is a strong motivation (Seeberg, 2013, p. 92).

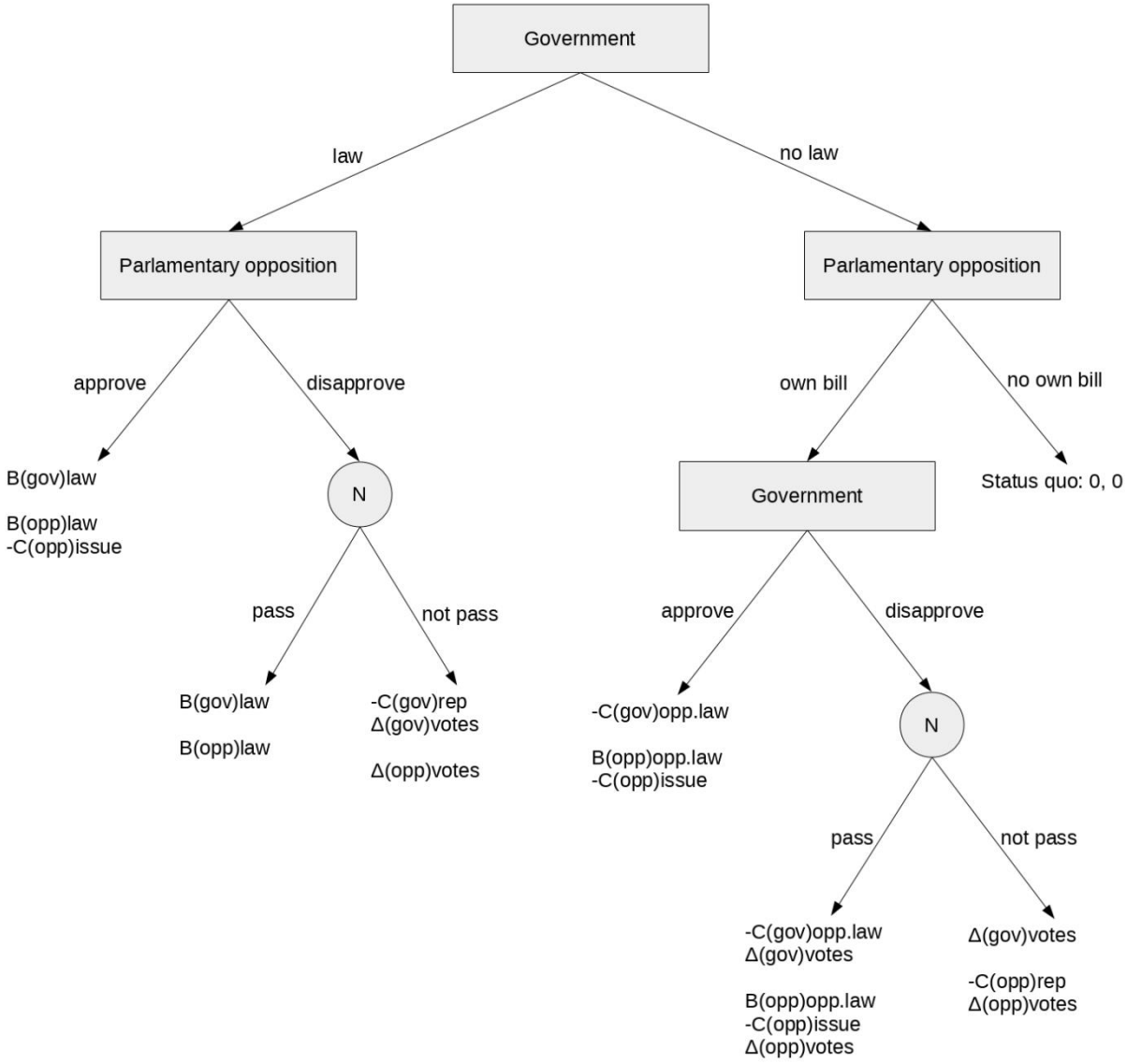

Figure 1: Game tree

Given the government proposes a bill, the parliamentary opposition can decide whether they will approve or disapprove the bill. If the opposition approves the bill, the law will be passed. Under the circumstance that the opposition rejects the bill, we come to a nature node. This nature node represents the second chamber in parliament, in which the majorities might be different. So, even if the opposition parties are too weak in the first chamber to block the government's law, they might be able to do so in the second chamber. Sometimes it is also argued that the decision making logic in the second chamber differs significantly from the one in the first chamber, given the chambers are incongruent and are hence representing different entities (for example states or regions instead of the population) and different interests than mere party interests. In this case, the second chamber is often seen as a "chambre de réflexion" which tends to moderate inter-party conflict (Bütikofer & Hug, 2010, p. 176). So we assume that the first chamber does not necessarily have control over the second chamber's decisions. We consider the second chamber's decision-making as a black box and thus incorporate it into the game as a nature node. This second chamber restriction shall not narrow the applicability of our model, though. In case of a unicameral parliament, it can be assumed that any bill will pass after the nature node with probability 1. Thereby, any impact of the nature node can be eliminated if desired.

If both actors agree on the government bill, both will gain a benefit in terms of the law. But the opposition will pay a cost of losing the issue and hence the opportunity to criticize if they approve the government's bill. As long as the opposition is not supporting the government's bill, they still have the opportunity to criticize, as they do not admit that the government has solved the problem properly. If the government bill fails, the government will pay a reputation cost because failure shows a lack of power to pass an own law in the legislative process. Based on issue salience and how responsive to the citizen's preferences the provided solution is, both actors will gain or lose voter support. We assume that issue salience defines the extent of change in voter support and responsiveness determines whether it is a gain or a loss. More concretely, this means that the higher issue salience the more votes are at stake, and only if the legislative outcome is responsive to public mood, the change in votes will be positive for the actor that proposed the solution.

If the government does not introduce a law, however, the opposition decides whether they want to come up with an own bill or not. If they do so, the government parties vote yes or no on the opposition's bill. If they support the opposition's bill, the bill is passed, if they do not, again a nature node decides about passing the bill or not. This nature node represents the same process involving the second chamber as described above.

In case both government and parliamentary opposition do not propose a law, the status quo persists. In contrast, if the opposition does propose a bill, the government has to approve or

disapprove. If the government approves, both actors will face costs. The government has to implement a law proposed by the opposition. The opposition loses the own issue and hence the opportunity to criticize the government. However, the opposition has passed an own law and will benefit by passing this own law. If the opposition's bill fails after the nature node, the opposition will pay a cost in terms of reputation for not having the own bill passed. Additionally, both actors will lose or gain voter support. If the opposition law passes after the nature node, both actors will face benefits and costs similar to the situation where both actors agree to the opposition bill. The government has to pay a cost for the passed opposition law and the opposition pays a cost for losing the issue while gaining a benefit for passing the own law. Furthermore, one actor will gain while the other will lose voter support because of not being responsive to the public mood. A more detailed explanation of the introduced variables is presented in the following section.

4.1. Description of the Variables

As shown in the game tree (see figure 1), our game includes the following variables: B_{gov}law, C_{gov}opp.law as well as C_{gov}rep for the government and B_{opp}law, B_{opp}opp.law, C_{opp}rep and C_{opp}issue for the parliamentary opposition, respectively. Furthermore, we include a Δvotes for both actors.

B_{gov}law can be seen as a policy benefit that the government gains in case its own bill is passed. It has a positive value because the government has made the law and hence has determined how the solution to the addressed problem looks like. It has had the opportunity to design the law according to its own policy preferences. Analogously, B_{opp}opp.law follows the same argumentation and represents the benefit that the opposition gains in case its own bill is passed.

In case the government's bill is passed, not only the government but also the opposition gets a benefit (B_{opp}law). This is because the addressed issue has been owned by the opposition and, therefore, they must be happy that the issue has been addressed and the problem acknowledged. They might not be fully satisfied with the solution but at least it is a first step into the right direction and better than the status quo (which is depicted by payoffs of zero for both players). In contrast, the government has to bear a cost whenever the opposition's bill is passed (C_{gov}opp.law) because they did not want to make such a law. As the issue is owned by the opposition, the government wanted to mute the issue instead of addressing it, but as the law passed, they failed doing so. It is kind of a worst case scenario for the government because they first have a law solving a problem that they did not want to solve and second, they have a law that incorporates the policy preferences of the opposition rather than its own.

C_{gov}rep and C_{opp}rep describe a reputation cost that has to be borne by the initiator of a failed bill. It occurs whenever a bill fails, regardless of whether the law would have been responsive to public mood or not. Rather, it stands for the weakness shown in the legislative process.

As the opposition owns the issue at stake, they pay a cost of losing the issue (C_{opp}issue) whenever they approve the solution. By approving the government's bill they show their satisfaction with the law and if they propose an own bill, they should be satisfied with their own designed outcome. As a consequence, the opposition loses the power to criticize the government concerning this issue. They do not pay this cost, however, if the government's law is passed after the opposition rejected it. In this case, the opposition cannot be held accountable for the law and they can continue to criticize the government for an unsatisfactory solution.

One more variable to be described is the change in voter support, identified as Δ_{gov}votes for the government and Δ_{opp}votes for the opposition, respectively. In general, Δvotes is a zero-sum-game, as a benefit for one side is always a cost for the other side. We assume that all parties in parliament can be assigned to either the government or the opposition, so if the government wins a certain amount of votes, the opposition will always lose exactly the same amount of votes, and vice versa. As a consequence, the Δvotes variables occur only in case the government's and the opposition's viewpoints differ from one another. If one actor proposes a bill and the other approves, they both support the same solution and the voters do not have an incentive to change their decision. Δvotes is zero in this case and thus does not appear in the game. The same holds for the status quo, where neither actor proposes a bill. Whenever one actor comes up with a bill and the other one rejects it, however, Δvotes takes a positive value for one actor and a negative for the other. Whether the initiator of the law benefits or suffers from the change in voter support depends on the law's responsiveness. Whenever the law is according to the public mood, the initiator benefits and the opponent loses, and vice versa in case the law is contradicting the public mood. How big the change in votes is, is determined by issue salience: The higher issue salience, the more votes at stake. After we have developed our game and explained the variables, we can state some hypotheses.

4.2. Hypotheses

Based on our theoretical framework of issue ownership and government responsiveness, our variables of greatest interest are Δvotes and C_{opp}issue. Thus, we formulate hypotheses expressing what we expect to happen when the values of these variables change, that is on the one hand how the players' incentives should change and on the other hand how this affects the likelihood of observing some specific outcome.

Following the theories of vote-seeking and government responsiveness, we expect that a change in Δvotes impacts the government's as well as the opposition's incentives to propose or accept a law. A positive value of Δ_{gov}votes should give the government an incentive to decline the opposition bill, and this incentive grows stronger the greater the voter benefit gets. As the government is more inclined to reject the bill, the opposition should have less incentive to propose one.

> *H1a: An increase in Δ_{gov}votes (or a decrease in Δ_{opp}votes) increases the government's incentive to disapprove the opposition bill and, at the same time, weakens the opposition's incentive to propose an own bill. Hence, the status quo is more likely to persist.*

If Δvotes is positive and growing for the opposition, however, the mechanism works in the opposite direction and the opposition should be more inclined to reject the government bill, which in turn leads to a higher incentive for the government not to propose a law at all. As the government will suffer a vote cost whenever the opposition gains a vote benefit, the government's incentive to approve the opposition law strengthens and thus the opposition should be more inclined to propose an own bill.

> *H1b: An increase in Δ_{opp}votes (or a decrease in Δ_{gov}votes) increases the opposition's incentives to disapprove the government law as well as to propose an own bill, while the government has a higher incentive to approve the opposition bill. Thereby the outcome where an opposition law is approved will be reached more likely.*

Issue ownership theory suggests that losing an issue means losing the opportunity to criticize the government and is therefore costly for the opposition. Thus it is expected that when losing the issue gets more costly, the opposition will be less inclined to propose an own bill as well as to approve a government law. Consequentially, the government should have less incentive to propose a law.

> *H2: An increase in C_{opp}issue lowers the opposition's incentives to approve the government bill and to propose an own bill as well as the government's incentive to come up with a law. Hence, the status quo is more likely to persist.*

Whether these hypotheses are confirmed will be discussed later on, after the game is solved.

4.3. Solution of the Game

In order to solve the game, we have to look for each player's best response strategies given every possible action of the other player. A set of two strategies (one for each player) containing two best response strategies depicts an equilibrium, as in this case none of the players has an incentive to deviate from the given strategy.

Before defining the equilibria, one assumption is made:

$$A1\text{: } B_{opp}opp.law > C_{opp}issue$$

This assumption ensures that the opposition will always propose an own law whenever it believes that the government will approve a proposed bill. If the assumption was not made, the opposition would have no incentive to propose an own bill given its belief of success, because the payoff in this case $\left(B_{opp}opp.law - C_{opp}issue\right)$ would be negative. Therefore, the opposition would prefer the status quo (payoff 0). Given our theoretic background, the opposition should be expected to always address its issue whenever it has the opportunity to do so, so we exclude the case that the opposition might prefer doing nothing by stating A1.

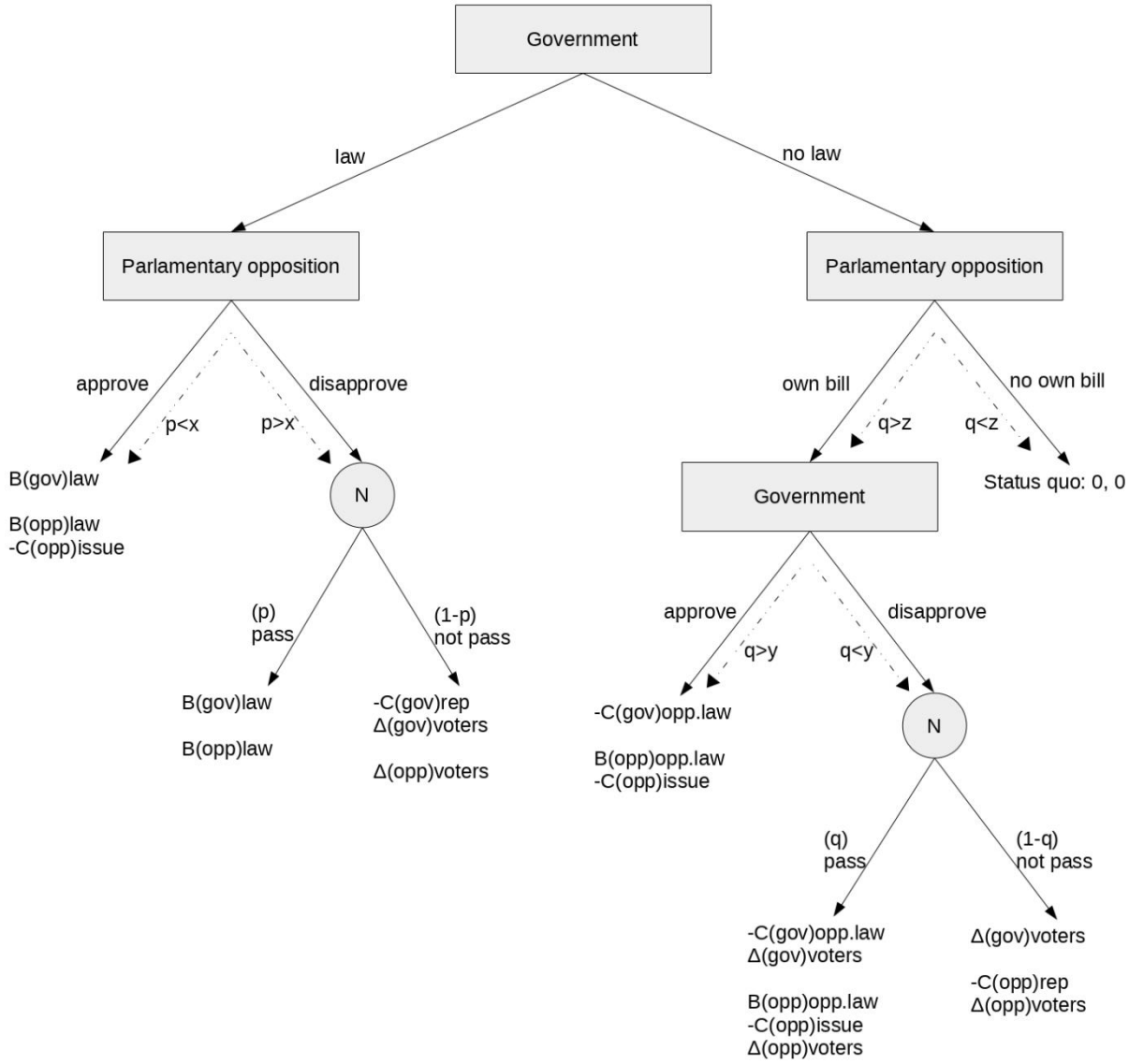

Figure 2: Game tree with best response strategies conditional on thresholds for p and q

Regarding the nature nodes, two more parameters have to be introduced: We call p the probability that a government bill will pass in the nature node on the left and q the probability that an opposition bill will pass in the nature node on the right (see figure 2).

We start solving the game examining whether the opposition should approve or disapprove given the government has proposed a law. For this purpose, we compare the expected utility for the opposition of approve to its expected utility of disapprove:

$$EU_{opp}(approve) > EU_{opp}(disapprove)$$
$$B_{opp}law - C_{opp}issue > pB_{opp}law + (1-p)\Delta_{opp}votes$$
$$\rightarrow\ p < \frac{B_{opp}law - C_{opp}issue - \Delta_{opp}votes}{B_{opp}law - \Delta_{opp}votes} = x$$

This yields the result that the opposition should approve the government's law if $p < x$, that is if the probability that the government law will pass after the nature node is low enough, and disapprove if $p > x$. To make it clearer, this threshold condition is shown graphically in the game tree (see figure 2).

In order to see whether the government should approve or disapprove given the opposition has come up with an opposition law, we compare the expected utility for the government of approve to its expected utility of disapprove:

$$EU_{gov}(approve) > EU_{gov}(disapprove)$$
$$-C_{gov}opp.law > q\left(-C_{gov}opp.law + \Delta_{gov}votes\right) + (1-q)\Delta_{gov}votes$$
$$\rightarrow q > \frac{C_{gov}opp.law + \Delta_{gov}votes}{C_{gov}opp.law} = y$$

It follows that the government should approve the opposition law if $q > y$, that is if the probability that the opposition law passes after the nature node is high enough, and disapprove if $q < y$. Also this condition is shown graphically in figure 2. If the probability that the opposition law will pass after the nature node is rather low, that is if $q < y$, the opposition faces a dilemma whether it wants to propose an own law, risking failure, or not to propose an own law, sticking to the status quo. To solve for this, we compare the expected utility of the opposition proposing an own law to its expected utility not proposing a law:

$$If\ q < y\text{:}\quad EU_{opp}(own\ bill) > EU_{opp}(no\ own\ bill)$$
$$q\left(B_{opp}opp.law - C_{opp}issue + \Delta_{opp}votes\right) + (1-q)\left(-C_{opp}rep + \Delta_{opp}votes\right) > 0$$
$$\rightarrow q > \frac{C_{opp}rep - \Delta_{opp}votes}{B_{opp}opp.law - C_{opp}issue + C_{opp}rep} = z$$

So we arrive at another threshold for q, the probability that the opposition law will pass after the nature node. This z-threshold, however, only comes into play in case $q < y$. Whenever $q > y$, the z-value does not matter for the outcome, because the opposition will always propose a bill when the government will approve it (cf. A1). If the probability that the opposition law will pass after the nature node is fairly low, that is if $q < y$, then the opposition should only propose an own law given $q > z$ and it should stick to the status quo whenever $q < z$. This is also shown in figure 2.

As the final step to solve the game, we have to find the players' best response strategies given every possible combination of thresholds for p and q. As for q, the z-threshold is only decisive when $q < y$, the possible combinations are: (1) $p < x, q > y$; (2) $p < x, q < y, q > z$; (3) $p < x, q < y, q < z$; (4) $p > x, q > y$; (5) $p > x, q < y, q > z$; (6) $p > x, q < y, q < z$. We state the expected utilities that matter in each situation:

$If\ p < x$: $EU_{gov}(law) = B_{gov} law$

$If\ p > x$: $EU_{gov}(law) = pB_{gov} law + (1-p)\left(-C_{gov} rep + \Delta_{gov} votes\right)$

$If\ q > y$: $EU_{gov}(no\ law) = -C_{gov} opp.law$

$If\ q < y, \quad q > z$: $EU_{gov}(no\ law) = q\left(-C_{gov} opp.law + \Delta_{gov} votes\right) + (1-q)\Delta_{gov} votes$

$If\ q < y, \quad q < z$: $EU_{gov}(no\ law) = 0$

Applying these expected utilities to the situations (1) to (6) leads to the following equilibria:

$(\mathbf{1})\ \boldsymbol{p < x}, \quad \boldsymbol{q > y}$: $EU_{gov}(law) > EU_{gov}(no\ law) \rightarrow B_{gov} law > -C_{gov} opp.law$

$\rightarrow\ S^*_{gov} = \{law, approve\}$

$\rightarrow\ S^*_{opp} = \{approve, own\ bill\}$

$(\mathbf{2})\ \boldsymbol{p < x}, \quad \boldsymbol{q < y}, \quad \boldsymbol{q > z}$: $EU_{gov}(law) > EU_{gov}(no\ law)$

$\rightarrow\ B_{gov} law > q\left(-C_{gov} opp.law + \Delta_{gov} votes\right) + (1-q)\Delta_{gov} votes$

$\rightarrow\ S^*_{gov} = \{law, disapprove\} \quad if\ \Delta_{gov} votes < B_{gov} law + qC_{gov} opp.law$

$\rightarrow\ S^*_{gov} = \{no\ law, disapprove\} \quad if\ \Delta_{gov} votes > B_{gov} law + qC_{gov} opp.law$

$\rightarrow\ S^*_{opp} = \{approve, own\ bill\}$

$(\mathbf{3})\ \boldsymbol{p < x}, \quad \boldsymbol{q < y}, \quad \boldsymbol{q < z}$: $EU_{gov}(law) > EU_{gov}(no\ law) \rightarrow\ B_{gov} law > 0$

$\rightarrow\ S^*_{gov} = \{law, disapprove\}$

$\rightarrow\ S^*_{opp} = \{approve, no\ own\ bill\}$

$(\mathbf{4})\ \boldsymbol{p > x}, \quad \boldsymbol{q > y}$: $EU_{gov}(law) > EU_{gov}(no\ law)$

$\rightarrow pB_{gov} law + (1-p)\left(-C_{gov} rep + \Delta_{gov} votes\right) > -C_{gov} opp.law$

$$\rightarrow S^*_{gov} = \{law, approve\} \quad if\ \Delta_{gov}votes > \frac{C_{gov}rep - pC_{gov}rep - C_{gov}opp.law - pB_{gov}law}{1-p}$$

$$\rightarrow S^*_{gov} = \{no\ law, approve\} \quad if\ \Delta_{gov}votes < \frac{C_{gov}rep - pC_{gov}rep - C_{gov}opp.law - pB_{gov}law}{1-p}$$

$$\rightarrow S^*_{opp} = \{disapprove, own\ bill\}$$

$$\mathbf{(5)}\ \boldsymbol{p > x}, \quad \boldsymbol{q < y}, \quad \boldsymbol{q > z}: \quad EU_{gov}(law) > EU_{gov}(no\ law)$$

$$\rightarrow pB_{gov}law + (1-p)\left(-C_{gov}rep + \Delta_{gov}votes\right) > q\left(-C_{gov}opp.law + \Delta_{gov}votes\right) + (1-q)\Delta_{gov}votes$$

$$\rightarrow S^*_{gov} = \{law, disapprove\} \quad if\ \Delta_{gov}votes < \frac{pB_{gov}law + pC_{gov}rep - C_{gov}rep + qC_{gov}opp.law}{p}$$

$$\rightarrow S^*_{gov} = \{no\ law, disapprove\} \quad if\ \Delta_{gov}votes > \frac{pB_{gov}law + pC_{gov}rep - C_{gov}rep + qC_{gov}opp.law}{p}$$

$$\rightarrow S^*_{opp} = \{disapprove, own\ bill\}$$

$$\mathbf{(6)}\ \boldsymbol{p > x}, \quad \boldsymbol{q < y}, \quad \boldsymbol{q < z}: \quad EU_{gov}(law) > EU_{gov}(no\ law)$$

$$\rightarrow pB_{gov}law + (1-p)\left(-C_{gov}rep + \Delta_{gov}votes\right) > 0$$

$$\rightarrow S^*_{gov} = \{law, disapprove\} \quad if\ \Delta_{gov}votes > \frac{C_{gov}rep - pC_{gov}rep - pB_{gov}law}{1-p}$$

$$\rightarrow S^*_{gov} = \{no\ law, disapprove\} \quad if\ \Delta_{gov}votes < \frac{C_{gov}rep - pC_{gov}rep - pB_{gov}law}{1-p}$$

$$\rightarrow S^*_{opp} = \{disapprove, no\ own\ bill\}$$

How these equilibria and the corresponding best response strategies change when single variables change their value – everything else held constant – is discussed in the following section.

4.4. Comparative Statics

After solving our game we come to the conclusion that especially six of our variables determine the values of the thresholds. An overview over these relationships is provided in table 1. These are C_{gov}opp.law, B_{opp}law, B_{opp}opp.law, C_{opp}issue, C_{opp}rep and Δvotes. Our comparative statics show that an increase in B_{opp}law or Δ_{gov}votes as well as a decrease in C_{opp}issue, lead to an increase in the p-threshold (x). This means that the parliamentary opposition has a higher incentive to approve the government's bill. This finding is consistent with H2.

The q-threshold (y) is influenced by two variables, C_{gov}opp.law and Δvotes. An increase in C_{gov}opp.law leads to a decrease in y under the condition that Δvotes is positive for the

government. In other words, the government's incentive to approve the opposition's bill increases. If Δ_{gov}votes increases then the threshold will increase, too. This strengthens the government's incentive to disapprove the opposition's bill, as has been expected in H1a.

Table 1: Impact of changes in the values of a single variable on the thresholds for p and q

Variable	p-threshold (x)	q-threshold (y)	q-threshold (z)
B_{gov}law ↑	–	–	–
C_{gov}rep ↑	–	–	–
C_{gov}opp.law ↑	–	↓ if Δ_{gov}votes is positive ↑ if Δ_{gov}votes is negative	–
Δ_{gov}votes ↑	↑	↑	↑
B_{opp}law ↑	↑	–	–
B_{opp}opp.law ↑	–	–	↓ if Δ_{gov}votes is positive ↑ if Δ_{gov}votes is negative
C_{opp}issue ↑	↓	–	↑ if Δ_{gov}votes is positive ↓ if Δ_{gov}votes is negative
C_{opp}rep ↑	–	–	↓ if Δ_{gov}votes is positive ↑ if Δ_{gov}votes is negative

Four variables have impact on the q-threshold (z). These are B_{opp}opp.law, C_{opp}issue, C_{opp}rep as well as Δvotes. If we hold Δvotes positive for the government, then an increase in B_{opp}opp.law or C_{opp}rep as well as a decrease in C_{opp}issue will lower z. This means that the parliamentary opposition has a higher incentive to propose an own bill. What is more, z increases with an increase in Δ_{gov}votes. A higher voter benefit for the government (which means a higher voter loss for the opposition) leads thus to a lower incentive for the opposition to propose an own bill. These findings show evidence for our hypotheses to be true.

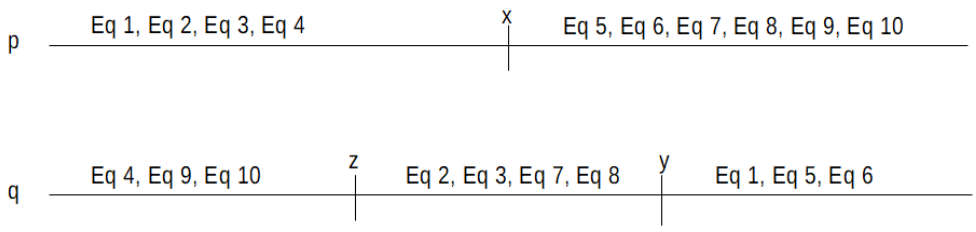

Figure 3: Equilibria conditional on thresholds for p and q

Based on changes in the value of single variables we can furthermore state how the likelihood to observe each of the possible equilibria, as derived in the section before, will change. An overview over all ten equilibria is provided in table 2. Figure 3 shows that depending on the p-threshold (x), equilibria (1) to (4) can only occur if $p < x$ and equilibria (5) to (10) are only possible to reach when $p > x$. Regarding the q-thresholds things are more

complicated. Equilibria (4), (9) and (10) can occur when $q < z < y$. Equilibria (1), (5) and (6) can be reached whenever $q > y$ (the z-value is not decisive in this situation). When $z < q < y$, equilibria (2), (3), (7) and (8) can happen.

Table 2: Game equilibria

Equilibrium	Strategies	Thresholds	Outcome
Equilibrium 1	S^*_{gov}= {law, approve}, S^*_{opp}= {approve, own bill}	p < x, q > y	Government law approved
Equilibrium 2	S^*_{gov}= {law, disapprove}, S^*_{opp}= {approve, own bill}	p < x, z < q < y	Government law approved
Equilibrium 3	S^*_{gov}= {no law, disapprove}, S^*_{opp}= {approve, own bill}	p < x, z < q < y	Opposition bill disapproved (→ nature node)
Equilibrium 4	S^*_{gov}= {law, disapprove}, S^*_{opp}= {approve, no own bill}	p < x, q < z < y	Government law approved
Equilibrium 5	S^*_{gov}= {law, approve}, S^*_{opp}= {disapprove, own bill}	p > x, q > y	Government law disapproved (→ nature node)
Equilibrium 6	S^*_{gov}= {no law, approve}, S^*_{opp}= {disapprove, own bill}	p > x, q > y	Opposition bill approved
Equilibrium 7	S^*_{gov}= {law, disapprove}, S^*_{opp}= {disapprove, own bill}	p > x, z < q < y	Government law disapproved (→ nature node)
Equilibrium 8	S^*_{gov}= {no law, disapprove}, S^*_{opp}= {disapprove, own bill}	p > x, z < q < y	Opposition bill disapproved (→ nature node)
Equilibrium 9	S^*_{gov}= {law, disapprove}, S^*_{opp}= {disapprove, no own bill}	p > x, q < z < y	Government law disapproved (→ nature node)
Equilibrium 10	S^*_{gov}= {no law, disapprove}, S^*_{opp}= {disapprove, no own bill}	p >x, q < z < y	Status quo

The government plays strategies $S^*_{gov} = \{no\ law, disapprove\}$, $S^*_{gov} = \{law, disapprove\}$ and $S^*_{gov} = \{law, approve\}$ no matter what the probability that its proposed law passes after the nature node is (see figure 4). The threat of failure and paying a reputation cost cannot keep the government from proposing a law. However, the strategy $S^*_{gov} = \{no\ law, approve\}$ is only rational when $p > x$. In other words, not proposing an own law and approving the opposition's bill is only a reasonable option for the government if the voter benefit is high enough.

Regarding the probability that the opposition bill passes after the nature node (q), things look a bit different. The government will always reasonably approve the opposition law whenever $q > y$, that is whenever the probability that the opposition law will pass after the nature node is high enough. On the contrary, this means that it is rational for the government to disapprove the opposition bill whenever the probability that it passes after the nature node is low enough, that is whenever $q < y$. Substantively interpreted, the government rationally

approving the opposition's bill becomes more likely when the government's voter benefit decreases or even turns into a cost. The same can also be seen when C_{gov}opp.law increases, given a positive Δ_{gov}votes, or when C_{gov}opp.law decreases, given a negative Δ_{gov}votes.

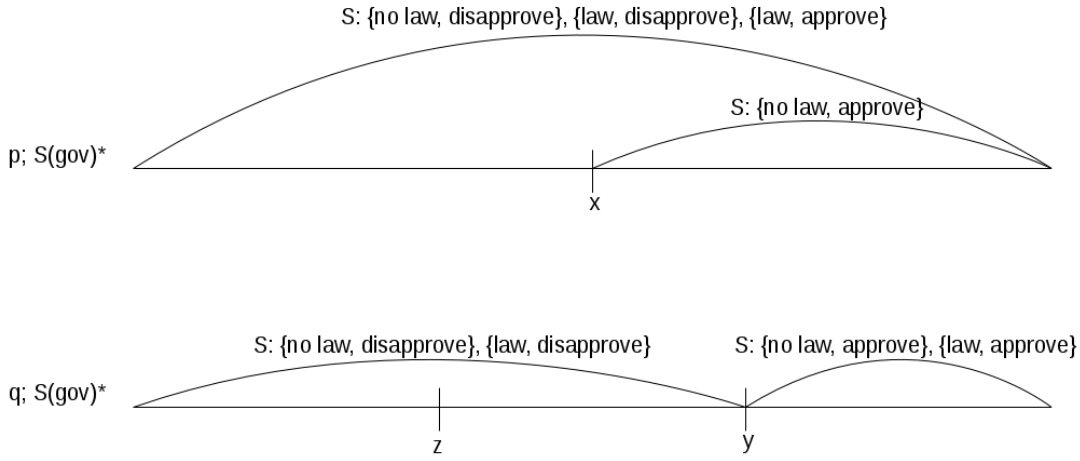

Figure 4: Government's best response strategies conditional on thresholds for p and q

Figure 5 shows the opposition's best response strategies. Given $p < x$ are these $S^*_{opp} = \{approve, no\ own\ bill\}$ as well as $S^*_{opp} = \{approve, own\ bill\}$, and $S^*_{opp} = \{disapprove, no\ own\ bill\}$ and $S^*_{opp} = \{disapprove, own\ bill\}$ for p > x, respectively. This means, conditional on the probability that the proposed government's law will pass (p), the opposition will approve or disapprove it. Whenever $p < x$, it is rational for the opposition to approve the government bill. An increase in B_{opp}law or a decrease in C_{opp}issue can thus strengthen the opposition's incentive to approve the government's bill.

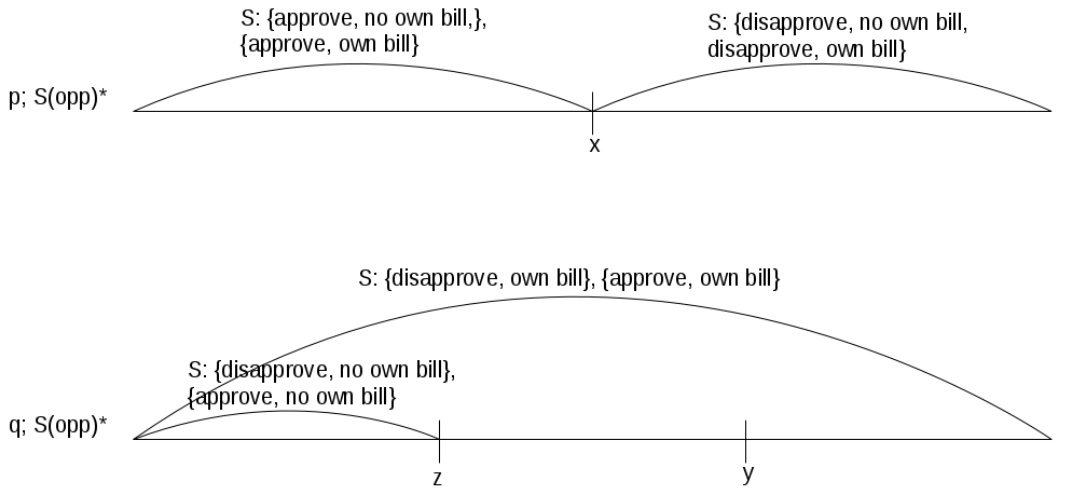

Figure 5: Opposition's best response strategies conditional on thresholds for p and q

Concerning the thresholds for q, it can be seen that the opposition should rationally propose an own bill regardless of what the probability that its bill will pass after the nature node (q) is.

If $q < z < y$, that is if the probability that its own bill passes after the nature node is fairly low, it is not rational for the opposition to propose an own bill. Substantively, this means that given Δvotes is positive for the opposition, an increase in B_{opp}opp.law or C_{opp}rep as well as a decrease in C_{opp}issue encourage the opposition to rather propose an own bill.

In the following section we apply our theoretical findings to the empirical case of the German nuclear phase-out in 2011 and we highlight the incentives of the political parties for this decision.

5. Empirical Evidence: Nuclear Phase-Out in Germany

5.1. The Case of Nuclear Phase-Out in Germany

The German case of the nuclear phase-out is a good example for flip-flopping in government's policy. In 2000 the government declared a consensus together with the energy companies ("Atomkonsens"). Two years later the first Schröder cabinet passed a first nuclear phase-out. First discussions about a lifetime expansion for nuclear power plants occurred under the first Merkel cabinet in 2005 to 2009, but no law was passed, mainly because of the social democrats' opposition in the coalition. With the change to a christian democratic and liberal coalition the discussion about lifetime expansion got more impact. In the coalition agreement of 2009 the governmental parties agreed on a lifetime expansion and in the end of 2010 a law about such an expansion was passed. With the accident in the nuclear power plant Fukushima Daiichi in 2011 the claim about a second nuclear phase-out got more support in the population (IfD Allensbach, 2011). In spring 2011 the second Merkel cabinet declared the second nuclear phase-out.[1] In the following we focus on the events of this "second" phase-out.

According to our game-theoretic model we concentrate on the legislative process. So our main actors, the government and the parliamentary opposition, are placed in the Bundestag, the first chamber of parliament, and the Bundesrat, the second chamber which is in the game represented by the nature node. In their discourse network analysis Haunss et al. (2013) argue that single politicians and parties have a special role in the whole discussion about the second phase-out. By focusing mainly on the two chambers of the legislative process we fade out other actors. But following the arguments of government responsiveness we can assume that the claims of the civil society should be incorporated in legislation by the government as well as the parliamentary opposition.

[1] Winter (2013) provides a short and helpful overview since the beginning of the use of nuclear power in Germany. See also Jahn & Korolczuk (2012) for policy shifts since 2002.

At the time of the second nuclear phase-out the German government was a coalition of the christian democratic parties (CDU and CSU) and the liberal party (FDP). This coalition was formed 2009 after the federal elections and was led by chancellor Angela Merkel. So this was the second time for Merkel as chancellor after the coalition with the social democratic party from 2005 to 2009. During the period of the coalition with the social democrats a discussion about a lifetime expansion for nuclear power plants occurred. This discussion was predominantly driven by members of the CDU and CSU (cf. Zolleis & Bartz, 2010). The main argument was that nuclear power could be used as a "bridge technology" ("Brückentechnologie") to achieve the goals for reduction of CO_2-emissions. This discussion got further support after the coalition of CDU, CSU and FDP came to power. Backed by support of the government parties a law for lifetime expansion passed in 2010. As a consequence of this decision the anti-nuclear movement gained more support in the civil society and the salience of the nuclear power topic rose again (cf. Zohlnhöfer & Engler, 2015).

The parliamentary opposition was formed by the social democrats (SPD), the environmental party (Die Grünen) and the democratic socialists (Die Linke). The parties that had decided on the first nuclear phase-out, the SPD and Die Grünen, were the main parliamentary opponents against the lifetime expansion. Especially Die Grünen gained support and raised over 20 percent electoral support in summer 2010 and the first months of 2011 (Zohlnhöfer & Engler, 2015, p. 139). The accident in the nuclear power plant in Fukushima Daiichi increased the salience of the topic (FGW, 2017; FGW, 2010) and also reinforced the negative image of nuclear power in the population (Arlt & Wolling, 2016; Renn & Marshall, 2016). One further problem for the government was that the majority of the citizens did not believe in the government's nuclear power policy (FGW, 2011e; infratest dimap, 2011).

An institutional problem for the government was the loss of the majority in the second chamber of parliament, the Bundesrat. After the state elections in North Rhine-Westphalia the majority was already lost in 2010. Further three state elections, in Saxony-Anhalt, Baden-Württemberg and Rhineland-Palatinate, were held after the Fukushima accident, and the christian democratic party and the liberal party were not able to win these state elections. CDU and FDP lost votes in the state elections of Saxony-Anhalt (CDU –3.7% and FDP –2.9%) and Baden-Württemberg (CDU –5.2% and FDP –5.4%). On the other side Die Grünen gained votes, in Saxony-Anhalt +3.5% and in Baden-Württemberg +12.5%. In the state election of Rhineland-Palatinate the CDU gained a few votes (+2.4%) but the FDP lost votes (–3.8%). And again Die Grünen gained a lot of new votes (+10.8%). Because of the vote losses the FDP was excluded of the Landtag in Saxony-Anhalt and Rhineland-

Palatinate (Statistisches Landesamt Baden-Württemberg, 2017; Landeswahlleiter Rheinland-Pfalz, 2017; Statistisches Landesamt Sachsen-Anhalt, 2017).

An election analysis of these three state elections by the party-affiliated Konrad Adenauer Foundation highlights on the one hand the special characteristics of the single state elections but on the other hand it emphasizes the importance of energy policy for all of the three elections. In Saxony-Anhalt the coalition of CDU and SPD maintained government power. Overall, the voters were satisfied with the old state government of CDU and SPD. Special in this election was the vote loss for the FDP and the gain for Die Grünen who benefited from the energy policy issue. In Rhineland-Palatinate the CDU gained some votes but was still not able to form the government. The voters were not convinced that a CDU-led government would be better than a SPD-led government. And again Die Grünen benefited from support for their energy policy. In Baden-Württemberg Die Grünen benefited from two topics especially, namely nuclear energy policy and an infrastructure project in Stuttgart. The voters in Baden-Württemberg were strongly driven by these two issues which were not favourable for the CDU (Neu & Borchard, 2012, pp. 21, 34, 44).[2] Looking at the outcome of the state elections with our game-theoretic model in mind, we find that there is clear evidence that Δ_{gov}votes would be a cost for the government, whereas the opposition would have a Δ_{opp}votes benefit.

After the state elections there was no christian democratic-liberal majority in the Bundesrat anymore. If the government wanted to be responsive in the nuclear energy topic, it would be dependent on opposition support. As a consequence, whenever a law needed the approval of the second chamber ("Zustimmungsgesetz"), the parliamentary opposition would have to support it in order to pass it. Therefore, it was necessary to find a consensus which could pass both chambers. The law on the second nuclear phase-out needed the approval of the second chamber, which accepted it on 1st July 2011.

Combining the evidence of the empirical case with the results of our comparative statics, we conclude that the outcome of the legislative process is that the government law was approved. In order to be responsive, the government had to propose a law which addressed the nuclear power issue, as this issue became increasingly salient and the public mood had changed in favour of a phase-out. We therefore observe one of the equilibria (1), (2) or (4) which all have in common that the best strategy for the government is to propose a law and for the opposition the best option is to approve it. However, we do not know so far what would have happened if the government had not proposed a law. After discussing the case of the phase-out we concentrate on the more concrete party interests in the following section.

[2] Similar findings come up in the short election analysis by the Forschungsgruppe Wahlen (cf. FGW, 2011a; FGW, 2011b; FGW, 2011c).

5.2. Party Interests

This chapter examines the costs and benefits for the actors in the game in general, and more specifically for every political party involved. First, we focus on the parliamentary opposition. We begin with the variable C_{opp}issue because in our game the opposition is the only actor who could pay this cost. Also C_{opp}issue has a special importance in the empirical evidence to understand the opposition's decisions.

In 2010, the christian democratic and liberal government came up with a law establishing a lifetime expansion for nuclear power plants, thereby overriding the first nuclear phase-out that had been decided by the first Schröder cabinet in 2002. The social democrats and the environmental party who had formed the government back then had addressed their own nuclear power issue and had brought up a solution, paying the cost of losing the issue. The discussion around the lifetime expansion in 2010 brought the issue back on the agenda and raised its salience. The social democrats and the environmental party were facing an immense issue cost again and, as now part of the parliamentary opposition, did not accept the government's law on the lifetime expansion. However, the law still passed in both chambers. In our game, this corresponds to realizing equilibrium (9), as it seems to be obvious that the opposition would have wanted to adhere to the status quo (its own phase-out law of 2002) if the government had not proposed a law.

In contrast, the cost of losing the nuclear power issue changed in spring 2011. During the accident in Fukushima Daiichi the level of the cost was comparable to the level in 2010. The campaigns in the state elections have shown that the opposition was able to use the issue of nuclear power to criticize the government's policy. But Haunss et al. (2013, p. 307) identify a content shift in the discourse about nuclear power in the period between 16th and 22nd March 2011, that is shortly after the Fukushima incident. Subsequently, the opposition's claim for a fast phase-out got more important while proponents of nuclear power gave up defending the lifetime expansion for nuclear power plants. With the policy shift of the government to accept a nuclear phase-out, manifesting in the proposal of such a law, the opposition's issue cost decreased suddenly, as the government moved its policy closer to the opposition's standpoint and thus weakened the opposition's criticizing power. Since a first nuclear phase-out had been decided during the first Schröder cabinet, the SPD and Die Grünen had already shown that they are willing to pay the issue cost in order to address the problem seen in nuclear energy. After the government had proposed its phase-out law, the opposition had a stronger incentive to approve this law, not only because B_{opp}law was higher than in 2010 (the law meeting the opposition's preferences in a greater extent), but also because C_{opp}issue was lower. As a consequence, the opposition happened to approve the

government law, which hence passed. In our game, this provides evidence for one of the equilibria (1), (2) or (4).

Obviously, the government must have had incentives for a nuclear phase-out, too, but these incentives could not be primarily issue-driven like the opposition's, as the government did not own the issue. Instead, the threat of suffering a high cost in terms of votes (negative Δ_{gov}votes) seems to be crucial. If the government did not propose a bill on its own, it would have a strong incentive to accept any opposition bill addressing the topic in order to prevent high vote losses. This, in turn, gives the opposition a high incentive to propose an own bill because they anticipate the government's approval and could therefore attain a higher benefit than the status quo. Regarding the conclusions that both a government as well as an opposition bill will pass under the given circumstances, we observe equilibrium (1) to be reached in 2011.

Realizing that the opposition was going to use their opportunity to criticize, thereby increasing the government's costs of votes in the upcoming federal election, the government was under pressure to act. They therefore preferred coming up with a law to letting the opposition act first. Although the game-theoretic model suggests that the government would have been under pressure to accept any opposition bill, it is empirically doubtful that this would really have happened. After the Fukushima incident, even a majority of the loyal voters of CDU and CSU was not willing anymore to defend the lifetime expansion at all costs. Nevertheless, the loyal voters of CDU, CSU and FDP were not willing to rush the nuclear phase-out either (IfD Allensbach, 2011, table A4). The opposition, however, demanded a phase-out within five years (Länderrat Die Grünen, 2011, p. 3). Thus it is not clear whether these voters would really have turned their back on their parties in case the government rejected a phase-out law brought up by the opposition. So the question was not about a possible phase-out, but rather about the pace of the phase-out. Under the condition that voter loss was not a serious threat for the government, approving the opposition bill would not be rational. Regarding our game, we could therefore observe equilibria (2) or (4) for the 2011 case.

So far we focused on the government and the parliamentary opposition as coherent actors. But two of the parties within these actors, the FDP and Die Linke, took a special role, as they were not as active as the other parties during the decision-making process. First, the liberal party, the main defending actor for the lifetime expansion, was not in the position to be an opposition for a phase-out and to defend the lifetime expansion. Jun (2015) argues that the FDP was under different internal and external pressure. The external pressure appeared mainly in terms of the FDP having focused on financial policy in the elections 2009 and had not had the opportunity to implement it. Also the FDP lost public trust because it seemed

they would support interests of single groups. Internal problems followed the external pressure. The FDP lacked coherent political leadership and voters lost faith in the politicians of the FDP. All over, the FDP was more like a little opposition within the government, but with no real power, mainly because of special party problems. To sum up the situation of the FDP, it was not likely that the FDP as the only actor in the legislative process had the incentive and the possibilities to stop the government's policy establishing the second nuclear phase-out. Second, Die Linke was part of the parliamentary opposition and supported the nuclear phase-out but had problems similar to those of the FDP. Like the FDP Die Linke had a leadership problem and lacked fractional cohesion. This missing cohesion was also represented in the policy dimension. Die Linke was not able to shape the political discourse. The voters connected no specific political topic and especially not the environmental policy to Die Linke (Neugebauer, 2011). In the end, Die Linke rejected the government law, because they insisted on an instant phase-out (Deutscher Bundestag, 2011, p. 13405).

Table 3: Hypotheses tested on the empirical case

Hypothesis	Empirical findings
H1a: An increase in Δ_{gov}votes (or a decrease in Δ_{opp}votes) increases the government's incentive to disapprove the opposition bill and, at the same time, weakens the opposition's incentive to propose an own bill. Hence, the status quo is more likely to persist.	**Not possible to test**
H1b: An increase in Δ_{opp}votes (or a decrease in Δ_{gov}votes) increases the opposition's incentives to disapprove the government law as well as to propose an own bill, while the government has a higher incentive to approve the opposition bill. Thereby the outcome where an opposition law is approved will be reached more likely.	**Partly confirmed**
H2: An increase in C_{opp}issue lowers the opposition's incentives to approve the government bill and to propose an own bill as well as the government's incentive to come up with a law. Hence, the status quo is more likely to persist.	**Confirmed**

Considering our hypotheses (see table 3) we cannot provide a test for H1a based on our empirical case, because the nuclear phase-out was a government bill and as explained above we do not know for sure what outcome we would have observed if it had been an opposition bill. Hypothesis H1b cannot be supported completely. The parliamentary opposition was fragmented in both chambers. The SPD and Die Grünen approved the government law, whereas Die Linke disapproved the bill and did not behave as expected by the game-theoretic model. So we have to suppose that SPD and Die Grünen saw more benefits in the government law than Die Linke, perhaps because they were willing to accept it as better than nothing, whereas Die Linke did not want to compromise. H2 can be accepted. The parliamentary opposition was interested in a nuclear phase-out. Especially, the SPD as well as Die Grünen had already paid the cost for the issue once and faced a further decrease

in the issue cost after the government declared its willingness to back out of nuclear energy. So we find evidence that the opposition accepted the government bill as a consequence of the decrease in issue cost.

In the topic of the nuclear phase-out the CDU, SPD and Die Grünen were the main partisan actors. In terms of issue ownership Die Grünen were the main party to own the nuclear phase-out issue. The voters trusted the environmental party and believed that Die Grünen had the highest expertise to solve the problem. The christian democratic party was under pressure to be responsive because in April 2011 the public mood was rather supporting a possible social democratic and environmental coalition on the federal level (FGW, 2011d). Therefore, the government's policy-shift towards the nuclear phase-out can be seen as a rational strategic decision.

6. CONCLUSION

Regarding the question why governments flip-flop on policies we are able to show that this strategic decision is based on changing incentives. Based on theories of issue ownership and government responsiveness, both actors in the legislative process, the government and the parliamentary opposition, are facing a dilemma. The government faces a dilemma between either addressing an issue owned by the opposition or risking losing votes by not being responsive. The opposition faces a dilemma between addressing the problem and thereby losing their issue if this issue is finally solved or keeping the issue. We form hypotheses suggesting that a high vote benefit for the government would lead to an incentive for the government to reject any opposition law and in contrary a high vote benefit for the opposition would lead to an incentive for the opposition to decline any government law. Furthermore, an increase in the cost of losing the issue lowers the opposition's incentive to approve the government bill as well as its incentive to propose an own bill. Our game-theoretic model provides theoretical evidence for these hypotheses and suggests that the extent of the issue cost as well as the size and direction of the anticipated vote change in upcoming elections can be decisive for the legislative outcome. A substantive change in these variables can therefore motivate policy flip-flopping.

In a second step, we applied our game-theoretic model to an empirical case. The case of the second nuclear power phase-out in Germany is an example for short term policy change by the government. The nuclear accident in Fukushima raised the salience of the nuclear power issue, an issue owned by the opposition parties. The passed lifetime expansion of the christian democratic and liberal coalition got criticized by the opposition and the government's policy was not trusted in by the citizens anymore. Nevertheless, the

government was not responsive immediately, but only after losing two out of three state elections. After realising the possibly high vote cost when not being responsive, the government had incentive to reduce these possible costs. So the CDU changed to be more responsive on the topic of nuclear energy policy and shifted towards a phase-out option. Additionally, by responding to the salience of the topic the government had the opportunity to avoid total issue dominance by the opposition and to limit the opposition's criticizing power. Usually the environmental party Die Grünen were the "natural" owner of the issue, but by addressing the issue the government was able to influence the discussion.

One limitation of our model is the focus on the actors. We focus on the legislative process, so our natural actors are the government and the parliamentary opposition. Other actors who can be involved in legislation are suppressed. For example, interest groups can have an important role in the process, especially by informing the government and parliamentary opposition. In the case of the German nuclear phase-out environmental interest groups discussed possible phase-out strategies and thereby took an important role in framing the topic. Our model accounts for this framing indirectly, assuming that issue salience and public mood are determinants for the values of the variables. A second limitation of our model is the necessity of almost coherent actors. Under the condition that the government or the parliamentary opposition is fragmented and has a low party discipline we are not able to examine lower levels like the individual decision-making. Our assumptions are based on collective actors with at least partially strong party discipline. In the case of the German nuclear phase-out we already slightly touched this limitation. Nevertheless, Die Linke has not had the possibility to intervene in the legislative process in a way to block a bill; and on the government's side the FDP has accepted the law. Despite its limitations our game-theoretic model provides a tool to analyse the actors' incentives and to understand policy flip-flopping.

BIBLIOGRAHPY

Aragonès, E., Castanheira, M. & Giani, M., 2015. Electoral Competition through Issue Selection. *American Journal of Political Science*, 59(1), p. 71–90.

Arlt, D. & Wolling, J., 2016. Fukushima effects in Germany? Changes in media coverage and public opinion on nuclear power.. *Public Understanding of Science*, 25(7), p. 842–857.

Bütikofer, S. & Hug, S., 2010. The Swiss Upper House: "Chambre de Réflexion" or Conservative Renegades?. *The Journal of Legislative Studies*, 16(2), p. 176–194.

Canes-Wrone, B. & Shotts, K. W., 2004. The Conditional Nature of Presidential Responsiveness to Public Opinion. *American Journal of Political Science*, 48(4), p. 690–706.

Christiansen, F. J. & Seeberg, H. B., 2016. Cooperation between counterparts in parliament form an agenda-setting perspective: legislative coalitions as a trade of criticism and policy. *West European Politics*, 39(6), p. 1160–1180.

Deutscher Bundestag, 2011. *Stenographischer Bericht der 117. Sitzung vom 30. Juni 2011. Plenarprotokoll 17/117.* [Online] Available at: http://dip21.bundestag.de/dip21/btp/17/17117.pdf [Accessed 11. 06. 2017].

Forschungsgruppe Wahlen (FGW), 2010. *Politbarometer September 2010.* [Online] Available at: http://www.forschungsgruppe.de/Umfragen/Politbarometer/Archiv/Politbarometer_2010/September_I/ [Accessed 18. 05. 2017].

Forschungsgruppe Wahlen (FGW), 2011a. *Landtagswahl in Baden-Württemberg. Wahlanalyse.* [Online] Available at: http://www.forschungsgruppe.de/Wahlen/Wahlanalysen/Newsl_BaW11.pdf [Accessed 04. 06. 2017].

Forschungsgruppe Wahlen (FGW), 2011b. *Landtagswahl in Rheinland-Pfalz. Wahlanalyse.* [Online] Available at: http://www.forschungsgruppe.de/Wahlen/Wahlanalysen/Newsl_RLP11_1.pdf [Accessed 04. 06. 2017].

Forschungsgruppe Wahlen (FGW), 2011c. *Landtagswahl in Sachsen-Anhalt. Wahlanalyse.* [Online] Available at:

http://www.forschungsgruppe.de/Wahlen/Wahlanalysen/Newsl_SaAnh_03_2011.pdf [Accessed 04. 06. 2017].

Forschungsgruppe Wahlen (FGW), 2011d. *Politbarometer April 2011.* [Online] Available at: http://www.forschungsgruppe.de/Umfragen/Politbarometer/Archiv/Politbarometer_2011/April_I/ [Accessed 18. 05. 2017].

Forschungsgruppe Wahlen (FGW), 2011e. *Politbarometer Mai 2011.* [Online] Available at: http://www.forschungsgruppe.de/Umfragen/Politbarometer/Archiv/Politbarometer_2011/Mai_II/ [Accessed 18. 05. 2017].

Forschungsgruppe Wahlen (FGW), 2017. *Weitere wichtige Probleme in Deutschland.* [Online] Available at: http://www.forschungsgruppe.de/Umfragen/Politbarometer/Langzeitentwicklung_-_Themen_im_Ueberblick/Politik_II/#Probl2 [Accessed 18. 05. 2017].

Haunss, S., Dietz, M. & Nullmeier, F., 2013. Der Ausstieg aus der Atomenergie. Diskursnetzwerkanalyse als Beitrag zur Erklärung einer radikalen Politikwende. *Zeitschrift für Diskursforschung*, 1(3), p. 288–315.

Hobolt, S. B. & Klemmensen, R., 2008. Government Responsiveness and Political Competition in Comparative Perspective. *Comparative Political Studies*, 41(3), p. 309–337.

Huß, C., 2014. Energy Transition by Conviction or by Surprise? Environmental Policy from 2009 to 2013. *German Politics*, 23(4), p. 430–445.

Huß, C., 2015. Durch Fukushima zum neuen Konsens? Die Umweltpolitik von 2009 bis 2013. In: R. Zohlnhöfer & T. Saalfeld, eds. *Politik im Schatten der Krise. Eine Bilanz der Regierung Merkel 2009–2013.* Wiesbaden: Springer VS, p. 521–553.

IfD Allensbach, 2011. *FAZ-Monatsberichte. Atemberaubende Wende.* [Online] Available at: http://www.ifd-allensbach.de/uploads/tx_reportsndocs/April11_Fukushima.pdf [Accessed 18. 05. 2017].

infratest dimap, 2011. *Aussetzung der Laufzeitverlängerung gilt nicht als glaubwürdiger Kurswechsel.* [Online] Available at: http://www.infratest-dimap.de/umfragen-analysen/bundesweit/umfragen/aktuell/aussetzung-der-laufzeitverlaengerung-gilt-nicht-als-glaubwuerdiger-kurswechsel/ [Accessed 18. 05. 2017].

Jahn, D. & Korolczuk, S., 2012. German exceptionalism: the end of nuclear energy in Germany!. *Environmental Politics*, 21(1), p. 159–164.

Jun, U., 2015. Der elektorale Verlierer der Regierung Merkel II: Gründe für den Absturz der FDP. In: R. Zohlnhöfer & T. Saalfeld, eds. *Politik im Schatten der Krise. Eine Bilanz der Regierung Merkel 2009–2013.* Wiesbaden: Springer VS, p. 113–135.

Kramm, L., 2012. The German Nuclear Phase-Out After Fukushima: A Peculiar Path or an Example for Others?. *Renewable Energy Law and Policy Review*, 3(4), p. 256–262.

Länderrat Die Grünen, 2011. *Ausstieg statt Aussitzen: Der Atomausstieg ist zwingend und machbar!.* [Online] Available at: http://www.gruene.de/fileadmin/user_upload/Beschluesse/Atomausstieg-Fukushima-Atomausstieg-Beschluss-LR-Mainz-03-2011.pdf [Accessed 11. 06. 2017].

Landeswahlleiter Rheinland-Pfalz, 2017. *Landtagswahl. Endgültige Ergebnisse.* [Online] Available at: http://www.wahlen.rlp.de/ltw/wahlen/2011/land/index.html [Accessed 18. 05. 2017].

Neugebauer, G., 2011. "Quo vadis? Wie die LINKE versucht, sich als Partei und für sich eine Position im Parteiensystem zu finden." Interne Konsolidierungsprozesse und Orientierungssuche im Fünf-Parteien-System. In: O. Niedermayer, ed. *Die Parteien nach der Bundestagswahl 2009.* Wiesbaden: VS Verlag, p. 157–177.

Neu, V. & Borchard, M., 2012. *Wahlanalyse der Wahlen im Jahr 2011. Hauptabteilung Politik und Beratung Konrad Adenauer Stiftung.* [Online] Available at: http://www.kas.de/wf/doc/kas_30751-544-1-30.pdf?151210102433 [Accessed 04. 06. 2017].

Page, B. I. & Shapiro, R. Y., 1983. Effects of Public Opinion on Policy. *The American Political Science Review*, 77(1), p. 175–190.

Petrocik, J. R., 1996. Issue Ownership in Presidential Elections, with a 1980 Case Study. *American Journal of Political Science*, 40(3), p. 825–850.

Rehner, R. & McCauley, D., 2016. Security, justice and the energy crossroads: Assessing the implications of the nuclear phase-out in Germany. *Energy Policy*, Volume 88, p. 289–298.

Renn, O. & Marshall, J. P., 2016. Coal, nuclear and renewable energy policies in Germany: From the 1950s to the "Energiewende". *Energy Policy*, Volume 99, p. 224–232.

Seeberg, H. B., 2013. The opposition's policy influence through issue politicisation. *Journal of Public Policy*, 33(1), p. 89–107.

Seeberg, H. B., 2017. How Stable Is Political Parties' Issue Ownership? A Cross-Time, Cross-National Analysis. *Political Studies*, 65(2), p. 475–492.

Soubeyran, R. & Gautier, P., 2008. Political Cycles: Issue Ownership and the Opposition Advantage. *Journal of Public Economic Theory*, 10(4), p. 685–716.

Statistisches Landesamt Baden-Württemberg, 2017. *Landtagswahlen in Baden-Württemberg 2001–2016.* [Online] Available at: https://www.statistik-bw.de/Wahlen/Landtag/LRLtW.jsp [Accessed 18. 05. 2017].

Statistisches Landesamt Sachsen-Anhalt, 2017. *Wahl des 6. Landtages von Sachsen-Anhalt am 20. März 2011.* [Online] Available at: http://www.statistik.sachsen-anhalt.de/wahlen/lt11/index.html [Accessed 18. 05. 2017].

Strom, K., 1990. A Behavioral Theory of Competitive Political Parties. *American Journal of Political Science*, 34(2), p. 565–598.

Therriault, A., 2015. Whose Issue Is It Anyway? A New Look at the Meaning and Measurement of Issue Ownership. *British Journal of Political Science*, 45(4), p. 929–938.

Walgrave, S., Lefevere, J. & Tresch, A., 2012. The Associative Dimension of Issue Ownership. *Public Opinion Quarterly*, 76(4), p. 771–782.

Winter, G., 2013. The Rise and Fall of Nuclear Energy Use in Germany: Processes, Explanations and the Role of Law. *Journal of Environmental Law*, 25(1), p. 95–124.

Zohlnhöfer, R. & Engler, F., 2015. Politik nach Stimmungslage? Der Parteienwettbewerb und seine Policy-Implikationen in der 17. Wahlperiode.. In: R. Zohlnhöfer & T. Saalfeld, eds. *Politik im Schatten der Krise. Eine Bilanz der Regierung Merkel 2009–2013.* Wiesbaden: Springer VS, p. 137–167.

Zolleis, U. & Bartz, J., 2010. Die CDU in der Grossen Koalition – Unbestimmt erfolgreich. In: C. Egle & R. Zohlnhöfer, eds. *Die zweite Grosse Koalition. Eine Bilanz der Regierung Merkel 2005–2009.* Wiesbaden: Springer VS, p. 51–68.