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Polarization on Spatial and Competence Voting”

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Abstracts

English abstract

The question of what influences vote choice is at the core of electoral behavior research. Why do citizens vote for the parties they vote for? The models of spatial and competence voting are regularly used in explaining vote choice. When applying the spatial model, it is commonly argued that the citizen votes for the party that is closest to the voter in positional terms, whereas the competence voting in its multiple variations focusses on how competent the party or politician is perceived by the voter. In this thesis, I add party system polarization to the equations to analyze under which conditions spatial voting or competence voting is stronger or weaker in explaining vote choice. The findings give evidence of evaluation of party competence being stronger associated with vote choice when positional polarization between the parties is high. Differences between voter and party on a positional level are in contrast found to be higher when polarization amongst parties is low. This conditional effect was then found to differ alongside the concepts of political sophistication and party identification.

German abstract

Die Frage danach, was die Wahlentscheidung beeinflusst ist von zentraler Bedeutung in der Forschung zum Wahlverhalten. Warum wählen Bürger*innen die Parteien, die sie wählen? Positions-basierte und kompetenzbasierte Modelle werden regelmäßig genutzt, um die Wahlentscheidung zu erklären. Das positionsbasierte Modell geht in der Regel davon aus, dass Bürger*innen die Partei wählen, die ihnen in der politischen Position am nächsten steht. Kompetenzbasierte Modelle gehen davon aus, dass die Wähler*innen danach entscheiden, wie kompetent eine Partei oder ein*e Politiker*in erscheint. In dieser Masterarbeit füge ich die Polarisierung von Parteien im jeweiligen Land zu den Gleichungen hinzu, um hierdurch zu erklären, unter welchen Umständen welches Modell für die Wahlentscheidung eher genutzt wird. Ich zeige, dass kompetenzbasiertes Wählen eher die Wahlentscheidung erklärt, wenn die Polarisierung zwischen den Parteien hoch ist und dass positionsbasiertes Wählen umgekehrt eher die Wahlentscheidung erklärt, wenn die Polarisierung zwischen den Parteien niedrig ist. Außerdem zeige ich, dass dieser Effekt unterschiedlich stark ist für verschiedene Gruppen nach politischem Wissen und Parteiidentifikation.

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1. Introduction

When being asked which party or parties to vote for on election day, citizens have to make up their minds and assess the parties' characteristics in various facets. This process might for example include the evaluation of positions of the parties running for election on an issue relevant to the voter, such as lowering taxes or improving immigration policies. So, while the act of voting itself only takes some seconds, give or take, the decision making process is running for at least a short while before walking to the ballot box. So, how do citizens choose the party or parties they vote for? A direct measurement seems unlikely, as the cognitive process is too complicated for most people to reflect on. When asking voters post-election, why they voted for the party they voted for, they cannot reliably tell. Even when being with good intent, one cannot possibly know for sure, if the reported motives for voting for a given party indeed are their actual motives. There is evidence from social psychological research that the perception of people's self is positively biased (e.g. Taylor and Brown 1994) and that this is then reported falsely in surveys (Bertrand and Mullainathan 2001).

What is it that finally constitutes the voter's decision? Following the traditional Downsian spatial model¹, the voter compares the position of every party on the issue relevant to her to her own position and eventually votes for the party ideologically closest to the own preferences (Downs 1957). This model deemed especially useful when paying attention to the trend that strong party alignment of the voters in Europe is diminishing already since the 1970s. In Germany, for example, while in 1972 about 60% stated that they had a strong or very strong identification with one party, in 2002 only about 39% stated so (Lachat 2007: 99). Ad hoc assessments of one's own as well as the parties' ideological positions is substituting party identification alone as the strongest predictor of vote choice (Dalton 1984: 266). The less citizens align relatively strong with a party for a certain period of time, the weaker the strength of that very predictor gets.²

¹ I use the terms 'spatial', 'proximity' and 'positional' interchangeably in this thesis. The same applies to 'performance' and 'valence' and for 'importance' and 'salience'. The directional model of voting, which is also considered being a spatial model of vote choice, is not considered in this thesis. That means that spatial voting is always used in the sense of proximity voting. For the concept of the directional model of vote choice, see Rabinowitz and Macdonald (1989).

² Another realm of research found support for the alienation and indifference hypothesis, meaning that dealignment leads to alienation from politics altogether and indifference about which party to vote for. This cannot be analyzed within the scope of this thesis, though. For an overview about the theory and an analysis for the European context, see Dassonneville and Hooghe (2018).

Already in 1963 though, Stokes began to challenge the Downsian model as being the only one explaining how voters decide whom to vote for on election day (Stokes 1963). While Downs assumed that the voters consciously or unconsciously evaluate any given issue on several positional continuous scales, Stokes proposed a valence model, in which parties are differentiated by their strength in advocating issues that almost everyone agrees upon (ibid.: 375). These issues, called valence issues, commonly include lowering crime rates, improving the environment or lowering unemployment and inflation (Clarke et al. 2009: 15). Here unlike in Downs' spatial model, the probability to vote for a party cannot be dependent on the proximity between voter and party in a given policy space (e.g. more or less economic regulation, more liberal or more conservative position on abortion) as it is theoretically assumed to be almost zero, but rather stems from the perceived probability that the party can indeed deliver what it promises (ibid.: 17).

The key assumptions of these two models are predominantly used in electoral behavior to explain vote choice: Voters either have fixed ideological positions on a set of political issues and compare and match them to the parties and/or all voters agree in ideological positions on a given set of issues and compare the parties with regard to their competence, i.e. how likely they regard a given party to be able to indeed deliver on that issue. The concepts by Downs and Stokes were subsequently used in parallel in political science, as both have successfully proved to predict vote choice in various environments and with different theoretical and empirical additions to the simple original models (e.g. Adams 2001; Bélanger & Meguid 2008; Clark and Leiter 2014; Johns 2011).

Only recently, researchers started to address the puzzle of two different models being used to explain why voters vote for the party they vote for. Different conditions for the differences in relative strengths in explaining vote choice for the spatial and the valence model were introduced (e.g. Lachat 2008, 2011, 2014; Pardos-Prado 2012; Karlsen and Aardal 2016). The basic idea of this conditional model that explains which mechanism of the above mentioned is at work can be seen as a utility-maximization model, which is compiled from both the spatial and the valence model (Clarke et al. 2009: 17). The voter's utility thus consists of a combination of positional and competence assessments of parties with variation in predominance of either. Put simply and in an ideal-type of thinking, if a voter has to make a decision which party to vote for from a given set of parties, she can compare them on the grounds of their positions. If

two or more parties are assumed to have the same position on an issue important to the voter, she can then compare the same parties on the aspect of how likely it is that the party will deliver the desired policy outcome. This might work in the different direction as well: Finding two parties to be equally likely to deliver the desired output, the voter can then resort to comparing them on a positional level. It follows that theoretically, voters can be exclusively “spatial voters” or exclusively “competence voters” or a combination of both (ibid.). There are two mediators commonly mentioned that influence, if voters rather vote for a party because they find it to be competent or because it is closest to them in a given political space: the concept of issue ownership and the positional polarization of the parties in a given set.

Basic issue ownership theory claims that parties are linked to certain issues that the voters think they are most competent in. They therefore “own” the issue or issues. When this issue is salient to the voters, the parties that own this issue have an electoral advantage over others (Petrocik 1996; Petrocik et al. 2003). This being the case and following the reasoning I stated above, competence voting is the relatively larger component in the utility combination in the case of issue ownership voting while the positional distance between voter and party is less important. Therefore, salience and in its consequence issue ownership is seen as a mediator that conditions the relation between voter-party distances and vote choice by adding to the competence component (Lachat 2014, p. 730).

The other explanation for the relative strength of the voting types within the utility combination that has been investigated several times is party system polarization, which means the party policy distances in a given set of parties that are up for election. Green and Hobolt (2008: 463-464) for example found that the perceived positional difference of the Labour Party and Conservative Party in Great Britain diminished between 1987 and 2005 towards a point, where voters almost do not see any difference on positional standpoints between both parties, placing them only one point apart on an eleven-point left-right scale. This in turn suggests that parties themselves compete on competence rather than spatial differences. Thus, according to the authors, lower party system polarization in a spatial meaning leads to higher explanatory power of competence voting.

Instead, as research by others has shown, party system polarization would strengthen positional voting (Lachat 2008, 2011; Pardos-Prado & Dinas 2010; Van der Eijk et al. 2005). The key assumption made here is that when parties diverge positionally on issues, their incentive to

make their position salient is greater than when all of the parties have virtually the same position. This strengthening of salience of a given position in turn would make it easier for the voter to assess political positions by the parties and reflect on her own position and ideology (Lachat 2011: 646).

However, the studies I mentioned do have some shortcomings I address in this thesis: Firstly, the difference between cross-country and cross-time comparison of party system polarization and its effect on competence and spatial voting has not been explained satisfactorily yet. For Great Britain (Clarke et al. 2009; Green & Hobolt 2008), the United States (Egan 2013; Ensley 2007; Petrocik 1996; Petrocik et al. 2003) and Canada (Bélanger & Meguid 2008), it was found that lower party system polarization increases the strength of valence voting. It is noteworthy though that these studies were all single-country analyses in countries with a two-party system (Clarke & Leiter 2004: 189). Therefore, party competition might work totally different in multiparty systems, which has an effect on the polarization of parties in the first place. In a multiparty setting one expects parties to have greater incentives to compete in ideological terrain anyway and hence one should expect in general that the more parties there are in a setting, the greater the ideological range (Grofman 2004: 31). Therefore, a first aim of this thesis is to study the effect of party system polarization in a cross-country set including mostly multiparty systems. There is reason to expect that the effect is somewhat different in a multiparty in-between country comparison. Clarke and Leiter (2004) as well as Pardos-Prado (2012) find that the significance of valence voting and of positional voting increase with an increase of polarization of party positions.

The second shortcoming I see in the mentioned studies is of rather conceptional nature. In most of the research it is assumed that the issues salient to the voters are valence issues and therefore ideologically not contested. In a second step then, valence voting becomes predominant as a predictor and less voters vote for positional reasons. Pardos-Prado (2012: 343-344) doubts that this mechanism can be explained in such a straightforward way. He argues that it can be more beneficial for parties to compete on contested issues than on valence issues, when assumed that the first and foremost goal of parties is to maximize votes, as commonly done in a rational choice perspective (Strom 1990: 566-567). Moreover, Pardos-Prado (2012: 344) finds that recent research settings assume an orthogonal relationship between competence and spatial voting a priori: A decrease in spatial voting would have to lead to an increase in competence voting. This is not necessarily true. The willingness to compete in a multiparty system that I

mentioned above would lead to an increase of emphasizing not only the positions of the party, but also of the competence, especially as parties can be assumed to know about the benefits of appearing competent to the voter.

The second aim of this thesis therefore is to disentangle the seemingly fixed orthogonal assumption made for the relationship between the two models of voting. While the study by Pardos-Prado (2012) delivered evidence for a connection of valence voting to positional considerations, it does not have the intention to explain the relative strengths of both in the established combinational model.

In accordance with the aims mentioned the research question for this thesis is: *What effect do party policy distances have on the impact of party competence evaluation on vote choice?*

In order to answer this comprehensively, I analyze the effect of party system polarization on the significance of competence voting within the voter's utility. To do this, I use data from the European Election Study (EES) for 27 European countries on an aggregate level and data from the 2010 Chapel Hill Expert Survey (CHES) that is easily compatible to the EES. In a second step, I test, if the result is different between respondents with high and low political knowledge and political interest, respectively. Following that, I investigate the moderating effect of party identification for both positional and competence voting in different grades of party system polarization.

By answering the question and presenting the empirical analyses, this thesis is relevant for both the academic and the political area. Academically, it contributes to the ongoing debate of conditions for different vote models. Additionally, the findings can be of relevance for political parties and especially for campaign managers. Having evidence of voting behavior for particular circumstances can be of help for the electoral campaign orientation, for example. Under which conditions do the probabilities increase for a party to gain votes by putting competence matters in the spotlight? And under which conditions would it be more successful to emphasize particular political positions?

The thesis is structured as follows: this introduction is followed by a depiction of the main concepts of voting and party behavior as well as political sophistication and political partisanship in Section 2. These concepts mirror the variables used in the empirical analysis.

Section 3 embeds the concepts into a theoretical framework from which I build the hypotheses for this thesis. Section 4 gives an overview about the literature that includes a presentation of studies in the field that are relevant to this thesis. In Section 5, I present the data and methods as well as the operationalization for the variables used for the empirical part of the thesis. The results of the analysis is given in Section 6. The thesis concludes with a discussion of the results including possible shortcomings and implications for parties' and voters' behavior as well as for further research in the academic realm in Section 7.

2. Concepts of Voting Behavior

To address the research question, this section aims to give an introduction to the theoretical concepts used in the thesis. The conceptualizing of models of voting behavior, party system polarization, political sophistication and political partisanship shall lead to a better understanding of the different mechanisms that appear as variables in this thesis. Thereby, I build the groundwork for the theoretical conjunction and a comprehensive literature review, which follow after this section.

I start with sketching the two classic concepts of voting behavior, namely the spatial model by Downs (1957) and the valence model by Stokes (1963) followed by the issue ownership model that then is used as the basis for compiling a coherent theoretical framework and subsequently the empirical analysis in this thesis.

2.1. Spatial Voting

In 'An Economic Theory of Democracy' (1957), Downs presented the voting process as a utility-maximizing one and therefore labeled it as economic approach. The motivation of voters in Downs view is thus to vote for a party "he believes will provide him with more benefits than any other" (ibid.: 36). In the decision process, the voter calculates a party utility comparing "the utility income he actually received in period t and the one he would have received if the opposition had been in power" (ibid.: 40). Therefore, the voter needs to assess the policies of both, the party or parties in government as well as the ones proposed by the parties currently in

opposition (Tillie 1995: 22). But how do voters find out which party provides the most benefits when in government? This process in which preferences for parties are formed and that takes place before the actual act of voting is not observable and therefore often neglected in research of electoral behavior. Instead, existing approaches focus predominantly on actual vote choice that voters make or plan to make (Van der Brug et al. 2007: 10). Downs (1957: 96) explains the process that happens before the actual vote choice as follows: As the voter lacks information necessary to calculate the absolute utility of each party, she is bound to shortcuts (i.e. cues) that are derived from the set of policies. These shortcuts are commonly summarized as left-right orientation (Van der Eijk et al. 2005: 167-168; Tillie 1995: 23). The process is then translated into vote choice by comparison of the own ideology to each of the parties' ideology on the left-right dimension. The voter is expected to vote for the party that she perceives to have the smallest distance to her own position (Tillie 1995: 23). While one could argue that a single left-right dimension does not capture specific political orientations, ideology or preferences, it has been found to be "one of the most important factors that determine European voters' choices at the ballot box" (Van der Eijk et al. 2005: 167). It can therefore not be seen as a single dimension per se, leaving out other scales, but rather as the sum of almost all positional considerations of the voter and thus is the only dimension for positional voting that is required as a predictor of vote choice (Van der Eijk et al. 1996: 341).

The reason the first stage of forming preferences for parties is important to investigate for the purpose of the research question of this thesis is that comparing and evaluating expected benefits of parties by the voter leads to a ranking of several parties instead of the binary kind of result of vote choice that only says, if the voter has voted for the given party or not. Put differently, a voter can prefer some of the parties to a certain degree, that she will not currently vote for (Tillie 1995: 43-44). This makes a difference for the argument of the relationship between spatial voting and valence voting. When the voter rates each party in terms of expected benefit on a scale from 0 to 10 for example and rate two or more parties alike or almost alike, the voter is expected to resort to competence evaluation instead (Van der Brug et al. 2007: 12). Downs (1957: 44) also thought of this situation already and suggested that "performance ratings enter a voter's decision making whenever he thinks both parties have the same platforms and current policies". It also implies that the voter can prefer more than one party giving them the same or almost the same propensity to vote. Therefore, I use the "Propensity To Vote" (PTV) measure on a 0 to 10 scale instead of "vote choice" as dependent variable, as described in detail below.

2.2. Valence/Competence Voting

An early critique of the model using a single positional left-right dimension as a predictor for vote choice was articulated by Stokes in the seminal work on valence ‘Spatial Models of Party Competition’ (1963). He argued that voters agree on many issues in terms of their position, but are divided in the opinion of how to achieve a given policy. Therefore, positions of parties were not as important as their perceived and observed performance. In contrast to the Downsian model, parties would not differ as much in their positions but rather in the ways and strategies towards the goal as well as in how successful they are (perceived) in shaping policy. Stokes labeled the issues that almost everyone agrees upon with regard to positions “valence-issues” (ibid.: 373). Thus, valence issues do not fit into the positional left-right dimension explained above. Instead of competing on the realm of political positions, parties compete on the grounds of different issues that they see themselves to be competent in handling. The stage of evaluating before vote choice is thus completely different to the one Downs proposed. Here, the voter does not compare the parties’ positions and then chooses the party with the position most similar to her own. Instead, the voter has to assess, how likely it is that the policy (that everyone agrees upon) will actually be brought about by any given party.

Vivid examples for valence issues are the economy and crime (Clarke et al. 2009: 15). Almost everyone would agree on being in favor of a healthy economy including low unemployment and low inflation rates. Similarly, all voters can probably agree on wishing for low crime rates. Positional issues for Stokes are for example immigration policy, matter of the European Union, abortion rights and gun control laws (Clarke & Leiter 2004: 175-176). Here, the electorate is clearly divided by their advocacy of at least two different positions (Stokes 1992: 144). Political competition now varies depending on which kind of issues are most salient – positional or valence issues. While in the former case parties would emphasize ‘what should be done’, in the latter case they would emphasize why they are especially able to deliver on the policy outcomes that is broadly favored by the voters. In addition to the issue-related element of valence voting, Stokes identified two other elements that are considered by the voter in terms of valence: He mentions positive and negative qualities of the parties and leaders as a second element that is measured on continuums of “strength and weakness, honesty and corruption, warmth and aloofness, and many other qualities” (Stokes 1992: 147). A third element Stokes attributes to valence voting is the symbols of success and failure. Voters usually tend to use the economic situation as the largest indicator of government success, even though the evaluation is not

restricted to the economic issue (*ibid.*). Summarizing, parties compete on the salience of valence issues while emphasizing positive qualities as well as success of the party and its leader (Van der Brug 2017: 521; Green & Jennings 2017: 555).

Like the spatial model, the valence model is also a utility-maximizing model, the only difference being that the utility the voter gets increases with the likelihood that the party can deliver and not – as for positional voting – with the positional proximity between voter and party (Clarke et al. 2009: 17). To measure the competence assessment of parties by the voter, I use the survey question for the party that is seen as best at solving the most important problem facing the country, which is described in detail below.

2.3. Issue Ownership Model

In summary, the critique of the valence model of voting regarding the positional model is, that positional voting would indeed work for contested issues but not for the bulk of issues that are not positionally contested in-between the voters. The latter issues (e.g. healthy economy, low crime rates) were the most salient issues to the voters and thus determining vote choice eventually. The mechanism at work here would be totally separated from an assessment of positions towards given policies (precisely because everyone agrees upon them) and instead voters would assess the ability of the party to deliver on policy.

The concept of issue ownership contests this clear-cut separation of positional assessment and competence assessment and claims instead that voters tend to see parties as being more competent only when they agree with their position in the first place (Van der Brug 2017: 530). This would in fact suggest an endogeneity problem for the concept. This would mean that the respondent automatically considers a party competent with whose positions she agrees and vice versa, considers a party incompetent with whose positions she disagrees. This way, the same is measured for two actually separate properties. However, the concept of issue ownership is far from being a conceptual distinct model for explaining vote choice.³

³ For an overview of different definitions and measurements of issue ownership, see Walgrave et al. (2015).

In this section, I present the key mechanisms of the issue ownership model and highlight the parts and interpretations that I use from the concept for the empirical analysis of this thesis. This seems to be necessary because of the various applications of issue ownership in the literature and an ongoing discussion about a consensual definition (Egan 2013; Stubager 2018).

The term ‘issue ownership’ was first used by Budge and Farlie (1983). Indeed, they presented their model as being an alternative to the Downsian positional model (Van der Brug 2017: 521). In this first sketch, issue ownership meant that parties are voted for because of a good reputation for a specific issue. They get to ‘own’ that issue. In order to gain electoral support, a party would have to work on making the issue most salient that it ‘owns’ (ibid.: 522). A typical campaign would thus include emphasizing one issue and convincing voters of the importance. For example a green party, that I assume to own the issue of climate change, could emphasize the importance and urgency of finding measures to fight global warming. When the issue becomes the most salient one in the electorate, the green party would win the election, following Budge and Farlie (1983).

Petrocik (1996) adds to that original focus on *salience* the notion of *competence*. For him, voters eventually cast their votes for “candidates with a party and performance based reputation for greater *competence* on handling the issues about which the voter is concerned” (ibid.: 825, emphasis added). Here, both salience (concern of the voter) and competence (on handling the issues) is necessary in order to be the owner of an issue.

With the model gaining interest in voting behavior research, attempts to comprehensively define what issue ownership is and how it works have been made: Walgrave et al. (2015: 778) define issue ownership as “the link between specific parties and issues in the mind of voters. The party that is most strongly linked to a given issue by the voters is said to ‘own’ the issue”. They also allege that consequently voters would see that party as being the party best at dealing with the given issue, as they found a purely *associative* dimension of issue ownership does not exert strong effects compared to the *competence* dimension (i.e. thinking the party is best able to deal with the issue), which was confirmed by other studies as well (e.g. Walgrave et al. 2014; Lachat 2014). The difference of these two traditions is as follows: “Associative issue ownership refers to the spontaneous identification of parties with issues in the minds of voters, regardless of whether voters consider the party to be the most competent to deal with these issues” (Walgrave et al. 2012: 772). For example, one would maybe associate right-wing populist

parties with the issue of immigration spontaneously. From this it does not follow though that one automatically thinks that this party would be best able to deliver, i.e. to be competent. The competence dimension of issue ownership instead asks directly for the party “providing the most competent solutions to political problems such as crime” (Stubager and Slothuus 2013: 570). The measures of these two traditions are not congruent, but empirically related. While competence ownership was shown to be linked to higher party utilities, associative ownership has a much weaker direct effect on the propensity to vote for a given party (Lachat 2014: 739). Therefore, with regard to the research question, I use the competence dimension of issue ownership as a measurement in this thesis. As a guiding definition for the analysis, I resort to Stubager (2018: 349): “Issue ownership is the perception in a voter’s mind that a specific party over the long term is most competent at handling—in the sense of delivering desired outputs on—a given issue.” Being derived from the seminal texts this definition does not open a new dimension, but can rather be seen as a summary of the working definitions within competence issue ownership. It emphasizes the most important criterion – the capacity to deliver, which I explained above. Stubager argues that this would be the core interest of the voters. If parties devote attention to issues or have a reputation for certain issues or have a certain policy position without being certain if they can or cannot deliver on that – all of these factors stand behind the interests of voters that the party they vote for delivers (ibid.: 350). Nevertheless, the diction of competence perception having to be for a long term opens up another ambiguity in the definition of issue ownership: What factor does time have in the attribution of ownership of an issue? Even though it is commonly assumed that a certain amount of time has to pass for issue ownership to be established, e.g. Lanz and Sciarini (2016) found short-time considerations of the individual voter with regard to which party is the issue owner of a given issue to cause changing their minds about which party to vote for. Seeberg (2017) suggests though that these short-term considerations are exceptional and issue ownership should in general be regarded as being a long-term phenomenon.

Even though Budge and Farlie introduced the concept already in 1983 and Petrocik extended it theoretically in 1996, it was not until the 2010s that issue ownership became popular as a predictor for vote choice (Lefevere et al. 2015: 755-756). The reasons for gaining more academic interest could be decreasing ideological differences of parties (Van der Brug 2017: 523; Green & Hobolt 2008), increasing voters volatility and the waning partisan attachment in Europe. However, the increase in studies has not yet led to a real theoretical clarification and consensus of the use of issue ownership to analyze voting behavior and party competition

(Lefevere et al. 2015: 756). One of the main problems in using issue ownership as an independent variable to explain vote choice is the question of which issues can be analyzed with regard to being owned by parties. In the conceptualization I presented above, I assumed – according to Downs and Stokes – that two different kinds of issues exist: positional issues and valence issues. And both play a role in predicting vote choice. It follows from my conceptualization that issue ownership when defined after Petrocik (1996: 825) as evaluation of parties regarding their ability to handle the issue that this mechanism can only apply for valence issues. This is because for positional issues, in the strict sense of the conceptualization, an assessment of salience and competence does not take place at all. Hence, competence evaluation would solely be an element of valence issues. This is also the way Green and Hobolt (2008: 462) argue: Parties are only differentiated by competence when valence issues are at stake. Therefore, issue ownership explains party and voter behavior best in elections with salient valence issues. And Clarke et al. (2009: 15) add that valence issues usually dominate the political agendas in Great Britain as well as in most of the mature democracies. Therefore, party behavior with regard to valence issues is most important for electoral gains. Yet, this does not necessarily have to be true, as Van der Brug (2017: 527) shows. Nevertheless, politicians, leaders and parties were clearly evaluated on grounds of being competent or not.

In addition, issues do not only differ in the degree of being consensual or conflictual, but also in their salience to both the parties and the voters, as already explained. While immigration for example might be a conflictual topic, for some voters this topic will be more important when considering which party to vote for than for others. Thus, both positional proximity in positional voting and competence evaluation in valence voting is mediated by salience. For example, a voter might agree exactly with the immigration policies proposed by Party A, but does just not *care* enough about immigration or she does not find the party being *competent* enough. Instead, environmental issues might be more important to her. Although there is no party the voter completely agrees with on environmental issues, she might make a compromise in *position* in favor of *importance* (i.e. *salience*) of the issue. In conclusion, the utility in the voter's electoral process I propose and use for analysis in this thesis consists of three key elements: *position*, *salience* and *competence* (ibid.: 528).

As the name *issue ownership* suggests, this consideration for the demand side of voters' behavior clearly cannot be analyzed without taking the structure of the supply side, i.e. parties' behavior and party characteristics into account when assuming that a party's main objective is

to maximize votes and that it adjusts its behavior with regard to position and salience of issues as well as trying to improve perceived competence (Adams 2001: 122). Even though it lies beyond the scope of this thesis to comprehensively analyze how parties react to the application of the different types voting behavior I mentioned and how party and party system characteristics are built in the first place, the reciprocal acting of both sides should always be kept in mind. It seems straightforward that voting behavior has implications for action for parties as well that in turn have an effect on the voters. For *salience*, Dolezal et al. (2014: 70-72) find a positive correlation with issue ownership, meaning that parties accentuate issues that they own. Also for *positions*, party characteristics were found to have an effect on the impact of positional party evaluation. Lachat and Wagner (2018) found that the strength of positional voting is stronger for issues that are more extreme and for those that parties have a clear position for. Additionally, for parties that are larger and those that are incumbents, positional proximity has a stronger effect in vote choice, because voters had more information on these issues, as their campaigns were more visible. In this thesis, I analyze the effect of party system polarization on the impact of spatial and competence voting. Party system polarization is primarily compatible to the findings for the effect of extremism of party positions by Lachat and Wagner (ibid.), as the wider distribution of parties on the left-right continuum implies both parties with more extreme positions and thus higher polarization.

In this section, I showed how different mechanisms work for the two classical models of voting behavior, spatial and valence voting, which I amplified with the model of issue ownership. Summarizing, I argued that issue ownership in its competence dimension can be seen as a tool to measure competence voting behavior, as it depicts the voters' demand for the party to deliver on the issue that is most salient to the voter.

After this overview I return to the specific research question of this thesis that asks what effect party system polarization has on the impact that spatial and valence voting, respectively, have on vote choice. Under which circumstances is the evaluation of parties based on competence predominantly? And when does positional proximity between voter and party decide about vote choice?

3. Theoretical Framework and Hypotheses

In this section I develop the theoretical framework using a combination of the arguments of the three models of voting presented in the previous section. The results are presented in Section 6. In particular, I explain why vote choice is conditioned by characteristics of context, of the individual voter and of the issues at stake. This is examined in detail then for party system polarization (*context characteristics*), positional and valence issues (*issue characteristics*) as well as political sophistication and political interest (*individual voter characteristics*). Operationalizations of the concepts is shown in Table 1⁴. It is the aim of this section to eventually derive hypotheses from the theoretical framework that are tested empirically.

Table 1: Operationalizations of concepts applied in the theoretical framework

<i>Models of voting</i>	
Spatial voting	positional proximity
Competence voting	political party best at dealing with the most important problem
<i>Context characteristics</i>	
Party system polarization	standard deviation of the perceived positions the parties in a given country
<i>Issue characteristics</i>	
Positional issues	electorate clearly divided by their advocacy of at least two different positions
Valence issues	all voters agree on what has to be done and differ in how it should be done
<i>Voter characteristics</i>	
Political sophistication	knowledge of facts of political topics
Political interest	interested in politics (not at all; a little; somewhat; very)

As I mentioned above, contesting results have been found for party system polarization as predictor of the strength of spatial and competence voting, both with a comprehensible argumentation: Green and Hobolt (2008) argue that a relatively higher polarization of parties' positions, i.e. high level of party system polarization, strengthens the impact of competence voting while weakening positional voting. The reason for this would be that if all of the parties want the same, the voter has to resort to the evaluation of who would actually get things done. Evidence for this effect has only been found for two-party systems and with single-country

⁴ The operationalizations are not comprehensive for the field of research, but instead fitted to the analysis of this thesis.

studies until now, though, e.g. Egan (2013) for the United States and the mentioned study by Green and Hobolt (2008) for the United Kingdom. Both studies are limited in their usefulness for this thesis. Egan (2013) is rather concerned with the associative ownership, which poses a divergence of definition to what I am analyzing. Green and Hobolt (2008) present only a low number of data points with five elections between 1987 and 2005, which cannot be generalized, especially not for multiparty systems. Moreover, they use a different measurement than the commonly used ‘party best able’ question and instead using the proxy of ‘capable of strong government’ (ibid.: 469). Therefore, the study seems to be slightly differing from the standard operationalization in the research area and for this reason, its results might pose an outlier.

Clark and Leiter (2014: 189) rightly point out though that “the findings of these studies certainly do not preclude the possibility that in other institutional contexts, such as those more commonly found in Western Europe, the relationship between valence, votes, and ideological positioning is somewhat different.” For example, Lachat (2011) and Pardos-Prado (2012) find that both competence and spatial voting increase in strength when the party system is polarized. The theoretical reasoning behind this is that in highly polarized party systems, parties gain more interest by voters and media so that they accentuate the issue they own in position, but also have to stress their competence (Pardos-Prado 2012: 344). Here, the theory I mentioned before reappears, namely that neither an orthogonal relationship nor a strict distinction between evaluating positions and competence is necessarily supported within the area of research, though often assumed (e.g. Serra 2010). The latter studies used data from Switzerland in a single-country study, but comparing the Swiss cantons as subgroups (Lachat 2011) and from European countries using the European Election Study and applying a cross-country analysis, respectively (Pardos-Prado 2012). Therefore, it seems that different institutional settings call for different assumptions of the functioning of models for vote choice. I will focus on the aggregate of European countries in this thesis that consists mostly of multiparty systems. Nevertheless, it is not the aim of this thesis to compare different institutional contexts.

But why should the context characteristics have an effect on vote choice in the first place?⁵ With a decline of strong alignment with parties, the decision-making process of vote choice today is subject to much more outside influences than at the time when party identification was pretty stable throughout the voter’s lifetime and even inheritable, because the cleavages for

⁵ Here, I use ‘vote choice’ in the broad sense, including the process of decision making, as explained before.

party identification in turn were quite stable themselves. Social class cleavages were successfully used as predictor for vote choice before becoming less significant and recently again gained explanatory power in the wake of the financial crisis, populist right-wing parties as well as when explanations for the phenomena Brexit and Trump were sought (Evans 2017: 177). Without having these stable cleavages in general though, voters should be influenced more by ideology and attitudes towards parties and party leaders and as a result of recurring reflection be more volatile (Lachat 2008: 688). Voters should use politics more in an instrumental sense, i.e. deciding on occasion if and how becoming involved. From this it follows that citizens cannot be expected to be loyal to a particular party for a life time any longer (Thomassen 2005: 7-8). Instead, citizens are required to make up their minds on occasions, which leads to a stronger weight of ideological considerations. This in turn makes the voters more amenable to influences from the outside, just like political contexts (ibid.: 5).

The political context that has been found to have most influence on the vote choice already is party system polarization: “Altogether, party system polarization appears to be the single most influential factor.” (Lachat 2011: 660) For this thesis, party system polarization is operationalized as the standard deviation of the perceived positions the parties in a given country take on a 0-10 left-right scale. Put differently, low party system polarization is characterized by all parties taking on somewhat similar positions.⁶ In a setting with high party system polarization, parties diverge greatly in ideology.

When the party system shows a higher level of polarization, I expect parties to compete strongly in the realm of values and positions. The reasons for that and the mechanisms at work here are explained by Knutsen and Kumlin (2005: 158): First, party leaders and representatives would use ‘issue packages’ in a consistent manner, which makes it easier for the voters to evaluate them on a left-right continuum. Second, these packages then would be used by the voters as cueing information (i.e. shortcuts), because they lack complete and detailed information about the parties’ positions due to constraints of time, interest or knowledge, as I explained above. This would make it possible for voters to clearly operationalize for themselves, what e.g. ‘left’ and ‘right’ means for tangible policies of particular parties. And third, Knutsen and Kumlin (ibid.) see a transmitted effect of the usage of value-based rhetoric and the mentioned ideological labels from parties to the voters. That means that when parties are forced to make

⁶ This does not automatically mean that the parties take liberal positions. Theoretically, all parties could take positions near the extremes and thus are low in polarization.

more frequent use of ideology and argue in line with left-right positions, voters tend to use them more often as well. This again would make ideological considerations and political positions more salient and therefore easier to access in the voters' minds. Put differently, high party system polarization leads to party competition on ideological grounds, which in turn makes political positions of parties more visible. In a second step, the own political positions of the voters are easier to access because of clearly established cues. Finally, both the parties' and the voters' positions becoming easier to access, the cognitive cost for comparison of the own position with the positions of the different parties decreases, thus makes the usage of this spatial model more likely. Therefore, my first hypothesis is as follows:

H₁: Spatial voting is stronger associated with vote choice in settings with high party system polarization than in settings with low party system polarization.

The first hypothesis is in line with the findings of the other studies in similar settings (e.g. Bélanger and Meguid 2008; Lachat 2008; 2011). For competence voting, the findings are more ambiguous, as I discussed in detail above. I expect parties to indeed compete on ideological grounds in settings with high party system polarization. But for the same reason parties try to emphasize their positions, namely for that it will be salient in the voters' minds, I expect parties to also highlight their competence, especially for the issues they own. Voters and media do not only pay more attention to the positions of the parties in settings with a high party system polarization, but also on how well parties are able to deliver, i.e. their competence (Pardos-Prado 2012: 344). There is no visible reason why parties should not emphasize their competence together with their positions on the one side, and why voters should not receipt them and use the competence shortcut parallelly to the positional ones. Other than Green and Hobolt (2008), I do not expect the relationship between spatial voting and competence voting to be orthogonal, meaning increase in strength of spatial voting automatically leads to a decrease in strength of competence voting and vice versa. Instead, both spatial and competence considerations should become stronger in polarized party systems.

The expectation of a positive correlation is also based on the argument by Dalton (2008: 901), that in settings of polarization, the motivation of the voter to inform herself increases and thus becomes more rational. That should apply for both models. This leads to my second hypothesis:

H₂: Competence voting is stronger associated with vote choice in settings with high party system polarization than in settings with low party system polarization.

In *H₁* and *H₂*, I do not pay attention to what issue it is that influences the propensity to vote for a given party. As argued above, the literature distinguishes between two different types of issues: positional issues and valence issues (Clarke & Leiter 2004: 175-176). This clear cut was contested, e.g. by Pardos-Prado (2012) and Van der Brug (2017). Pardos-Prado (2012: 351) argues that salience and competence would be good predictors for both kinds of issues, which would eventually make the divide redundant. Van der Brug (2017: 530) adds that competence voting would not be freed from positional considerations by the voter. Indeed, Wagner and Zeglovits (2014: 288) found that the commonly used survey question asking for the ‘party best at handling an issue’ lacked reliability. As competence is hard to assess for the voters, they simply use salience or positional agreement or both as a heuristic.⁷ Therefore, the divide between valence and positional issues is softened with competence considerations being at work for positional issues and vice versa positional considerations being at work for valence issues, because it is not as consensual as generally assumed (Pardos-Prado 2012: 344) or as a heuristic (Wagner and Zeglovits 2014: 282). This leads to my third hypothesis:

H₃: The effect of increasing spatial voting and increasing competence voting does not vary significantly between positional and valence issues.

The effect of increasing strength of positional and competence voting when settings are more polarized does not affect all voters to the same extent. As I explained, an increase of party system polarization should lead to easier accessibility of positional cues and to easier identification of competence of a given party. Therefore, I expect the degree of political sophistication to moderate the proposed effect of *H₁* and *H₂*. Voters with a low degree of political sophistication (‘political novices’) are expected to have a relative advantage towards

⁷ The wording of the question for the ‘most competent’ seems to be an important factor in explaining the use of the competence voting model. It seems to be beyond the scope of this thesis though to evaluate this in detail, but would be an interesting avenue for further research. For a question wording experiment on measuring issue ownership, see Lefevere et al. (2016).

voters with a high degree of political sophistication ('political experts'). This is so, because political novices profit relatively more from an easier accessibility of information than political experts, who are expected to be able to process and organize political information also when it is more complicated to access (Lachat 2008: 688). Voters with high cognitive capacities were found to be able to seek information and make a more thorough judgement despite the political context (Enslay 2007: 105). As Koch (1998: 298) puts it: "If the message communicated by a candidate is sufficiently complex, only the most cognitively able will have their choice affected by the message." For the reasons mentioned above, I assume the messages being more complex in settings with low party system polarization. This is also in line with the findings of Carroll and Kubo (2018: 18), who found the level of education mediating the effect of polarization for the same reason that I explained. This led to a convergence of usage of accurate assessment of ideology between low and high education respondents in polarized settings, which can be compared to the levels of political sophistication. This reasoning leads to my fourth hypothesis:

H₄: The effect of increasing spatial voting and increasing competence voting in settings with higher party system polarization is weaker for people with a high level of political sophistication than for people with a low level of political sophistication.

Another qualification for the effect hypothesized in H_1 and H_2 is party identification, which I expect to be working in the following way: A voter who does not identify herself with any party is expected not to alter the strength of the effect observed for the first and second hypotheses. I expect identifying with a party to weaken the effect hypothesized in H_1 and H_2 , respectively, as the relative weight of both ideology and party competence evaluation decreases. The reason for this is the cognitive process of projection or persuasion, where the voter in the former case projects her own ideology on the party and in the latter case adopting the ideology of the party (Hayes 2005: 914). The fifth and final hypothesis of this thesis is therefore:

H₅: Party identification weakens the effect of an increasing association of spatial voting and competence voting with vote choice in settings with high party system polarization.

In this section, I derived five hypotheses from theoretical arguments. These hypotheses are to be tested empirically after the following literature review that will give an overview of studies that exist to date in the broader area of conditions for different types of decision making with regard to vote choice.

4. Literature Review

The aim of this section is to present the findings to date of how contextual, party and voter characteristics effect the use of different models of voting in order to make it possible to bring my findings into line with the existing literature. An overview of the studies described in this literature review and their mechanisms and effects can be found in Table 2. The review cannot represent the full body of research within the field of decision making with regard to vote choice in this thesis. Instead, it includes studies that I find to be purposeful as guide for the empirical analysis of conditioning effects of the use of different models of vote choice. I present the authors' findings arranged according to the topic areas of the hypotheses I established.

H₁ and *H₂*: As I explained above, there are contradictory findings for the conditioning effect of polarization on vote choice mechanism. Green and Hobolt (2018) were among the first ones investigating the conditioning factor of party system polarization for which voting model has better explanatory power. With British Election Study (BES) data from 1987 to 2005 (N = 1,000 to 2,141), they showed first that the perceived distance between the Labour and Conservative parties as well as the self-assessment on a left-right scale between Labour and Conservative identifiers dropped significantly. The distance of the mean between the identifiers dropped from 2.7 to 0.9 (on an eleven-point scale) and the perceived distance between the parties dropped in similar strength. In a second step, the authors showed that the marginal effect of left-right distance upon incumbent vote choice decreased, while the marginal effect of a competence measure upon incumbent vote choice increased. I mentioned the differences in expectations for this thesis above. In addition to the low number of points of data, the sudden drop of the marginal effect of spatial voting between 1992 and 1997 is remarkable. The unevenness of increase and decrease, respectively, of the two models of voting, spatial and competence voting, raises doubts about the actual association to the fact that polarization was decreasing during that time. Here, as the authors conclude that further cross-country and cross-temporal analyses would be necessary to confirm the hypothesis that claims that decrease in polarization leads to higher strength of competence voting (ibid.: 467).

Table 2: Overview of studies explaining vote choice with spatial and competence measures

<i>Study</i>	<i>Findings</i>
Bélanger and Miguid (2008)	competence voting is predominant, because voters are concerned with valence issues
Bellucci (2006)	party competence voting is the strongest predictor for vote choice; moderating effects for party leader evaluation and ideology
Carroll and Kubo (2018)	information by parties is simpler in polarized settings; this leads to convergence of people with high and low education, respectively to identify party placements
Clark and Leiter (2014)	competence voting has greater effect on vote share in settings with high party system polarization
Clarke et al. (2011)	competence voting is predominant, because voters are concerned with valence issues
Ensley (2007)	spatial voting has a greater effect on vote share in settings with high party system polarization; moderating effect of political sophistication
Gerber et al. (2015)	spatial voting has a greater effect on vote share when party positions are clear; moderating effect of political sophistication
Green and Hobolt (2008)	competence voting has smaller effect on vote share in settings with high party system polarization; spatial voting has a greater effect on vote share in settings with high party system polarization
Karlsen and Aardal (2016)	ideological values predict composition of a party set; issue ownership predicts choice within the party set
Lachat (2008)	spatial voting has a greater effect on vote share in settings with high party system polarization; moderating effect of political sophistication
Lachat (2011)	competence voting has greater effect on vote share in settings with high party system polarization; no effect for spatial voting
Pardos-Prado (2012)	spatial voting and competence voting have a greater effect on vote share in settings with high party system polarization; no effect found for difference of positional and valence issues
Pardos-Prado and Dinas (2010)	spatial voting has a smaller effect on vote share in settings with high party system polarization
Sanders et al. (2011)	valence politics model outperforms spatial politics model regarding change in vote intention (long-term); spatial proximity is used as a proxy by voters for assessing party competence
Van der Brug (2017)	valence issues and positional issues cannot be clearly separated from each other, as competence evaluation takes place for both types of issues
Van der Eijk et al. (2005)	spatial voting has a greater effect on vote share in settings with high party system polarization

(continued on next page)

Table 2 (continued)

<i>Study</i>	<i>Findings</i>
Vliegthart and Lefevere (2017)	suggest endogeneity problem of competence issue ownership and party preference: competence issue ownership explains party preference, but much stronger effect for party preference explaining issue ownership
Wagner and Zeglovits (2014)	suggest endogeneity problem between competence evaluation, party identification, salience and positions: voters might use heuristics as proxy for party competence evaluation
Walgrave et al. (2014)	competence evaluations are constrained by party identification: party messages are reinforced for the party's identifiers and blocked by those who dislike the party

Clark and Leiter (2014), Ensley (2007), Lachat (2008; 2011), Pardos-Prado and Dinas (2010) and Van der Eijk et al. (2005) delivered studies, in which they analyzed the effect of party system polarization on either spatial or competence voting. Lachat (2008) showed that spatial voting becomes greater in strength in settings with high party system polarization. He uses data from the 1999 EES and the 1999 CHES, so it is data wise best compatible to this thesis. His main finding is that party system polarization reinforced spatial voting, but the extent to which it does so is conditioned by the level of political sophistication. Political experts would be more strongly affected by contextual changes (ibid.: 693). These findings are in line with the ones by Ensley (2007), who found the same effect with data on ideological candidate divergence from the American Senate Election Studies (ASES) from 1988 to 1992.

Similarly, Van der Eijk et al. (2005) showed that voters' left-right positions are strongly associated with vote choice and that this effect wins in strength when party system polarization increases (ibid.: 180-181). Data for their study was accumulated from national election studies from Denmark, Germany, the Netherlands, Norway and Sweden with at least five data points each between 1968 and 1998. The theoretical argumentation of the authors is, similar to the one I presented above, that ideology in the terms of left and right are used as heuristics for the voters (i.e. positions strongly influence vote choice). This effect will become stronger in the voters' minds, when political conflicts (and therefore party competition) is cast in positional terms. And this in turn is more often the case in settings with great variation between the positions of all parties, i.e. high party system polarization (ibid.: 178). In the authors' words, "[t]he more parties differentiate themselves in terms of left and right, the more useful the left-right dimension is as a decision-making heuristic." (ibid.: 180) The authors' measure of party system

polarization is based on perceived party positioning by the voters. Respondents are asked to place each party on a 0-10 left-right scale. It is noteworthy that the authors did not find any contextual effect of polarization when instead measuring polarization on the basis of party manifestos (ibid.: 185).

Pardos-Prado and Dinas (2010) in contrast found that spatial voting is a more relevant determinant of vote choice in settings with low party system polarization. They used data from the 2004 EES. The dependent variable is assessed via the PTV method. The measure of party system polarization used in their study is an index that includes the ideological distribution of the parties, their vote share and the number of parties in a given setting. In contrast to this thesis though, Pardos-Prado and Dinas did not do a comparison between spatial and competence voting, but between spatial and directional voting. This might be a possible explanation for the result that contradicts H_1 of this thesis. Their results for positional voting by themselves are however in line with Green and Hobolt (2008).

In 2011, Lachat again analyzed the effect of party system polarization on vote choice, this time using data from the 2007 Swiss federal election ($N = 3,296$) and using the variation of polarization in the electoral districts as predictor. Other than in his previous study, here Lachat did not find a significant effect of party system polarization on the strength of spatial voting, as he expected (Lachat 2011: 656). A possible explanation for this result may be the nature of the issue, as only the position on the economy was analyzed. This result does not rule out the possibility of an effect of difference of nature of issues. However, party system polarization was found to increase the strength of competence voting tested for the economic issue (ibid.: 658). On the contextual level, also this study used the measure of perceived polarization of the party system. Lachat (ibid.: 651) then used the standard deviation of the parties' perceived ideological positions weighted by party size. The dependent variable is measured via the PTV method, as it contains a more comprehensive set of information about the voter than actual vote choice, as I explained above.

Clark and Leiter (2014) initially hypothesized that competence voting increases in strength in settings with low party system polarization, i.e. in line with Green and Hobolt (2008). What I summarized as parties competence in this thesis is derived from "parties' character-based valence attributes" by Clark and Leiter (ibid.: 178) in an elaborate procedure. In contrast to their initial expectations, they find that the more parties are dispersed in a given setting, the

more likely it is that character-based valence attributes (i.e. competence) affects the parties' vote shares. Their key independent variables are 'parties' character-based valence attributes' and polarization. The former is measured using 'Keesing's Record of World Events', a comprehensive report of events happening in the world that is published every month. From it, information on political elites regarding their competence, integrity and unity was used and linked to the parties they belong to in order to create an index for parties' competence (ibid.: 178-179). Polarization was measured using data from the party manifestos from the Comparative Manifesto Project (CMP; ibid.: 180). The dependent variable was measured as actual vote share in national elections (ibid.: 182). The authors analyzed data from France, Spain, Portugal, Greece, Germany, Denmark, the Netherlands, Italy and Great Britain over the period from 1976 to 2003. Their findings of the impact of polarization on the effect of competence voting on vote choice are altogether in line with the ones by Lachat (2011).

Following the approaches of separately account for either spatial voting or competence voting, Pardos-Prado (2012) returned to integrating both concepts in one study, without the goal of comparing their strength with each other, however, but instead finding associations between the concepts (ibid.: 345). He used for his study the 2004 EES data set (N=28,861). The dependent variable was measured with the PTV method, again. What I label 'competence' in this thesis is measured by Pardos-Prado (ibid.) as a combination of salience and competence. Salience is captured through the open-ended question for the most important problem (MIP) in the EES surveys. Competence is captured through the question that follows immediately after for the party being best at solving the problem. His main finding is that competence evaluation is positively correlated with higher party system polarization, but also with spatial voting. Therefore, this study can be seen as a combination of the results from the studies mentioned before finding an increase of spatial voting and increase of competence voting when party systems are more polarized. The results are thus in line with Clark and Leiter (2014), Ensley (2007), Lachat (2011) and Van der Eijk et al. (2005).

In addition to the literature that offers an explanation of the strength of spatial voting or competence voting or both under the impact of party system polarization, other studies provided important insight into competence voting regardless of polarization as a contextual factor. These are Bélanger and Miguid (2008), Bellucci (2006) and Karlsen and Aardal (2016). Drawing upon issue ownership theory, Bélanger and Miguid (2008) show that a voter is in general more likely to vote for a party that is perceived to be the most competent on a given

issue. This mechanism is conditioned by the salience of the issue (ibid.: 489). In other words, issue ownership alone does not help the party to gain votes, when the issue it owns is not salient. The authors demonstrate this through the individual-level analysis of vote choice using data from the 1997 to 2000 Canadian Election Studies. The data for the dependent variable is vote choice as reported. The independent variables used were salience of the issue and issue ownership. The former was measured with a question for each issue, asking the respondents how important it was for them personally in the given election. The latter was measured with the question for each issue again for which party would be best at the given issue. This mirrors thus the standard competence measure I introduced earlier.

Bellucci (2006) challenged the notion that issue ownership and party competence were used interchangeably. He tried to disentangle party competence as being a more flexible, short-term attribute from issue ownership that is assumed to work long-term wise. Using data from the 2001 post-election surveys of the Italian and British national election studies, he showed that party competence can be separated from issue ownership and has a significant effect on vote choice on its own (ibid.: 565). He found that party competence evaluation had both cognitive and affective roots. The former means a retrospective evaluation of e.g. the economy, the latter means e.g. the appreciation of party leaders (ibid.: 562). Both parts of party competition are however dependent on the left-right position of the voter that filters the considerations about parties' competences in a first step. Bellucci (2006) provides important insights into measurements of perceived competence. Even though a more simple measure has become predominant, it is worthwhile reflecting on the cognitive and affective roots of the voters' perceptions. A detailed investigation of those lies beyond the scope of this thesis, though.

Karlsen and Aardal (2016) present an innovative arrangement of voting behavior, arguing that values ensures that a set of parties is put together in the voters' minds, before issue ownership eventually is the mechanism deciding over vote choice. They test their suggestion with data from the 2009 Norwegian Election Study (N = 1,782). Again, issue ownership was measured parallel to what I describe as competence with questions about what the respondent thinks which party has the best solutions in a given issue area. In addition, Karlsen and Aardal (ibid.: 267) measured issue salience by using the MIP question. The party set, which voters initially have in their minds before picking one party from it that they vote for, is constructed by the authors from the question "Were there any other party(-ies) you considered voting for?" (ibid.: 266) that followed the question "Which party did you vote for?" (ibid.). This measurement is

similar to using data from the PTV questions, differing only in the aspect of inserting an additional step of vote choice that is found to work with a different mechanism.

H3: As I pointed out in the introduction of this paper, I do not see positional and valence issues as clearly separated as Stokes (1963: 372) proposed in his seminal work. As explained earlier, evaluation of competence are not be limited to valence issues and evaluation and comparison of positions might be necessary for valence issue just as for positional issues (Van der Brug 2017: 527). The literature presented in this section is concerned with conditions for the weight of spatial and competence voting. How is the different nature of issues taken into account when analyzing the two different models of voting? The first thing that has to be noted though is the limiting effect of salience when it comes to differences in nature of issues. Hence, only the most important problem, sometimes the three most important problems of the respondent are commonly used in the first place for further analysis. Therefore, a comparison between positional issues and valence issues makes only limited sense, when for example almost only valence issues are named as most important problem.⁸ It follows from this that issues that dominated the period of campaigning must be taken into account (Clarke et al. 2011: 241-242).

In a comparison of rival models of vote choice, Clarke et al. (2011: 246-247) showed that the valence politics model outperformed all of the other models, including the spatial model, in strength. They used data from the 2010 British Election Study and for this comparison of models it is especially crucial to note that the results cannot be generalized (ibid.: 252). The authors name the then recent financial crisis as a reason for the predominance of valence issues, in particular here the well-being of the economy. The research hints to the point that it is crucial which issues are perceived as being most important during the period before election day and how the campaigns react to it. However, this does not directly tackle the question of mixing competence and spatial evaluations. It merely shows in other words that issues that are salient outperform those that are not as salient, i.e. not regarded very or most important to the voters. The same applies to the studies by Sanders et al. (2011).

As referred to earlier, Pardos-Prado (2012) provides a rare study that accounts for difference of issues following the question of conditioning effects for both models of voting. He finds that

⁸ I use the terms ‘most important problem’ and ‘most important issue’ interchangeably, just like Petrocik (1996: 826) did. Also, I use it exclusively with regard to public policy. Problems that do not call for government interference are ignored due to the topic of this thesis.

positional and competence voting are not contradictory, like it was assumed in prior research. Pardos-Prado (2012: 344) contests the notion that valence issues necessarily mean consensus about the policy and that in a second step for these issue it is only competence that is evaluated by the voters. First of all he points out that valence issues might not be assumed to consist only of one component that is consensual. He provides the plausible example of the issue *unemployment*. The goal of low unemployment is likely to be consensual, but the policies that are necessary to implement are probably not (ibid.). Therefore, also supposedly consensual issues can contain positional components. Then, not only the competence of parties is regarded, but again positions of achieving a given goal. One party might for example suggest to cut wages and to make dismissals easier and cheaper for employers. Another party might have the same goal of low unemployment, but might in contrast suggest that the state invests in education and training in order to fill vacancies. This example makes it clear that positional considerations are not absent when discussing valence issues. This was overlooked by research for a long time (ibid.). Secondly, Pardos-Prado (ibid.) argues that it would be possible that voters believe a party to be most competent because they would support the positions they have. This altogether loosens the separation between valence issues and positional issues and the corresponding mechanisms of evaluation *either* competence *or* positional proximity. In his cross-country analysis using the 2004 EES data set, Pardos-Prado finds a positive correlation between the aggregate effect of party competence perceptions and the strength of spatial voting in addition to the positive correlation with party system polarization, which I presented earlier (ibid.: 351). He thus suggests that “perceptions of issue ownership and party competence can be significantly informed by spatial-based considerations” (ibid.).

This association between competence perceptions and spatial-based considerations is in line with the findings of Wagner and Zeglovits (2014), who tested three different questions for party competence in twenty cognitive interviews in Austria in 2011. The three different types of questions they pre-tested for usage in a survey for the national election study mirrored the types of questions commonly used to ask for party competence in surveys: Some ask about prior performance of the governing party, i.e. if the respondent approves or disapproves with handling a given case in their term. Another form of retrieving perceived party competence is asking for how well the current opposition would handle the current policy (e.g. in the British Election Study). And the third possibility that was tested by the authors is the one that I refer to in this thesis, namely asking for which party would be best (or most competent) in handling an issue (ibid.: 283). After answering the respective question, the interviewees were asked to think

aloud and justify the answer. The authors found that issue-specific competence is hard to directly assess by the voters. Instead, they use heuristics that include salience of the issue and position on the issue (ibid.: 288). This leads to the following implications: First, asking respondents directly about competence might not be completely reliable and the findings, including the ones in this thesis, must be interpreted with caution. Second, the results nevertheless confirm the finding by Pardos-Prado (2012) that valence issues do not lack positional considerations.

H4: Most studies dealing with positional and competence voting take into account that political sophistication has an impact on the relative strength in the voters' utility. Carroll and Kubo (2018), Ensley (2007), Gerber et al. (2015) and Lachat (2008) all control for the effect of different grades of political sophistication, political interest or education.

Ensley (2007) used the technique to divide his sample in two groups of high and low political sophistication, respectively, instead of integrating the measure for political sophistication into the interaction term (ibid.: 110). He finds that positional voting increases the more diverged the candidates are for respondents in the high knowledge group. For respondents in the low knowledge group, the effect of positions and the interaction of it with divergence is found to be not significant (ibid.: 113-114). Therefore, ideology (i.e. positions) do not seem to be an important factor for vote choice for voters with low political sophistication, regardless of the degree of polarization.

Similarly, Lachat (2008) finds voters with a high level of political expertise to be more receptive of changes in party system polarization than voters with a medium level of political expertise. Voters with a low level of political expertise do not seem to show significant effects of an increase in polarization (ibid.: 693-693). Political sophistication was measured via an additional index of level of education and political interest. Party system polarization was measured via the 1999 CHES, in which political experts place the parties on a left-right scale. This was weighted by vote share, as explained above (ibid.: 691). These findings are by and large in line with the ones by Ensley (2007).

In contrast, Carroll and Kubo (2018) demonstrate how voters with low sophistication make use of positional voting by analyzing the heuristics parties give. Using data from the Comparative Study of Electoral Systems (CSES) from 1996 to 2011, they analyzed the comprehension of

ideological positions of parties by the citizens (N = 169,788 respondents in 43 countries). For their dependent variable, they measure the “individual’s ability to perceive party ideological location information and identify party positions within a party system” (ibid.: 16). They find several significant predictors for this, amongst others and relevant for this thesis, individual sophistication and party system polarization. Individual sophistication is measured via educational attainment, party system polarization is measured by the index of parties’ positional dispersion weighted by vote share (ibid.: 17-18). Their key result with regard to these independent variables is that polarized systems are more likely to simplify information on the parties’ political positions and therefore eases a convergence between voters with high and low individual sophistication, respectively (ibid.: 18).

These results are supported by the findings of Gerber et al. (2015). They found the clarity of party profiles to have an impact on the effect sophistication has in voting behavior. The key finding of their study using data from the 2007 Swiss election study is that sophistication matters most when party profiles are moderately clear. Then, the higher voters are politically sophisticated, the higher is the strength of voting procedure that accounts for political positions. When parties’ profiles are too unclear, political sophistication is not found to have a significant effect, as probably also highly sophisticated voters are not able to identify the parties’ profiles. When on the other hand parties’ profiles are very clear, sophistication also does not play any significant role, as probably all voters can identify them rightly (ibid.: 162).

H5: Most of the studies mentioned at least control for party identification. However, in Vliegenthart and Lefevere (2017), Wagner and Zeglovits (2014) and Walgrave et al. (2014) the role is discussed explicitly and in detail. All of the three studies predict party identification to be a constraint to all of the contextual and other individual predictors of vote choice. This seems indeed understandable, as I explained in the introduction of this thesis that volatility in voting raises the question of reasons for vote choice in the first place. Put differently, (strong) identification with a party should be reason enough. That is what the three studies found in summary.

Walgrave et al. (2014), drawing on a survey-embedded experimental setting in Belgium conducted shortly before the federal elections 2007 and the regional elections 2009, demonstrate that party preference acts as a filter that confines party messages. Coherent messages are reinforced, non-coherent ones are blocked by the voters that identify with the

given party (ibid.: 15). The authors argue that their results suggest that competence evaluation would not be very useful in explaining causes for a particular vote, as competence issue ownership would possibly be endogenous to party identification. While this is necessary to take into account when analyzing vote choice, studying competence based voting nevertheless keeps its importance and might become even more important for the reason of declining alignment with parties.

Vliegenthart and Lefevere (2017) tested the claims of reciprocal impact of competence issue ownership and party preference in both directions. Classic issue ownership theory claims that competence issue ownership positively affects the voters' party preferences. On the other hand, as discussed earlier, studies have found potential endogeneity of perceived competence and party preference as tested by Wagner and Zeglovits (2014). Therefore, Vliegenthart and Lefevere (2017: 3) hypothesize that party identification positively affects the perceived competence of that party. Finally, they expect the direction from perceived competence to party identification to be the dominant one (ibid.). Using a three-wave panel that consists of the Dutch voting population in 2015, the authors can confirm the first two hypotheses. They find party identification affecting party competence evaluation to be much stronger than the other way around: "[A]ssessments of competence seem to be driven by, more than being a determinant of, party preferences." (ibid.: 8). This result is thus in line with Wagner and Zeglovits (2014) and with Walgrave et al. (2014), even though they have to be interpreted with some caution. For example, they were only able to test the hypotheses based on one issue, namely the economy. This issue did not show clear ownership by any of the parties they included in their analysis, even though it was by far the most frequently named *most important problem* by the respondents.

Turning now to the empirical analyses of this thesis, the aim of the literature review was to show the state of the scholarly literature with regard to the five hypotheses that I established. I could show that for H_1 , H_2 , H_3 and H_4 , the findings in the literature are largely contradictory. H_5 , in contrast, seems not to be contested as strongly. However, interpretations of what to make of the findings differ between different authors.

5. Data and Method

The following part of this paper moves on to describe in greater detail the data sets that are used for the empirical analyses including definitions of the dependent and independent variables and their operationalization. I present the most important associations and distributions in the form of descriptive statistics in order to provide hints and explanations towards the detailed analyses that follow. Finally, I present the statistical model and methods I use in analyzing the data.

5.1. Data Sets

The empirical analyses of this thesis are based on the 2009 European Election Study (EES; Van Egmond et al. 2013) and the 2010 Chapel Hill Expert Survey (CHES; Bakker et al. 2015). While I derived all variables related to the voters from the EES, I use the CHES for the measurement of the main independent variable *party system polarization*. The reason for using these two data sets in particular is that all relevant variables are included and that it covers a relatively large number of countries, as I aim to demonstrate the mechanism of the two different main models of vote choice in a comprehensive population. The EES includes all of the (at that time) 27 member countries of the European Union (EU) and therefore a large sample of different political systems. The survey covers about 1,000 respondents in each country and the collection was done by computer-assisted telephone interviewing (CATI). I had to exclude Cyprus, Luxembourg and Malta from the analysis as their parties are not being evaluated by the CHES. This leads to 24 countries and $N = 24,068$ respondents being included in the analysis altogether. The relatively large variation between political systems and thus country-specific contextual factors indeed provides a sufficient heterogeneity for my analysis. However, I do not plan to account for specific features of single countries like political system or political culture in this thesis. In order to nevertheless capture the voter characteristics reliably, I focus on the left-right dimension when assessing both voters on parties. It was shown that this measures political positions accurately regardless of specific opinions on political issues that might only be relevant in particular countries due to their history or political culture and also regardless of the respondent having a sufficiently deep understanding of the academic discussion about the scale in terms of reliability (Dalton 2008: 910).

I use the expert survey as a measurement independent of assessment by the voters, because when letting party positions be estimated by voters I would run the risk of biased assessment by their own party preference. Party identifiers tend to place the party they prefer nearer to their own position (assimilation effect) and other parties further away (contrast effect), so that the measure is biased by shortening and exaggerating the positional distance of parties depending on the own position (e.g. Drummond 2010: 713-715; Merrill et al. 2001: 200).

Another reason for using the EES relates to the dependent variable of my analysis. The EES does not only assess vote choice by the simple question for vote choice asking ‘which party have you voted for in the last election’ or ‘what party would you vote for if this week was general election’. It also, and this is what I use for the empirical analysis, includes a measurement of general electoral attractiveness of all of the parties in a given electoral system asking ‘how likely is it that you would ever vote for party X in general elections’. I will discuss the implications of this propensity to vote (PTV) measurement in detail below.

5.2. Variables and Operationalization

What follows is an account of a detailed description of all of the variables, dependent and independent, that I use in the empirical analyses of this thesis. Moreover, I present how I processed the data for each variable using Stata.⁹ A table naming all of the variables and the corresponding questions can be found in Table A2 in the appendix.

5.2.1. Dependent Variable

Voters’ Utility: There are several advantages of this measurement compared to other measurements of vote choice: First, respondents do not have to commit themselves to one party. Instead, it is possible to rank all of the parties that are up for election by assigning likelihood measures on a scale from 0 (not at all probable) to 10 (very probable). It is also important that the question does not ask for a particular past or coming election, but instead for the likelihood to vote for a party ‘ever’. When for example a respondent has already decided which party to

⁹ I have carried out all statistical analyses of this thesis with Stata 13.0.

vote for with a certain degree of certainty, this party would be the only one that were captured in a question for actual vote choice. PTV questions in contrast give the respondent the possibility to reflect freely on her preferences for other parties and assign scores. This allows for a comprehensive recording of party preferences including also smaller parties that cannot be reliably reflected in simple vote choice questions (Pardos-Prado 2010: 772). This is the case, because in discrete vote choice models, an electoral utility can only be deduced from the relative frequency the party is mentioned, which again puts smaller parties at a disadvantage (Van der Eijk 2006: 430)

There are two main objections to the approach using PTV that could be raised: The first concerns the distribution of answers. It is a prerequisite for the advantages I mentioned to fully unfold that respondents actually use the survey questions as intended. Put differently, do the respondents have any preferences for more than one party at all? I assumed that voters prefer parties to a certain degree that they are not considering voting for at the current election. If this would not be the case, PTV scores would not really surpass simple vote choice questions. In responding to the PTV questions, voters would thus only give high scores to the party they intend to vote for and low scores to all of the other parties (Tillie 1995: 44). Figure 1 shows the frequency distribution of the answer to the question how likely it is that they would ever vote for that particular party for all of the parties included in the EES. For Party 1, 2, 3 and 4 while 'not at all probable' is the most frequently given answer, all of the other scores seem to have been assigned fairly often as well with two more peaks for 5 being somewhat of a compromise in the center and 10, probably meaning actual vote choice. The parties, which are numbered consecutively here, correspond to particular political parties in the different countries. As I am not analyzing the utility for one party or group of parties in particular, the treatment as numbered seems to be sufficient to the cause of the analysis and functional at the same time. However, that explains the increasing unequal distribution for the parties with a higher number. These parties are only assigned in countries, in which that many parties are up for vote. For example, Party 15 is only found in Spain. Consequently, the parties become smaller with an increasing party number, which might explain the bias towards improbability to vote for them.

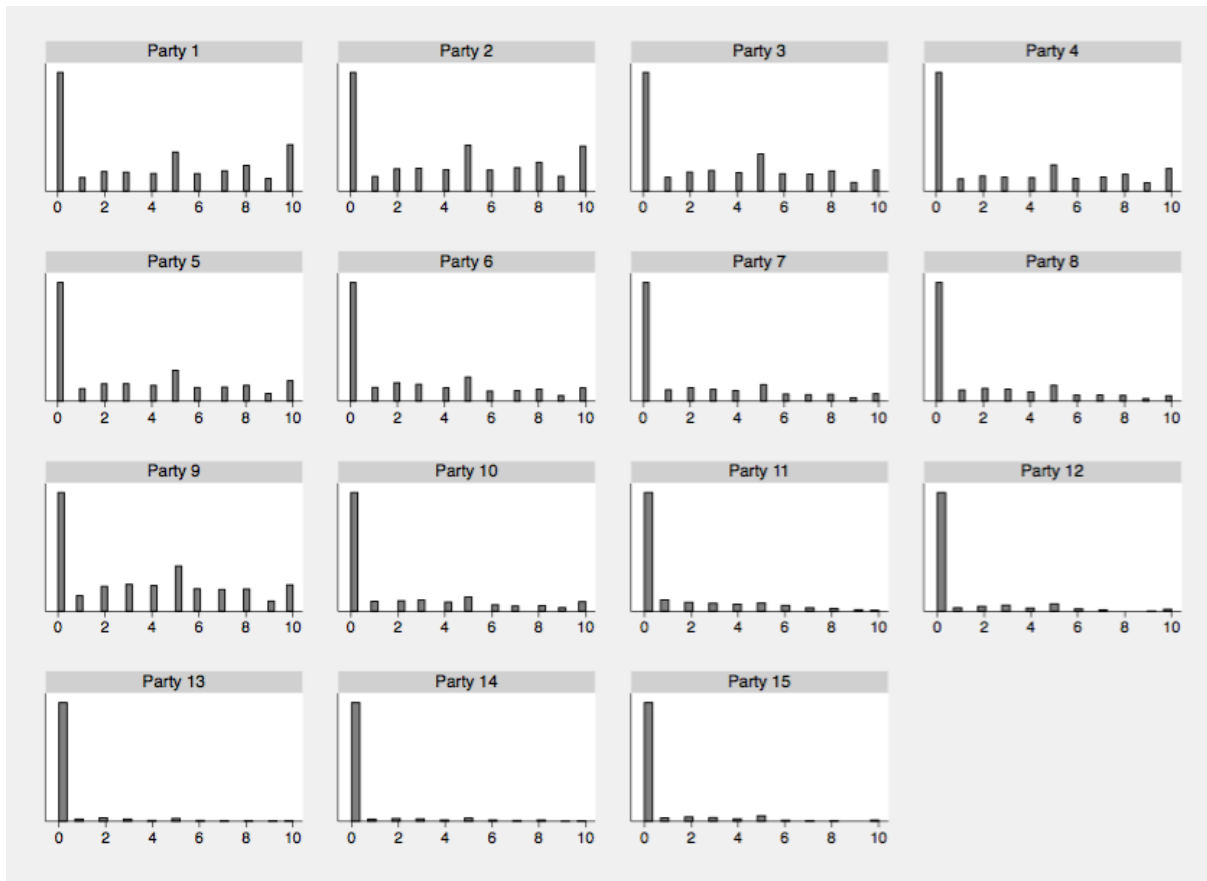


Figure 1: Distribution of answers to the PTV questions

Note: Source: Own calculation based on EES 2009 using Stata 13.

The second objection that could be raised concerns the validity of the measurement. When using PTV questions, can I explain voting behavior with it or does it really just measure e.g. how attractive parties appear? In other words, is it even possible to explain vote choice with this measure and at the same time gain all of the advantages that I explained? If vote choice cannot be explained with this method, PTV measures might solely be of theoretical interest, but not refer to what is at the core of voting behavior and of this thesis, namely explaining vote choice. Indeed, multiple studies found propensities to vote determines vote choice (e.g. Tillie 1995: 47-53; Van der Eijk et al. 2006: 435-436). Summarizing, neither the distribution of assigning scores nor the validity of the answers to PTV questions lead to a serious flaw of the empirical case. However, it seems to be important to keep the theoretical implications in mind when interpreting the results of the analyses.

As explained earlier though, I do not aim to explain preferences for a particular party or another. In that case, the data set would consist of one variable per party including the preferences assigned to it. What I aim to explain though is party preference in general and vote choice as a

consequence. Simply provide cumulative analyses for each party would not be especially handy and moreover be against one of the major advantages for using PTV scores in the first place: The variation between parties on the individual level would be lost.

Instead it is suggested in the literature to rearrange the original data into a *stacked* matrix form (e.g. Tillie 1995; Van der Eijk 1996; 2006). This method was also used in most of the studies discussed in the literature review section earlier. What is done in practical terms is that the original data is rearranged in a way that it becomes what e.g. in Stata is referred to as *long* data set. This procedure is illustrated in Tables 3 and 4.

Table 3: Original data matrix (example)

<i>Respondent</i>	<i>PTV Party 1</i>	<i>PTV Party 2</i>	<i>PTV Party 3</i>
Respondent 1	5	10	1
Respondent 2	2	4	7
Respondent 3	9	3	6

Table 4: Stacked data matrix (example)

<i>Respondent</i>	<i>PTV Score</i>
Respondent 1	5
Respondent 1	10
Respondent 1	1
Respondent 2	2
Respondent 2	4
Respondent 2	7
Respondent 3	9
Respondent 3	3
Respondent 3	6

In order to keep it simple, I present the procedure here only for three parties and with imaginary values. As the EES data set includes up to 15 parties per country, every individual respondent contributes 15 observations after stacking the data set. Therefore, the unit of analysis is slightly changed. While in the original data set, like in ‘normal’ analyses, the unit of analysis is the individual respondent, in the stacked data set it becomes *respondent*party*. In other words, every row in the data set now represents the relationship on a respondent to a particular party and thus every individual is contributing 15 rows. This leads to the large number of 406,035 ‘cases’ in the data set that I use for the analysis.

5.2.2. Independent Variables

The stacking of the data set has impacts on the independent variables as well. Because every row is now representing a *respondent*party* case, all variables including the independent variables of this analysis have to express this relation. While some variables like *perceived left-right position* and *perceived party competence* already have this relational character, others like *political sophistication*, *age* and *gender* are clearly attributed solely to the respondent. The latter thus have to be transformed into a value that expresses a relationship between the individual and the parties. This is done by applying the so-called *y-hats* approach. This means that all of the variables have to be regressed on the respondents PTV score separately for each party. The centered predicted values then can be used as value of the respective independent variable in each row (Pardos-Prado 2010: 773; Van der Eijk 1996: 346-348). I used the PTVTOOLS package for Stata for both stacking the original EES data set and calculating the y-hats for the *non-relational* variables political sophistication, political interest, age and gender (De Sio and Franklin 2011). Even though the calculated y-hats do contain the same explanatory information in the now stacked data set, they cannot be interpreted intuitively anymore. The values of the generated y-hats variables have been transformed linearly, but they cannot be assessed just like that.

Having explained the transformation of the data set, I will now move on to discuss the independent variables in detail. I will start with explaining how I make use of the variables in the data sets regarding party system polarization, which serves as my main independent variable. I will then go on with explaining the measures and processing for spatial and competence voting (H_1 and H_2), most important problems (H_3), political sophistication and political interest (H_4) and party identification (H_5). All of the questions I used from the EES and the CHES in wording can be found in Table A2 in the appendix.

Party system polarization is assessed using evaluations of the parties by experts for reasons I discussed earlier. In the CHES, political experts assess different characteristics of the parties of the countries included. For the analysis, I focus on the general left-right position how the experts perceive it.¹⁰ I calculated the polarization in every country using an index that Taylor and Herman (1971) that was also applied in most of the studies concerned with polarization I

¹⁰ For documentation and details of the data set including other assessments than used in this thesis, see Bakker et al. (2015).

mentioned in the literature review (e.g. Lachat 2008; Pardos-Prado 2012). It is constructed using a combination of the left-right position of the party as perceived by the expert and a weight for their seat share, following the procedure of Lachat (2008: 691):

$$\sum_{j=1}^J \omega_j (p_j - \bar{p})^2 \quad (1)$$

where ω_j is the relative seat share of party j , p_j is the perceived position of party j and $\bar{p}$ is the weighted average position, calculated as:

$$\bar{p} = \sum_{j=1}^J \omega_j p_j \quad (2)$$

The standard deviation of these values were then saved by country to account for a level of polarization by country. This distinguishes the independent variable party system polarization from the other independent variables regarding the way of processing. The variable for party system polarization could be added to the EES data set using the *merge* command in Stata. This was possible, because the polarization varies only by country, so that each value appears as often as there are rows per country. Figure 2 shows the different degree of polarization for each country analyzed. Table A3 shows the number of experts per country and the party system polarization, which is the result of the above-mentioned equation and can only be interpreted in relation to each other.

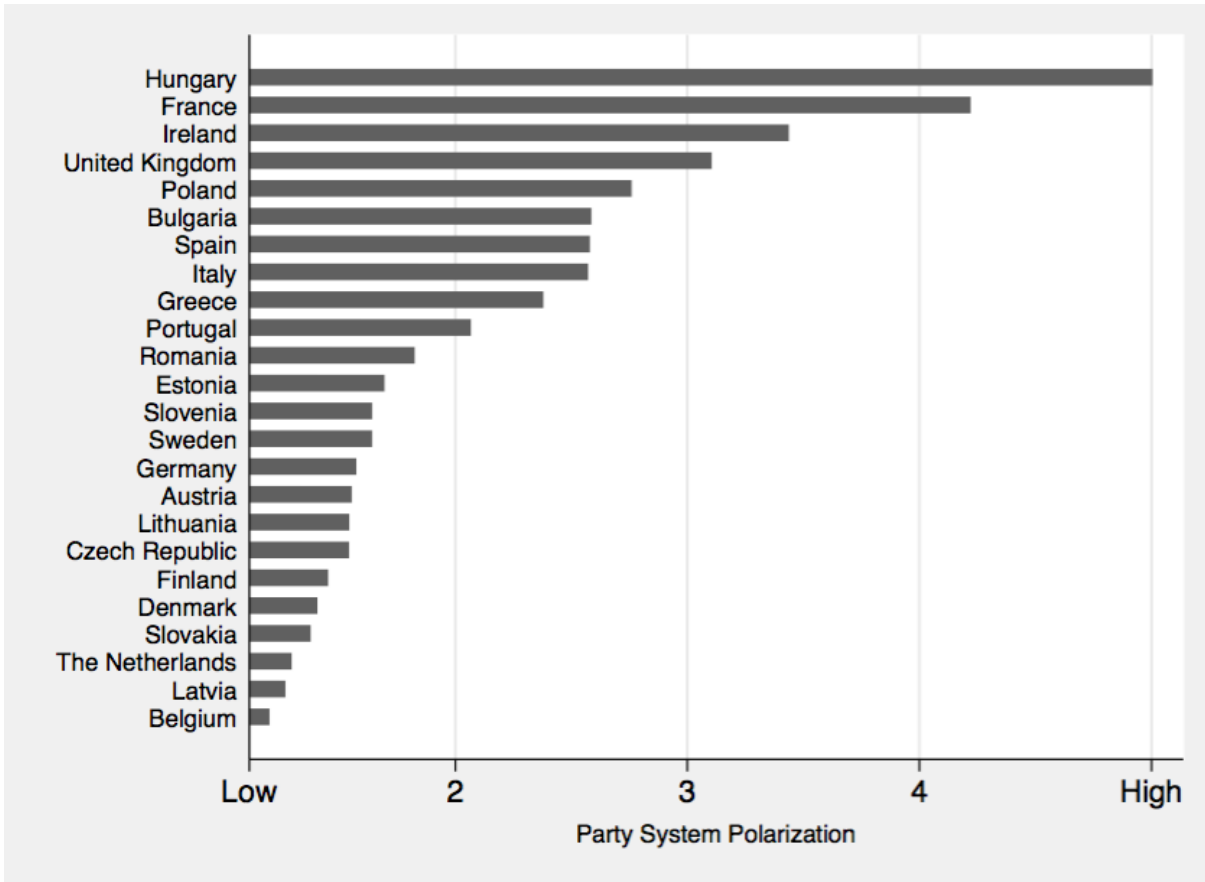


Figure 2: Party system polarization by country

Note: Source: Own calculation based on CHES 2010 using Stata 13.

I hypothesized that polarization has an effect of the relative strengths of spatial and competence voting. The result, which is given from the different models is the utility in either case that represents the electoral attractiveness of a party. The highest utility reached then precedes the vote choice, as explained earlier (Lachat and Wagner 2018: 13; Van der Eijk 2006: 426).

First, I will discuss the spatial component, followed by the competence component of the utility, which I then combine and present the regression. The spatial model is, as I argued earlier, explaining vote choice from the minimal distance between the voter's and the party's political position. The most basic conceptualization of spatial voting that is commonly used (e.g. Pardos-Prado 2012: 346) can be written as:

$$U_{ij}^s = -(V_{itr} - P_{jlr})^2 \quad (3)$$

where U_{ij}^s is voter i 's utility in the spatial dimension s for party j based on the left-right scale lr , V_{ilr} is voter i 's position on the left-right scale lr and P_{jlr} is party j 's position on the same scale.

In this analysis, the sum of all issues considered by the voter is substituted by the general left-right position, as there has been evidence that it reliably “encapsulates, impacts upon, and constrains a host of more specific political preferences and orientations” (Van der Eijk 2005: 167). Therefore, I only integrate the left-right scale lr in the equation and treat it as a single issue rather than using a cumulation of multiple positions on multiple issues. For the voters' positions, I use the question in the EES asking the respondent to position herself on a 0-10 left-right scale. The parties' positions are taken from the subsequent question asking the respondent to place every party in the respective setting on the same 0-10 left-right scale. Here, the assessment has to be viewed with caution. For the same reasons of assimilation and contrast effects that I discussed for the measurement of polarization, the placement of parties by voters might be biased by their own party preferences (Drummond 2010: 713-715; Merrill et al. 2001: 200). This would lead to an artificial increase of explanatory power of spatial voting in contrast to competence voting (Pardos-Prado 2012: 346). Attention should be paid to this when interpreting the results of the analysis. In the variation of the distribution, which is depicted in Figure 3, the effect is not recognizable, though. In that case one would expect 0 and 10 to be identified as most frequent distance. An overview of relative frequencies of voter-party proximities is shown in Table A4 in the appendix.

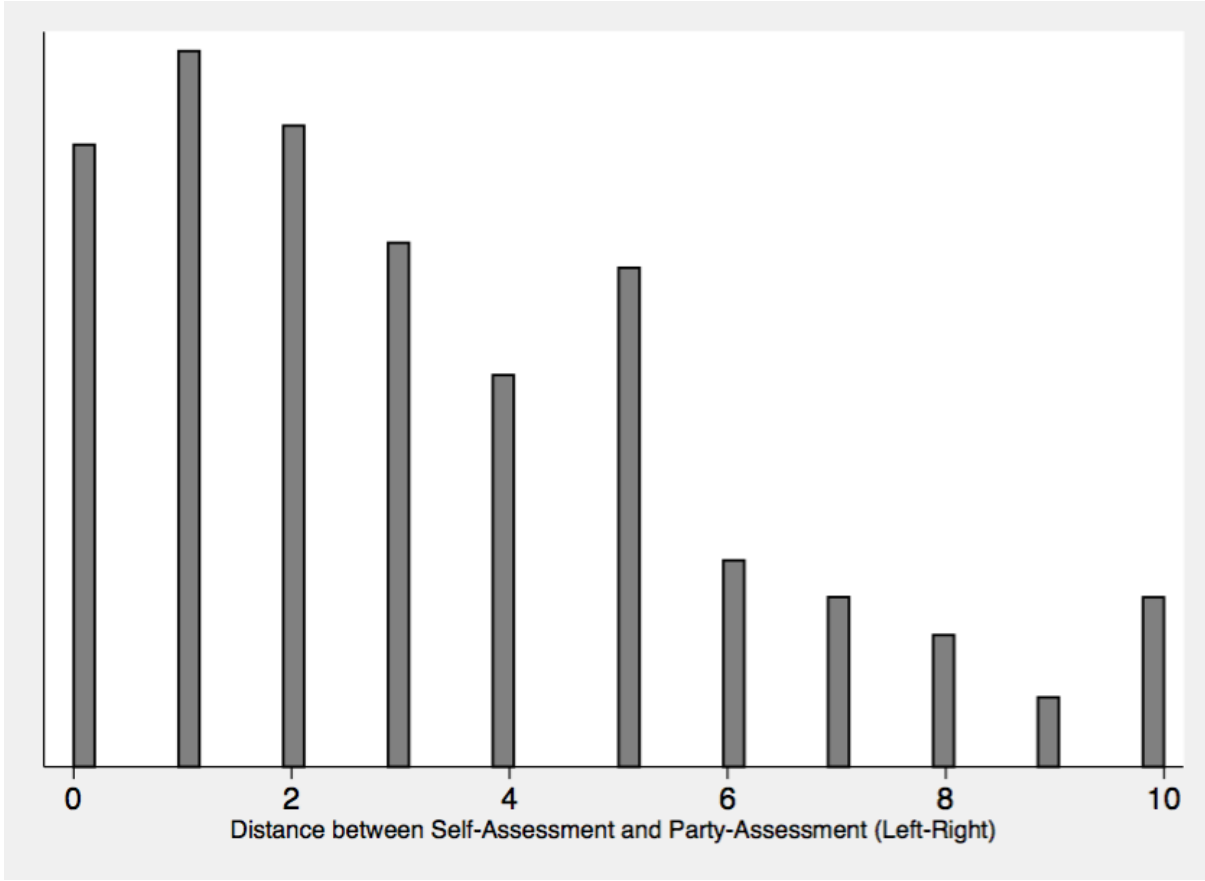


Figure 3: Distribution of distances between self-assessment and party-assessment

Note: Source: Own calculation based on EES 2009 using Stata 13.

The competence component whose strength is to be compared to the spatial component explained above is captured from the question in the EES that follows the most important problem question. Like I explained in the theoretical framework, I use the party that is perceived to be best at dealing with the most important problem. The equation including the competence component can be written as

$$U_{ij}^{sc} = \omega_{jkz}(-(V_{iltr} - P_{jlr})^2) + \omega_{jkz}C_{jik} \quad (4)$$

where U_{ij}^{sc} now is voter i 's utility combining the spatial dimension s and the competence dimension c for party j . This utility is the sum of the before-mentioned spatial model and the competence model C_{jik} , which is the perceived competence of party j by voter i on issue k . The issue k represents the issue mentioned as the most important issue by the respondent. In practical terms, I created a dummy variable for C_{jik} being 1 when the party belonging to the respective row of *respondent*party* is mentioned as being best at dealing with the most important problem and 0 when it is not. This way, C already includes implicitly the measure of

the most important problem. The impact of both models is conditioned by ω_{jkz} , which represents the strength of each of the predictor models for party j on issue k in country z . It includes the index for countries, as this is the main variation I use for the conditioning effect. The greater ω_{jkz} , the larger the impact of spatial or competence voting in the electoral utility for the given party. In this thesis, I use party system polarization for ω_{jkz} , because I expect it to be the major influence on the relative strength of the voting models, as I explained earlier. However, other research integrated more contextual conditioners, such as party size, governmental status, extremist positions of the parties, clarity of the positions of the parties and party system fragmentation. One of the most comprehensive studies regarding these conditional factors was provided by Lachat and Wagner (2018).

To analyze, if the nature of the issue that is most salient to the voter has an impact on the conditioning effect of party system polarization or, as I expect, does not, I divide the sample into groups of valence and positional issues. I use *unemployment*, *environment* and *economic conditions*, which I assume to be valence issues and *immigration*, *nationalism* and *law and order*, which I assume to be positional issues for a comparative analysis. The twenty most frequently mentioned most important problems are shown in Table A5.

I expect political sophistication to be a moderator of the impact of polarization on the strength of spatial and competence voting. First it is necessary to operationalize the term of political sophistication, as it encompasses a large amount of measures. There is evidence that political knowledge is the only measure that has a strong and consistent effect on information processing. It surpasses proxies like education, political interest, time reading the news (Lachat 2007: 55-56). Therefore, to account for political sophistication in the analysis, I used an index of the series of seven true/false questions of the EES asking for factual political knowledge. Table 5 shows the relative distribution of questions correctly and incorrectly answered cumulated for all 24 countries. The Kuder-Richardson 20 coefficient for the seven items is quite low with 0.47.¹¹ The low value means that results regarding political sophistication have to be interpreted with caution. Therefore, I will analyze the effects for different levels of political *interest* in addition. The relative distribution of political interest can be found in Table 6.

¹¹ The coefficient tells the reliability of dichotomous items, similar to what Cronbach's alpha does for multipoint scales. The issue of political sophistication gives avenues for further research that could focus on the different strengths of predictors in the realm of sophistication again.

Table 5: Percentages of correct/incorrect answers to political knowledge questions

<i>Variables</i>								
<i>Values</i>	<i>q92</i>	<i>q93</i>	<i>q94</i>	<i>q95</i>	<i>q96</i>	<i>q97</i>	<i>q98</i>	<i>Total</i>
<i>Incorrect</i>	22.68	52.37	20.68	27.19	10.84	47.03	25.96	29.21
<i>Correct</i>	77.32	47.63	79.32	72.81	89.16	52.97	74.04	70.79

Note: Source: Own calculation based on EES 2009 using Stata 13.

Table 6: Percentages for interest in politics

<i>Interest in politics</i>	<i>Percent</i>	<i>Cumulated Percent</i>
<i>not at all</i>	12.96	12.96
<i>a little</i>	34.34	47.31
<i>somewhat</i>	38.44	85.75
<i>very</i>	14.25	100.00
<i>Total</i>	100.00	

Note: Source: Own calculation based on EES 2009 using Stata 13.

I expect party identification to be another moderator of the conditioning effect of party system polarization. Indeed, strong party identification could replace the ad-hoc evaluation of both proximity of positions and party competence. Instead projection and persuasion could work in a way that it outweighs almost all other predictors. Therefore, obviously when controlling for party identification, a huge part of the effect is expected to vanish. As party identification is becoming increasingly volatile though, other predictors gain in strength and that is part of the relevance of this thesis in the first place.

Party identification was measured with the question asking, if the respondent feels close to any particular party. Subsequently, the respondent was asked to name that party, if any. Again, as I am not interested in party identification with a specific party or group of parties, I recoded the parties mentioned for all of the countries uniformly from 1 to 15. If the respondent did not feel close to any party, it was coded 0. 41.68 percent of the respondents say they do not feel close to any party, while 58.32 percent do feel close to any of the parties. This is shown in Table 7. Table A6 shows the distribution of identification with any party per country.

Table 7: Percentages of party identification

<i>Party</i>	<i>Percent</i>	<i>Cumulated Percent</i>
<i>Not close to any party</i>	41.68	41.68
<i>Close to a party</i>	58.32	100.00
<i>Total</i>	100.00	

Note: Source: Own calculation based on EES 2009 using Stata 13.

In practical terms, I used two dummy variables for measuring party identification. The first one, *pidown*, is 1 when the respondent says that she identifies with the party of the corresponding *respondent*party* row and 0 when she identifies with any other party or with no party at all. The second dummy I use, *pidother*, is 1 when the respondent says that she identifies with any party but the one of the corresponding row and 0 if she identifies with the party of the corresponding row or not with any party at all. The procedure is exemplified in Table 8. In this example, Respondent 1 identifies with Party 1 and Respondent 2 does not identify with any party. The reason for the use of these two dummy variables instead of a commonly used single dummy variable, which is coded like *pidown* and thus only distinguishing between identifying with a party or not, is explained by Lachat (2008: 691): The use of only one dummy implies the strong assumption that party identifiers evaluate parties other than their preferred party the same way as voters who do not identify with any party. In other words, there is no difference assumed in evaluation for Party A for voters who identify with Party B and those who have no party identification whatsoever.

Table 8: Dummies for party identification (example)

<i>respondent*party rows</i>	<i>pidown</i>	<i>pidother</i>
Respondent 1 * Party 1	1	0
Respondent 1 * Party 2	0	1
Respondent 1 * Party 3	0	1
Respondent 2 * Party 1	0	0
Respondent 2 * Party 2	0	0
Respondent 2 * Party 3	0	0

I use the standard socio-demographic variables age and gender as control variables. The variable *age2009* was recoded from the year of birth variable. *Gender* is a dummy variable being 0 for female and 1 for male respondents. The reason for including a measure of voter's polarization in addition to party system polarization is that I assume a reciprocal effect of both via variation in party responsiveness. Spoon and Klüver (2015: 355) argue that when voters are

polarized, parties make their position clearer to distinguish themselves from their competitors. A clearer position of the parties in turn can have an effect on the strength of spatial and competence voting, as I explained earlier. The variable for voter's polarization *sdlrself* contains the standard deviation of *lrself*, which contains the voters' self-assessment on the left-right scale.

Having discussed first how to reconstruct the data set as a stacked matrix and then how to construct and operationalize the multiple variables and presenting the reasons for doing so, I will now move on to describing the method of the analyses. Descriptive statistics for all used variables are shown in Table A1.

5.3. Method

I have shown that the propensity to vote for a particular party are largely predicted by different degrees of party system polarization in interaction with the proximity or distance of position on the left-right scale between voters and party and in interaction with party competence evaluation. Furthermore, I expect this effect to be moderated by political sophistication¹² and party identification with that particular party or any other party. I presented the processing of the data with regard to analyzing how change in the independent variables alters the probabilities of the PTV scores.

The stacked nature of the data set and the fact that the observations are nested in countries, which account for the variation of polarization calls for a hierarchical multiple linear regression to be carried out (Lefkoffridi et al. 2014: 73). For this, I used the *xtmixed* command in Stata 13 including individuals and countries as two levels into the hierarchical model. As I am not interested in specific parties, these two levels are sufficient. While party system polarization is related to the second level of analysis, all other variables are related to the individual in the first level of the model.

¹² This is separately analyzed for 'political knowledge' and 'political interest', as explained above.

The corresponding model including the regression coefficients for expressing the probabilities on the first, the individual level can thus be specified as:

$$Y_{ijh} = \beta_{0h} + \beta_{1h}spatial + \beta_{2h}comp + \beta_{3h}soph + \beta_{4h}pidown + \beta_{5h}pidother + controls + \varepsilon \quad (5)$$

where Y_{ijh} is the probability to vote for voter i and party j in country h . *Spatial* is the left-right distance between party and voter, *comp* the perceived party competence, *soph* is the level of political sophistication and *pidown* and *pidother* are party identifiers of the preferred and other party, respectively, following the reasoning I presented above.

On the second level, the country level, the variation of party system polarization is vital for the argumentation as stated above. This can be specified as:

$$\begin{aligned} \beta_{0h} &= \gamma_{00} + \gamma_{01}polar + controls + \varepsilon \\ \beta_{1h} &= \gamma_{10} + \gamma_{11}polar + controls + \varepsilon \end{aligned} \quad (6)$$

where γ_{00} is the intercept for when all predictors at 0. *Polar* is the variation in party system polarization. The variation is accounted for by different values (i.e. different countries) of the coefficient β .

Having presented the variables in detail as well as how I model the hierarchical structure in statistical and practical terms, I will in the next section move on to presenting the results of the analyses that I conducted

6. Results

In this section, the results of the empirical analysis for each hypothesis I derived in the theoretical part using the methods of the previous section will be shown. I present the tables and figures that are most important for overall understanding. Additional tables can be found in the appendix. The following is a presentation of general findings including discussing the

most important results of the hierarchical linear regression. I will then move on to discussing the findings for each hypothesis one by one.

In a first step, I verify that the relationship between spatial voting, competence voting and PTV has the direction I expected. Table 9 shows the correlations between these three variables.

Table 9: Correlations between PTV, positional distance, perceived competence

	PTV	Positional distance	Perceived competence
PTV	1		
Positional distance	-0.430***	1	
Perceived competence	0.561***	-0.240***	1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Note: Source: Own calculation based on and EES 2009 using Stata 13.

The coefficients show that vote choice, positional distance between voter and party and the perceived competence of the party by the voter are indeed correlated statistically significant ($p < 0.001$). Furthermore, the direction of the relationship is found as I expected: The correlation between positional distance and PTV is negative, meaning that when the distance between voter and party decreases by 0.43, the probability to vote for the particular party increases by 1. In other words, higher proximity between voter and party leads to a higher probability to vote for that party. The correlation coefficient for the perceived competence is positive and significant ($p < 0.001$). Here, for every increase of 0.56 of perceived competence, probabilities to vote for that party increase by 1. As expected, higher perceived party competence increases probabilities to vote for that party. Furthermore, perceived competence and positional distance are negatively correlated with each other with statistical significance ($p < 0.001$). The correlation is -0.24, which is in line with my expectations and means that the lower the distance between voter and party on the left-right scale, the lower the perceived competence. In other words, voters perceive parties as competent to which they are close on a positional level. This can be seen as some evidence supporting the findings by Van der Brug (2017) and Wagner and Zeglovits (2014) that I presented earlier.

While the correlations provide a first hint on the relationship between the main variables on the individual level, it is necessary to consult the results of the hierarchical linear regression to get the full picture. Table 10 shows the results of the hierarchical linear regression, subdivided into six models.

Table 10: Hierarchical linear regression results on PTV

	Model 1: Without controls	Model 2: Without interactions	Model 3: Interaction between polarization and left-right voter/party distance	Model 4: Interaction between polarization and perceived party competence	Model 5: Both interactions	Model 6: Party identification as additional control
Party system polarization	-0.0105 (0.00884)	-0.0118 (0.00953)	-0.0158 (0.00974)			
Left-right voter/party distance	-0.387*** (0.00337)	-0.398*** (0.00500)	-0.408*** (0.00701)	-0.397*** (0.00500)	-0.415*** (0.00713)	-0.387*** (0.00694)
Perceived Competence	5.112*** (0.0281)	4.841*** (0.0415)	4.842*** (0.0415)	4.650*** (0.0578)	4.609*** (0.0590)	3.109*** (0.0648)
Y-Hats: Political knowledge		0.632*** (0.0256)	0.631*** (0.0256)	0.633*** (0.0256)	0.632*** (0.0256)	0.605*** (0.0248)
Y-Hats: Political interest		0.881*** (0.0611)	0.884*** (0.0611)	0.876*** (0.0611)	0.880*** (0.0611)	0.751*** (0.0593)
Y-Hats: Age		0.513*** (0.0388)	0.515*** (0.0388)	0.509*** (0.0388)	0.512*** (0.0388)	0.491*** (0.0377)
Y-Hats: Gender		0.513*** (0.0719)	0.514*** (0.0719)	0.512*** (0.0718)	0.515*** (0.0718)	0.463*** (0.0697)
Voters' polarization		-0.129 (0.284)	-0.127 (0.284)	-0.129 (0.284)	-0.126 (0.284)	-0.213 (0.285)
Party system polarization#Left-right voter/party distance			0.00110* (0.000538)		0.00201*** (0.000562)	0.00175** (0.000545)

(continued on next page)

Table 10 (continued)

	Model 1: Without controls	Model 2: Without interactions	Model 3: Interaction between polarization and left-right voter/party distance	Model 4: Interaction between polarization and perceived party competence	Model 5: Both interactions	Model 6: Party identification as additional control
Competence (1)#Party system polarization				0.0218*** (0.00462)	0.0268*** (0.00482)	0.0164*** (0.00468)
Party identification (own party)						2.751*** (0.0866)
Party identification (other party)						-0.192** (0.0683)
_cons	3.988*** (0.114)	4.406*** (0.753)	4.436*** (0.753)	4.429*** (0.751)	4.489*** (0.752)	4.727*** (0.757)
lns1_1_1						
_cons	-0.987*** (0.146)	-0.925*** (0.149)	-0.925*** (0.149)	-0.926*** (0.149)	-0.926*** (0.149)	-0.921*** (0.149)
lnsig_e						
_cons	0.984*** (0.00240)	0.965*** (0.00358)	0.965*** (0.00358)	0.965*** (0.00358)	0.965*** (0.00358)	0.934*** (0.00358)
N_stacked	87107	39031	39031	39031	39031	39031
R ²	0.409	0.430	0.430	0.430	0.430	0.463

Standard errors in parentheses.

* p < 0.05, ** p < 0.01, *** p < 0.001

R² calculated using the mltrsq package in Stata 13 and based on proposal by Snijders and Bosker (1999: 99-105).

Note: Source: Own calculation based on CHES 2010 and EES 2009 using Stata 13.

Model 1 only includes the main independent variables on both the individual and country level, namely left-right distance, perceived competence party system polarization without any control variables, Model 2 was run with all variables but the ones for party identification and the interactions, Model 3 includes the interaction between polarization and left-right distance, Model 4 includes the interaction between polarization and perceived competence, while Model 5 includes both interactions. I included the interactions of both left-right distance and perceived party competence with party system polarization to control for a possible direct effect of party system polarization on how the voter assesses her own position or the parties positions or on the evaluation of parties' competence. As the R^2 stays with 0.43 the same though for Model 2 on the one hand and Model 3, 4 and 5 on the other hand though, adding the interaction terms does not contribute to explaining more of the variation in the dependent variable PTV. This is, all of the models that contain all of the variables except the party identification variables explain 43 percent of the variation in the propensity to vote for a given party. Compared to Model 1 that does not include any controls, this explanatory strength increases by 3 percentage points from 41 to 43 percent. Only Model 6 finally includes the party identification variables in addition to all of the other variables, because I expected these variables to have a strong mediating effect on the relationship between the dependent and the other independent variables. As I argued earlier, party identification not surprisingly is expected to explain a vast amount of vote choice. The effect will be discussed in detail when presenting H_5 . The increase of R^2 by 3 percentage points already provides some evidence of additional explanatory strength of Model 6 compared to Model 2, 3, 4 and 5. Having discussed general implications of the results of the hierarchical linear regression results on PTV, I will now move on to present the results for all of the five hypotheses one after the other.

6.1. Hypotheses 1 and 2

I expect the effect of left-right distance on PTV to vary across different levels of polarization in H_1 . Similarly, in H_2 , I expect the effect of perceived party competence to vary across different levels of polarization. To analyze how spatial voting and competence voting varies across different degrees of party system polarization, the marginal effects for this are shown in Figure 4, where the solid line represents spatial voting and the dashed line represents competence voting. The margins are based on Model 5 of Table 10, as they again include all of the controls including the two interaction effects. As shown in Table 10, the coefficient for spatial voting is

-0.42 and statistically significant ($p < 0.001$) in Model 5. This means that PTV increases by 1 point for every decrease of party distance of 0.42 points. In other words, a voter, who is closer to the party on the left-right positional scale has a higher propensity to vote for that party. This is in line with the general expectation. But how does spatial voting vary across various degrees of polarization?

What is shown with the solid line is the effect of left-right distance between the voter and the given party on PTV, which is denoted on the y-axis, for different degrees of party system polarization, which is denoted on the x-axis. The same applies to the dashed line that shows the effect of perceived party competence on PTV for different degrees of party system polarization.

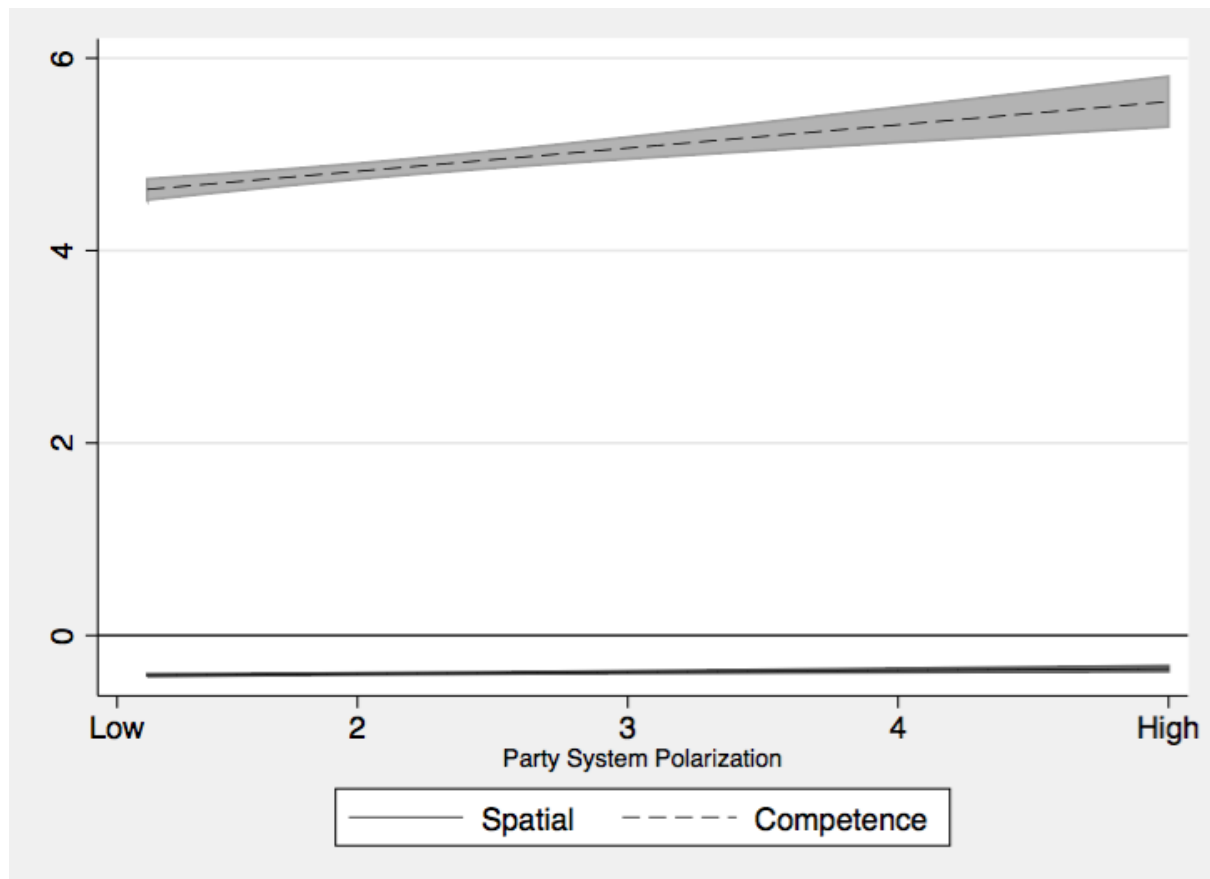


Figure 4: Marginal effects of spatial and competence voting

Note: Source: Own calculations based on CHES 2010 and EES 2009 using Stata 13.

The solid line indicates the marginal effects of spatial voting, the dashed line indicates the marginal effects of competence voting; the grey parts indicate the corresponding 95% confidence bounds.

The margins are predicted for 35 points on the continuum of party system polarization in 1 point steps from 1 to the scale's maximum at 35. All of the values for both spatial and competence voting at the respective degrees of party system polarization between 1 and 35 are

shown in Table A7. From 1 to 35 (i.e. from low to high party system polarization, spatial voting increases from -0.42 to -0.35. While this effect is rather small, it is statistically significant ($p < 0.001$). Because the effect is negative though, it means that spatial voting decreases in strength from 0.42 to 0.35 and is thus getting closer to zero. The interpretation thus is that spatial voting predicts the PTV stronger when party system polarization is low than when it is high.

Therefore, H_1 has to be rejected, in which I expected spatial voting to increase in strength in settings with high party system polarization.

The effect of perceived party competence on vote choice on different degrees of party system polarization is shown as dashed line in Figure 4. As shown in Table A7, the effect increases from 4.64 for a polarization degree of 1 to 5.55 for the maximum polarization degree of 35. All of the predicted margins for the variation of competence voting by party system polarization are statistically significant ($p < 0.001$).

This means that competence voting increases in settings with higher party system polarization, which is in line with H_2 . Therefore, H_2 is accepted based on the empirical analysis.

It is also noteworthy that, as the correlation in Table 9 already suggested, the coefficient of perceived competence is by far larger than the one of left-right distance between voter and party. In Model 5, where all of the variables except the ones for party identification are included, the correlation of perceived competence and PTV is 4.61 and statistically significant ($p < 0.001$), whereas the correlation of left-right distance between voter and party and PTV is -0.42 and statistically significant ($p < 0.001$). This can be observed in all of the coming figures that present the respective marginal effects.

Summarizing, spatial voting was shown to be stronger associated with vote choice in settings with low party system polarization and weaker in settings with high party system polarization. This is the opposite direction of what I expected based on the theory I presented in Section 3. Therefore, H_1 has to be rejected. Competence voting was shown to increase its association with vote choice when degrees of polarization increase. The coefficient and the predicted margins are positive and all statistically significant ($p < 0.001$). Therefore, H_2 can be accepted.

6.2. Hypothesis 3

In H_3 , I expect that there exist no systemic differences between positional issues and valence issues in the impact of polarization on spatial and competence voting. To test this, I divided the sample into six groups by their answers to the question asking for the most important problem in the country. I picked respondents mentioning unemployment, the environment, the economic conditions in general, immigration, nationalism and law and order to ensure a balanced mix between positional and valence issues. I assume the first three to be valence issues and the others to be positional issues. Figure 5 shows the marginal effects for each groups of spatial and competence voting on party system polarization.

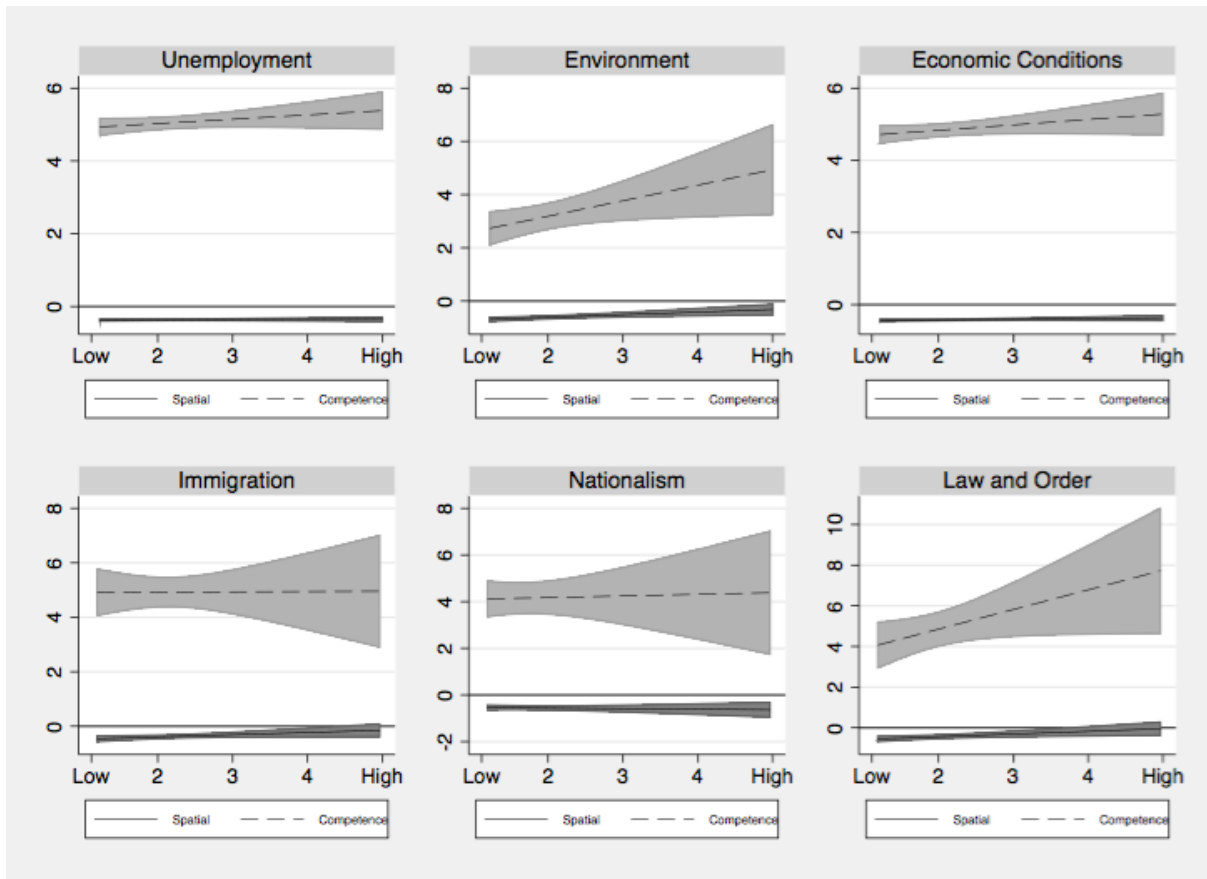


Figure 5: Marginal effects of spatial and competence voting for valence/positional issues

Note: Source: Own calculations based on CHES 2010 and EES 2009 using Stata 13.

The solid line indicates the marginal effects of spatial voting, the dashed line indicates the marginal effects of competence voting; the grey parts indicate the corresponding 95% confidence bounds.

The direction of both spatial and competence voting slopes are the same as demonstrated in Figure 4 for H_1 and H_2 with one exception: For respondents that mention nationalism (i.e. ‘national way of life’), the slope for spatial voting increases in strength (i.e. decreases in absolute value as it is negative). As shown in Table A8, the effect is -0.54 when the degree of party system polarization is 1 and then is -0.64 when the party system polarization is at its maximum degree of 35. Thus for respondents mentioning nationalism as most important problem, spatial considerations are stronger associated with vote choice in settings with a high degree of party system polarization and weaker in settings with a low degree of party system polarization. All predicted values are statistically significant ($p < 0.001$). At the same time, for those respondents competence evaluation is also found being stronger associated with vote choice in settings with a high degree of party system polarization. Here, also in line with the previous findings, the effect is located much higher in the y-axis and increases from 4.12 when the degree of polarization is at 1 to 4.38 when the degree of polarization is at 35, again all predicted values are statistically significant ($p < 0.01$).

While this finding provides a result that is exceptional compared to all of the other graphs, no systemic difference can be observed that accounts for the difference in nature of the issues. For example the graph for the valence issue *environment* and the graph for the positional issue *law and order* include a steeper slope of competence voting than the other graphs. This does not seem to have anything to do though with the nature of the issue. An explanation for this might be that parties tend to have extreme positions on these issues as well as extreme parties tend to have them as owned issue. Therefore the positions could be even reinforced when polarization is high (Pardos-Prado 2012: 350).

Summarizing, there are differences between the slopes for both spatial and competence voting for different groups that name different issues as being the most important problem, but they are not distributed in any visible systemic way. While there is evidence for H_3 being true, acceptance or rejection of this hypothesis has to be handled with some caution. I did not find any systemic difference between valence and positional issues in the empirical analysis of this thesis. This does not rule out however the possibility that such a difference exists. Also, I cannot provide evidence for the theoretical reasoning presented in Section 3 that the absence of such an effect is due to commingling of positional and competence considerations. For this, qualitative or mixed methods would be appropriate, like Stubager (2018) as well as Wagner and Zeglovits (2014) showed.

6.3. Hypothesis 4

In H_4 , I expected the effect of increase in strength for spatial and competence voting to be weaker for respondents with a high degree of political sophistication than for respondents with a low degree of political sophistication. I operationalized political sophistication as factual knowledge about political circumstances, which were asked in the EES. Figure 6 shows the marginal effects for the two groups of respondents having a low and a high political knowledge, respectively.

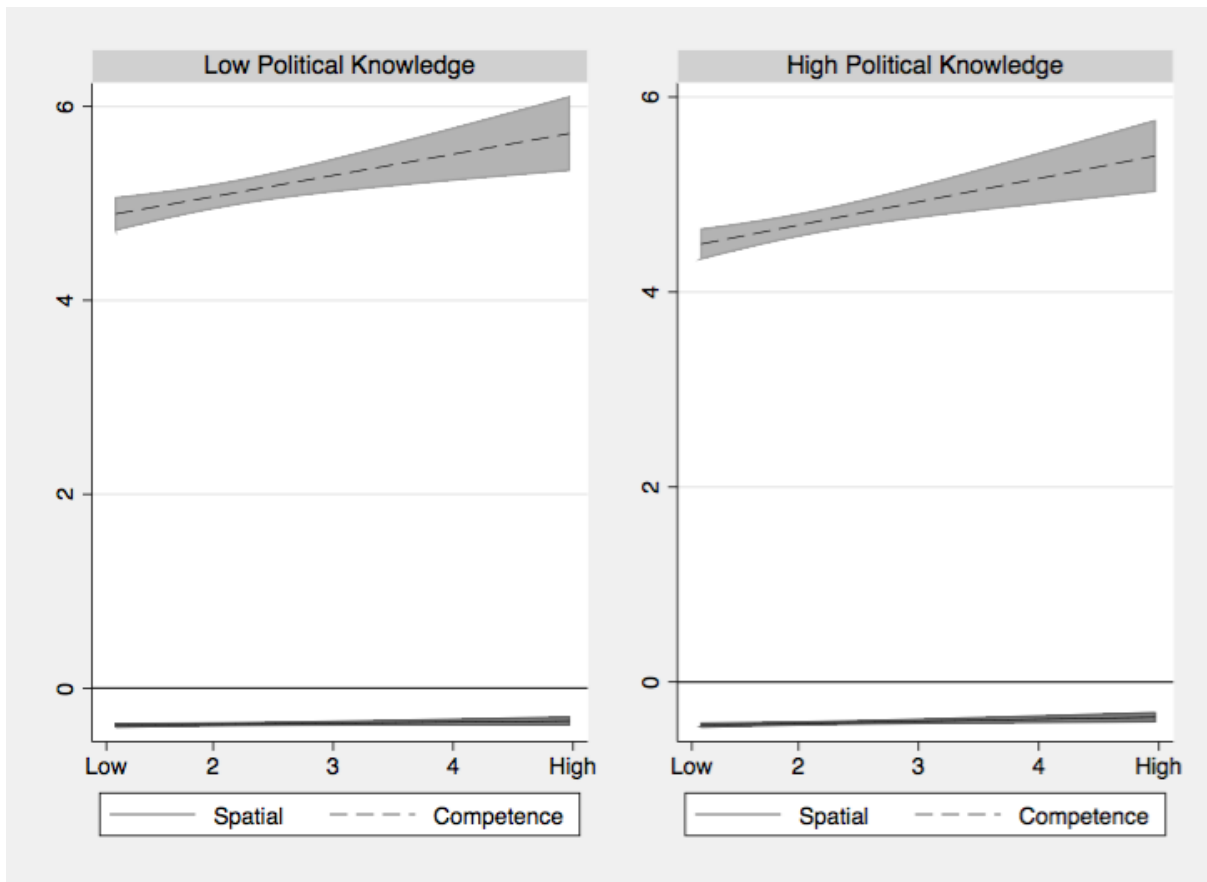


Figure 6: Marginal effects of spatial and competence voting for political knowledge

Note: Source: Own calculations based on CHES 2010 and EES 2009 using Stata 13.

The solid line indicates the marginal effects of spatial voting, the dashed line indicates the marginal effects of competence voting; the grey parts indicate the corresponding 95% confidence bounds.

As the differences between the slopes are not unambiguously different, I again resort to the predicted margins, which are shown in Table A9. For spatial voting, again the direction is different than I expected in H_1 . The negative values decrease in strength with increasing polarization. Between the minimum and the maximum observed degree of party system polarization (i.e. between 1 and 35), for respondents with low political knowledge, the value increases (i.e. the strength decreases) from -0.38 to -0.34, all values found statistically

significant ($p < 0.001$). For respondents with high political knowledge the value increases from -0.44 to -0.36. The difference therefore is larger for respondents with high political knowledge. Even though the difference of the of 0.04 is very small, I expected the effect to be smaller, not larger for respondents with high political knowledge. Obviously, the slope was opposite in the first place as well.

The difference of the competence slope is also very small. For respondents with low political knowledge it varies from 4.90 when polarization is 1 to 5.72 when polarization is 35. For respondents with high political knowledge it varies between 4.50 when polarization is 1 and 5.40 when polarization is 35. Here, again, the slope of competence is in the direction I expected it to be in H_2 . The difference between respondent groups of low and high political knowledge is again the opposite of what I expected. The variance is higher by 0.08 for respondents with high political knowledge. Again, this difference is rather small.

Summarizing, the development of spatial and competence voting alongside party system polarization does not differ too much between the groups with low political knowledge and high political knowledge, respectively. If anything, the effect for both spatial and competence voting is larger for respondents with high political knowledge, but the values are rather small.

As I discussed in Section 5, political sophistication is not easily operationalized. Therefore I applied the same comparison as above again for groups of low and high political interest instead of low and high political knowledge. The marginal effects for this model are shown in Figure 7 as well as in Table A10. This does not lead to a clearer picture though. Political knowledge and political interest provide the same results by and large. The reason for this might indeed be the operationalization.

Altogether, the findings lead to the rejection of H_4 . For the reasons of the effect being very weak and the operationalization of the concept of political sophistication is disputable, the findings have to be interpreted with some caution, as well.

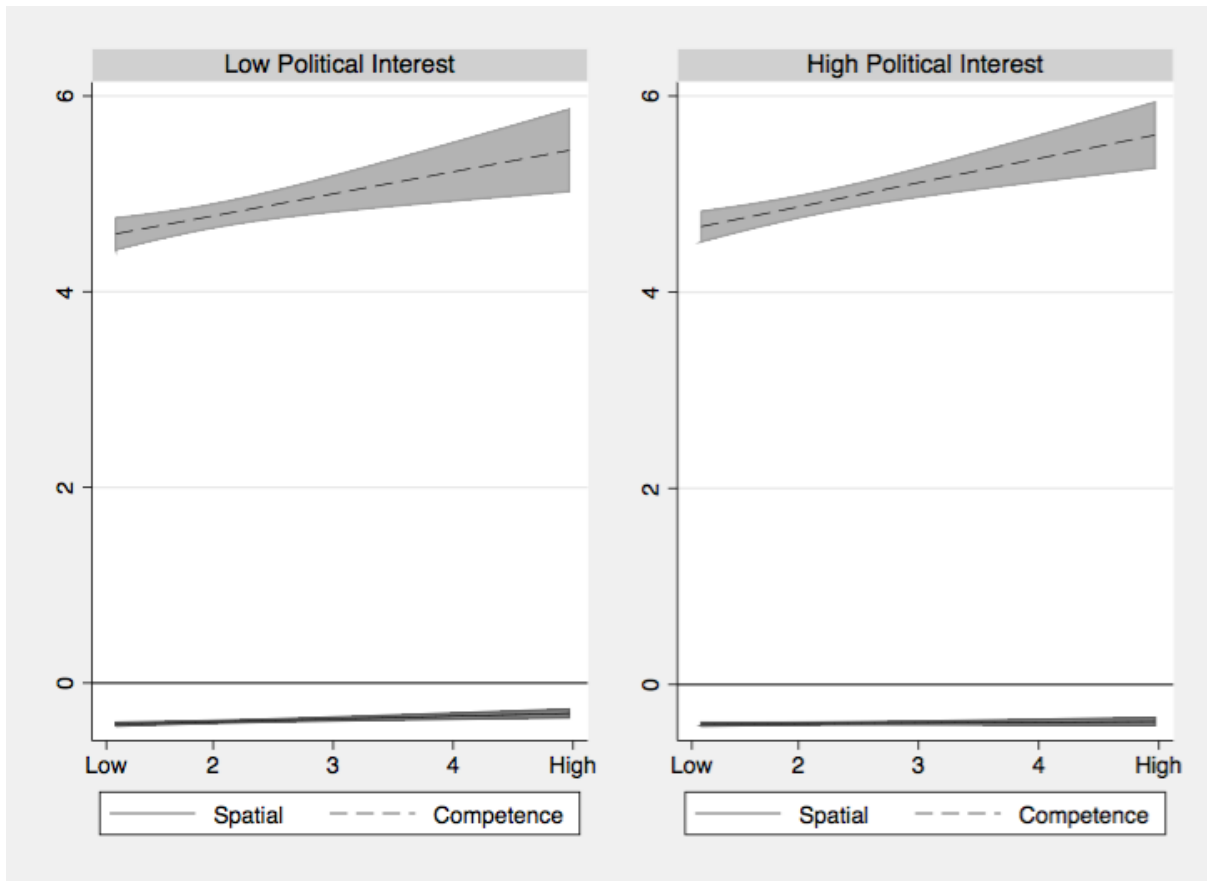


Figure 7: Marginal effects of spatial and competence voting for political interest

Note: Source: Own calculations based on CHES 2010 and EES 2009 using Stata 13.

The solid line indicates the marginal effects of spatial voting, the dashed line indicates the marginal effects of competence voting; the grey parts indicate the corresponding 95% confidence bounds.

6.4. Hypothesis 5

In H_5 , I expect that identifying with a party weakens the effect of both spatial and competence becoming stronger with higher degrees of party system polarization. I argued that party identification explains a large part of vote choice, which is why I used a separate model for analyzing party identification. In Model 6, I added *pidown* and *pidother* to all of the variables including controls and both interaction terms. In line with my expectations, the model adds explained variance with R^2 increasing by 3.3 percentage points to 0.463. Furthermore it leads to shrinking all of the other coefficients. The two main independent variables left-right distance and competence evaluation shrink from -0.42 to -0.39 and from 4.61 to 3.11, respectively. This effect thus seems to be especially strong for competence voting. This can be seen as some evidence for the argument that party identification explains a large share of evaluating a party as being competent. The marginal effects for respondents who do not identify with any party,

for those who identify with the party of the corresponding *respondent*party* row and for those who identify with a party, but not with the one corresponding to the *respondent*party* row are shown in Figure 8. The first finding concerns the very small effect of competence evaluations on PTV for identifiers of the preferred party. While it still increases with higher levels of party system polarization, it is overall a lot smaller than the previous observations with 0.68 when polarization is 1 and 1.35 when polarization is 35.

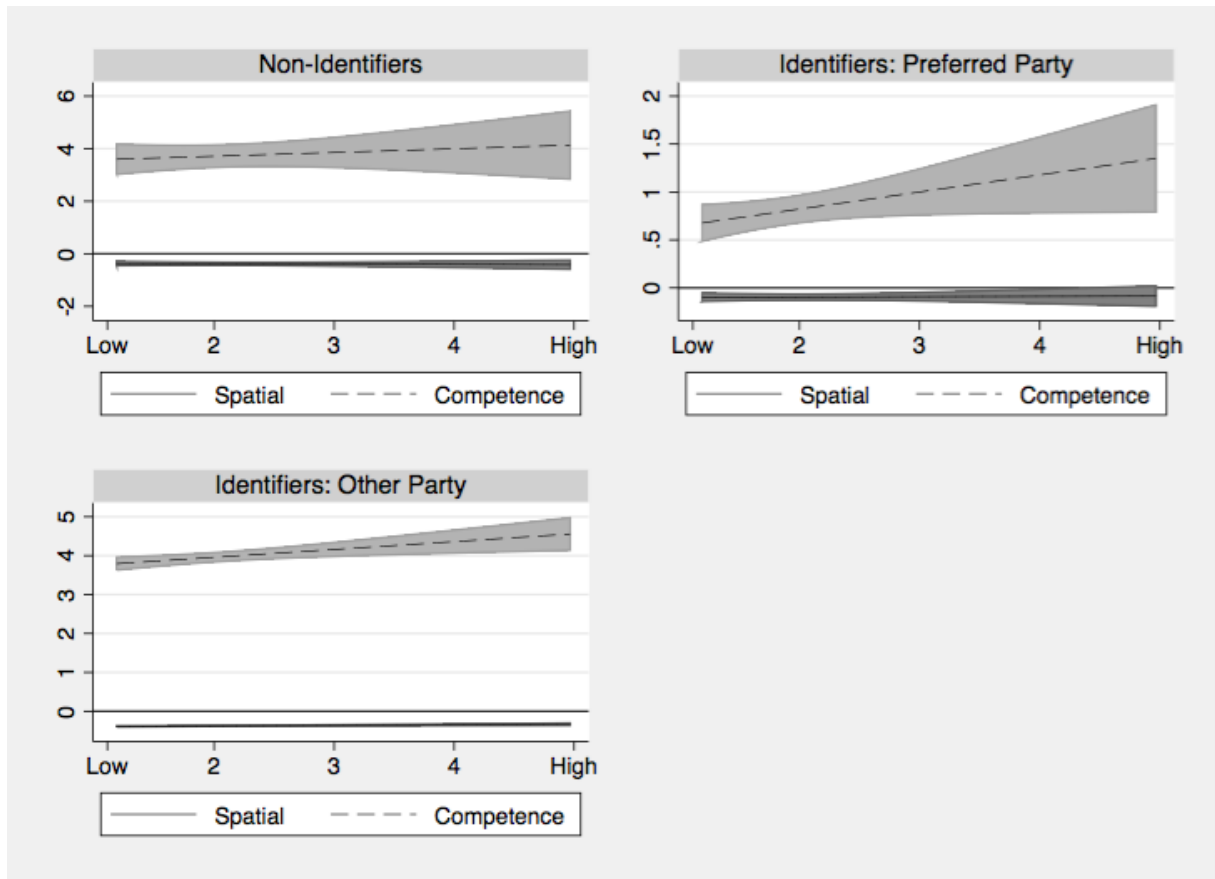


Figure 8: Marginal effects of party (non-)identifiers

Note: Source: Own calculations based on CHES 2010 and EES 2009 using Stata 13.

The solid line indicates the marginal effects of spatial voting, the dashed line indicates the marginal effects of competence voting; the grey parts indicate the corresponding 95% confidence bounds.

When comparing with the variation of the competence slope analyzed in H_2 for the overall sample at 4.64 and 5.55, the relative increase of identifiers of the preferred party is much stronger though almost doubling alongside the 1 to 35 party system polarization scale. Therefore, the effect is not becoming weaker as I expected in H_5 . It has to be rejected at this point. The overall weakness of the effect is still noteworthy, though.

Another important finding of this model is the effect of spatial voting for respondents who do not identify with any party. For those, again, the direction is as I expected it to be overall in H_1 . The strength increases (i.e. the value decreases) from -0.37 to -0.42 between polarization held at 1 to 35 and is found to be statistically significant ($p < 0.001$). This means that for non-identifiers, the theoretical reasoning I presented in Section 3 might apply. Further research is necessary in this regard that seems to be beyond the scope of this thesis.

Summarizing, party identification showed strong effects in varying the model altogether. Adding the variables for party identification to it, R^2 increased and all of the predictor coefficients shrunk. The strength of competence voting was reduced significantly. The impact of party system polarization though was getting stronger in settings with high polarization in contrast to what I expected. Therefore, H_5 has to be rejected.

7. Conclusion and Discussion

The aim of this thesis was to explain the relative strength of either of one vote choice model under conditions of varying party system polarization. While the empirical analysis of this thesis did not lead to proving all of my hypotheses, it shed light on several aspects of the associations between spatial voting, competence voting and party system polarization. I was able to provide evidence for my second hypothesis H_2 in that I showed that competence voting is stronger associated with vote choice in settings with high party system polarization. The other hypotheses, H_1 , H_3 , H_4 and H_5 , need to be adjusted, for which the empirical analyses of this thesis might guide the direction for further research. Here the theory I presented does not seem to fully explain the relationship between the dependent variable PTV, conditional effects of party system polarization and the main independent variables of left-right distance between party and voter and party competence evaluation. As I showed in the literature review, most of the explanations and expectations of the relationships are rather contested. Especially the relationship of spatial voting and party identification seems to be more complicated and calls for further investigation. For the overall sample the direction was opposite of what I expected it to be. But when integrating party identification variables into the model, the effect became like I argued earlier (i.e. stronger association with vote choice in settings with higher party system polarization) for those respondents who do not identify with any party. It seems to me

that more interactions have to be controlled for and therefore account for the heterogeneity of both the party systems and the voter characteristics.

Furthermore, my aim was to provide implications for both the academic and the political realm. This was in part successful in that for example campaign managers for political parties might consider further theoretical work on the conditions under which voters consciously and unconsciously decide which party to vote for. This work of course coincides with the work of political scientists, psychologists and sociologists.

Summarizing, there were some research avenues that I could not follow within the scope of this thesis. In the following I want to briefly mention some of the aspects of which some are shortcomings of the analysis in this thesis and some are hints towards topics in which further research could be interesting. The first aspect that was not considered in this thesis whatsoever are the characteristics of the different parties. As my focus was on explaining conditions for vote choice models in general, I did not account for any specific parties or party groups. It could be of help to control for party characteristics like party size or extreme positions and show how the variation in existence and vote share of those parties have an impact on vote choice. Furthermore, variation in additional characteristics on the demand side could provide further explanations for voting behavior. Some of the research I cited already focused on variation of voter characteristics (e.g. Lachat 2007; Van der Eijk 1996). Further research could shed light on the association of voter heterogeneity with vote choice.

Another variation that might be interesting concerns other contextual factors, like constituencies and electoral rules. These were not included in the analysis in this theses, but seem to be of relevance when further investigating especially cross-country variations.

Moreover, in this thesis, I only accounted for distributions of actual voters and did not account for abstentions and the reasons for it. Another realm of research that seems to be relevant in explaining vote choice is analyzing personalities and images of party leaders and other politicians. As this calls for qualitative interviewing methods, I was not able to account for this in this thesis. It is implicitly assumed here that positive images of politicians contribute to a better evaluation in competence and probably via the persuasion and projection effects on spatial considerations as well. Furthermore, as mentioned above, more theoretical work is needed especially regarding the debate around issue ownership. The concept is still used quite

ambiguously. Another shortcoming of the empirical analysis of this thesis is that I was not able to account for any variation in long-term and short-term changes of policies or political behavior in general. More time-series data would be needed for such an analysis.

Concluding, while having to interpret the findings of this analysis with some caution, I was able to shed light on some problems that occur with different vote choice models both conceptually and empirically.

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9. Appendix

Table A1: Descriptive Statistics

<i>Variable</i>	<i>Mean</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
ptv	3.069442	3.378283	0	10
q39_p1	3.899522	3.681738	0	10
q39_p2	3.946497	3.564562	0	10
q39_p3	3.325318	3.36273	0	10
q39_p4	3.120432	3.475067	0	10
q39_p5	3.259356	3.422891	0	10
q39_p6	2.686092	3.216261	0	10
q39_p7	2.150053	2.974471	0	10
q39_p8	1.961276	2.825676	0	10
q39_p9	3.591699	3.332822	0	10
q39_p10	2.045874	3.030243	0	10
q39_p11	1.262245	2.262819	0	10
q39_p12	.8202503	1.925769	0	10
q39_p13	.4277389	1.47874	0	10
q39_p14	.4703911	1.535837	0	10
q39_p15	.6094808	1.668005	0	10
polar	9.383064	8.680858	.7839906	35.04
q1	504.8626	1889.511	1	9800
q4	709938.3	731009	20	1826951
partycomp	3.28615	2.254715	1	11
comp	.0666667	.2494445	0	1
lrself	5.331967	2.689845	0	10
lrparty	4.883408	3.112577	0	10
lrdist	3.244242	2.688053	0	10
sdlrself	2.651832	.2924418	2.18383	3.245296
q47_p1	4.895628	3.271999	0	10
q47_p2	5.095875	2.876264	0	10
q47_p3	4.904387	3.106887	0	10
q47_p4	4.537009	3.102573	0	10
q47_p5	5.512619	2.935377	0	10
q47_p6	5.093191	3.111472	0	10
q47_p7	4.087805	3.298591	0	10
q47_p8	4.892407	3.330241	0	10

(continued on next page)

Table A1 (continued)

q47_p9	4.894415	2.930451	0	10
q47_p10	6.010681	3.433735	0	10
q47_p11	7.202703	2.967182	0	10
q47_p12	4.753623	2.650868	0	10
q47_p13	2.622222	2.750522	0	10
q47_p14	2.987762	2.847356	0	10
q47_p15	5.118966	2.958732	0	10
q78	2.539783	.8903406	1	4
ypolint	-5.69e-10	.2277517	-1.441874	1.512952
q87	745752.8	727979.1	0	1826951
q92	.7732394	.4187371	0	1
q93	.4762736	.4994377	0	1
q94	.7932331	.4049876	0	1
q95	.7281172	.4449306	0	1
q96	.8916093	.3108738	0	1
q97	.5296893	.4991186	0	1
q98	.7403802	.4384269	0	1
ypolknow	9.45e-09	.5405276	-3.420442	4.665071
pidown	.0346407	.1828684	0	1
pidother	.8563764	.3507082	0	1
gender	.4413928	.496554	0	1
ygender	9.34e-09	.176089	-.823647	.7277646
age2009	50.24727	16.97438	18	99
yage	-4.45e-09	.3438688	-2.432052	2.517905

Note: Source: Own calculation based on CHES 2010 and EES 2009 using Stata 13.

Table A2: Questions in the wording

<i>Data set</i>	<i>Description</i>	<i>Variable</i>	<i>Question</i>	<i>Scale</i>
CHES	Left-Right party placement (experts)	lrgen	“We now turn to a few questions on the ideological positions of political parties in the Netherlands in 2010. Please tick the box that best describes each party's overall ideology on a scale ranging from 0 (extreme left) to 10 (extreme right).”	0-10
	Seat share in national election most prior to 2010	seat	/	0-100
EES	Propensity to vote	q39_p1- q39_p15	“We have a number of parties in Britain each of which would like to get your vote. How probable is it that you will ever vote for the following parties? Please specify your views on a scale where 0 means “not at all probable” and 10 means “very probable”.	0-10
	Left-Right self-placement	q46	“In political matters people talk of ‘the left’ and ‘the right’. What is your position? Please indicate your views using any number on a scale from 0 to 10, where 0 means ‘left’ and 10 means ‘right’. Which number best describes your position?”	0-10
	Left-Right party-placement (voters)	q47_p1- q47_p15	“And about where would you place the following parties on this scale?”	0-10
	Most important problem	q1	“What do you think is the most important problem facing [country] today?”	Open-ended
	Perceived party competence	q4	“Which political party do you think would be best at dealing with [answer in q1]?”	Open-ended, pre-coded 1-15
	Political Interest	q78	“To what extent would you say you are interested in politics? Very, somewhat, a little, or not at all?”	1-4
	Party identification	q87	“Do you consider yourself to be close to any particular party? If so, which party do you feel close to?”	Open-ended, pre-coded 1-15

(continued on next page)

Table A2 (continued)

Political sophistication	q92-q98	“Now some questions about the European Union and Britain. For these questions, I am going to read out some statements. For each one, could you please tell me whether you believe they are true or false? If you don’t know, just say so and we will skip to the next one.”	Dummy
	q92	“Switzerland is a member of the EU”	Dummy
	q93	“The European Union has 25 member states”	Dummy
	q94	“Every country in the EU elects the same number of representatives to the European Parliament.”	Dummy
	q95	“Every six months, a different Member State becomes president of the Council of the European Union.”	Dummy
	q96 (country specific)	“The British Secretary of State for Children, schools and families is Ed Balls.” ¹³	Dummy
	q97 (country specific)	“Individuals must be 25 or older to stand as candidates in British general elections.”	Dummy
	q98 (country specific)	“There are 969 members of the British House of Commons.”	Dummy
Gender	q102	/	Dummy
Year of birth	q103	/	Open-ended

Note: Source: Own calculation based on CHES 2010 and EES 2009 using Stata 13.

¹³ The questions q96, q97 and q98 are country specific. The question for British survey is mentioned exemplarily here.

Table A3: Party system polarization by country

<i>Country</i>	<i>Party system polarization</i>	<i>Number of experts</i>
Belgium	78399.063	14
Denmark	264251.19	9
Germany	415293.25	6
Greece	1141334.3	7
Spain	1322028.6	13
France	2798890.3	9
Ireland	2094340.9	6
Italy	1315264.1	14
The Netherlands	164276	10
United Kingdom	1794727.3	8
Portugal	860132.38	5
Austria	397627.84	6
Finland	305891.81	8
Sweden	476181.88	10
Bulgaria	1327986.8	10
Czech Republic	387029.47	7
Estonia	524529.75	6
Hungary	3504000.5	7
Latvia	139902.73	5
Lithuania	387945.03	11
Poland	1483696.9	8
Romania	641712.25	6
Slovakia	237948.17	10
Slovenia	476310	8
Total		203

Note: Source: Own calculation based on CHES 2010 using Stata 13.

Table A4: Percentages of left-right distance between voter and party per country

<i>Country</i>	<i>Distance self-assessment left-right / party-assessment left-right</i>										
	<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>
<i>Austria</i>	13.91	18.27	17.14	13.12	9.52	13.79	4.75	3.59	2.75	0.99	2.17
<i>Belgium</i>	15.75	19.39	17.06	13.79	9.30	11.38	4.36	3.05	2.38	1.08	2.46
<i>Bulgaria</i>	14.53	15.49	14.12	11.55	9.33	13.90	5.96	5.20	3.01	2.41	4.48
<i>Czech Republic</i>	14.90	15.76	15.03	11.80	9.54	11.84	5.19	4.67	4.11	2.39	4.78
<i>Denmark</i>	13.73	18.33	15.24	13.91	10.16	10.16	5.97	4.56	3.64	1.44	2.86
<i>Estonia</i>	16.62	21.34	17.24	13.80	9.08	11.27	4.17	2.20	2.12	0.84	1.32
<i>Finland</i>	14.85	21.82	17.95	14.42	9.58	8.51	4.61	3.30	2.58	1.08	1.30
<i>France</i>	14.31	15.52	14.42	12.68	9.64	13.68	5.99	4.70	4.15	1.13	3.78
<i>Germany</i>	18.19	20.67	17.63	12.72	9.22	10.30	4.16	2.62	2.00	0.48	2.02
<i>Greece</i>	14.82	14.63	14.92	12.46	9.31	15.17	3.98	4.03	2.96	1.28	6.44
<i>Hungary</i>	13.38	14.41	12.93	11.07	9.59	12.75	5.41	5.44	4.65	3.91	6.46
<i>Ireland</i>	16.87	17.51	16.39	12.95	9.06	12.51	4.34	2.97	2.35	1.06	3.99
<i>Italy</i>	14.77	13.68	13.14	11.10	8.49	11.86	5.25	5.94	5.09	2.90	7.78
<i>Latvia</i>	17.25	17.97	15.75	11.99	8.76	12.08	4.43	3.96	2.22	1.86	3.71
<i>Lithuania</i>	14.97	17.29	16.63	12.30	10.00	11.19	4.74	3.61	2.66	1.87	4.74
<i>The Netherlands</i>	13.62	20.67	18.24	13.74	9.63	8.87	5.44	3.84	2.71	0.95	2.29
<i>Poland</i>	14.33	15.32	14.54	11.88	9.89	13.34	5.45	4.34	4.38	2.38	4.15
<i>Portugal</i>	16.37	15.74	14.28	12.35	10.04	14.75	4.71	4.01	3.12	1.61	3.00
<i>Romania</i>	17.47	13.33	11.28	11.10	8.03	14.22	3.90	4.25	4.65	3.53	8.24
<i>Slovakia</i>	16.11	17.13	14.81	11.66	10.49	12.20	4.89	4.32	2.91	1.75	3.73
<i>Slovenia</i>	16.53	15.35	13.60	12.20	8.22	13.34	4.25	3.58	3.71	1.80	7.43
<i>Spain</i>	13.16	15.50	14.76	12.98	10.24	13.23	5.43	4.85	3.20	1.57	5.07
<i>Sweden</i>	12.87	17.31	15.77	12.81	9.92	9.84	6.19	5.30	3.80	2.10	4.10
<i>United Kingdom</i>	16.04	19.34	15.93	12.94	9.03	12.61	4.56	3.15	2.02	1.10	3.29

Note: Source: Own calculation based on EES 2009 using Stata 13.

Table A5: Most important problems mentioned by the respondents

<i>Most important problem in [country] today</i>	<i>Percent</i>	<i>Cumulated</i>
Unemployment	25.59	25.59
Economic Conditions	16.59	42.18
Effects of financial crisis on domestic	11.65	53.83
[DO NOT KNOW]	3.79	57.62
Any other topic	3.73	61.36
Executive and Administrative Efficiency	2.65	64.01
Wages and Earnings	2.14	66.15
Immigration	1.99	68.13
Political Authority: Strong Government,...	1.93	70.06
National employment policies	1.89	71.95
National Political corruption	1.56	73.50
Pensions	1.46	74.97
Political Corruption	1.43	76.40
Environment	1.38	77.78
[REFUSED]	1.38	79.16
Health Care	1.29	80.46
Social Justice	1.28	81.74
National Way of Life	0.96	82.70
Welfare State	0.95	83.65
Law and Order	0.89	84.54

Note: Source: Own calculations based on EES 2009. Only the first 20 issues by frequency are included. This represents more than 80 percent of the sample. All issues used in the analysis originate from the issues listed here and are printed in bold.

Table A6: Percentages of party identification per country

	Party the respondent feels close to															
Country	0 (None)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Austria	36.31	20.45	23.80	5.59	1.90	10.28	1.23	0.11	0.34							
Belgium	27.16	19.47	12.50	16.95	5.05	12.14	5.05	0.60	0.72	0.36						
Bulgaria	33.21	19.95	3.03	4.80	5.93	25.25	6.19	0.76	0.88							
Czech Republic	45.85	16.38	5.74	7.45	21.60	2.98										
Denmark	41.87	16.27	2.18	4.97	13.26	5.70	15.54	0.21								
Estonia	62.10	6.75	14.24	7.28	4.82	3.10	1.71									
Finland	34.53	12.98	13.90	16.57	4.52	8.23	1.97	2.78	4.52							
France	41.42	2.60	2.13	14.91	10.30	2.84	24.85	0.95								
Germany	45.05	22.41	15.32	7.21	3.72	6.31										
Greece	37.42	22.28	24.52	5.86	4.26	3.41	2.24									
Hungary	39.38	38.50	6.31		0.44		1.33	12.39	0.88	0.77						
Ireland	62.65	13.16	11.53	1.33	8.47	2.04	0.31			0.51						
Italy	15.86	33.57	11.05	25.64	6.52	2.83	3.40		1.13							
Latvia	69.34	1.92	2.83	5.66	9.39	1.81	2.04	1.47	4.41	1.13						
Lithuania	63.71	12.81	7.47	0.53	3.95	1.49	6.51	1.07	1.49	0.53	0.43					
The Netherlands	10.99	15.80	18.57	8.32	13.02	8.86	2.13	3.31	2.24	8.75	7.79	0.21				
Poland	40.97		5.11			0.48	0.71	10.10		27.67	14.96					
Portugal	18.34	10.16	4.71	7.56	27.14	32.09										
Romania	42.05	18.85	20.81	8.28	3.38	0.22	0.54	5.88								
Slovakia	42.53	2.38	26.30	12.77	4.44	5.84	3.25	1.19	1.30							
Slovenia	45.37	3.83	2.77	1.49	2.77	16.29	17.04	6.07	3.62	0.75						
Spain	40.80	23.64	25.23	4.66		1.93	2.16	0.57	0.23		0.34			0.45		
Sweden	30.97	5.67	22.36	2.18	7.63	20.39	2.62	7.52	0.65							
United Kingdom	58.79	14.42	16.77	4.81	0.72	0.20	1.53	1.12	1.64							

Note: Source: Own calculation based on EES 2009 using Stata 13.

Table A7: Marginal effects of spatial and competence voting

<i>Party system polarization at</i>	<i>Spatial</i>	<i>Competence</i>
1	-0.413*** (0.00674)	4.636*** (0.0557)
2	-0.411*** (0.00638)	4.663*** (0.0526)
3	-0.409*** (0.00605)	4.690*** (0.0498)
4	-0.407*** (0.00575)	4.716*** (0.0473)
5	-0.405*** (0.00549)	4.743*** (0.0452)
6	-0.403*** (0.00529)	4.770*** (0.0435)
7	-0.401*** (0.00513)	4.797*** (0.0423)
8	-0.399*** (0.00504)	4.824*** (0.0416)
9	-0.397*** (0.00500)	4.851*** (0.0415)
10	-0.395*** (0.00503)	4.877*** (0.0420)
11	-0.393*** (0.00512)	4.904*** (0.0430)
12	-0.391***	4.931***

	(0.00527)	(0.0445)
13	-0.389*** (0.00547)	4.958*** (0.0464)
14	-0.387*** (0.00573)	4.985*** (0.0488)
15	-0.385*** (0.00602)	5.011*** (0.0515)
16	-0.383*** (0.00635)	5.038*** (0.0545)
17	-0.381*** (0.00671)	5.065*** (0.0577)
18	-0.379*** (0.00710)	5.092*** (0.0612)
19	-0.377*** (0.00751)	5.119*** (0.0648)
20	-0.375*** (0.00794)	5.146*** (0.0686)
21	-0.373*** (0.00838)	5.172*** (0.0724)
22	-0.371*** (0.00884)	5.199*** (0.0765)
23	-0.369*** (0.00931)	5.226*** (0.0805)
24	-0.367*** (0.00979)	5.253*** (0.0847)

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Table A7 (continued)

25	-0.365*** (0.0103)	5.280*** (0.0889)
26	-0.363*** (0.0108)	5.307*** (0.0932)
27	-0.361*** (0.0113)	5.333*** (0.0976)
28	-0.359*** (0.0118)	5.360*** (0.102)
29	-0.357*** (0.0123)	5.387*** (0.106)
30	-0.355*** (0.0128)	5.414*** (0.111)
31	-0.353*** (0.0133)	5.441*** (0.115)
32	-0.351*** (0.0138)	5.468*** (0.120)
33	-0.349*** (0.0144)	5.494*** (0.124)
34	-0.347*** (0.0149)	5.521*** (0.129)

35	-0.345*** (0.0154)	5.548*** (0.134)
<i>N</i> _stacked	39031	39031

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Note: Source: Own calculation based on CHES 2010 and EES 2009 using Stata 13.

Table A8: Marginal effects of spatial and competence voting for valence/positional issues

<i>Party system polarization at</i>	<i>Unemployment</i>		<i>Environment</i>		<i>Economic conditions</i>		<i>Immigration</i>		<i>Nationalism</i>		<i>Law and order</i>	
	<i>Spatial</i>	<i>Competence</i>	<i>Spatial</i>	<i>Competence</i>	<i>Spatial</i>	<i>Competence</i>	<i>Spatial</i>	<i>Competence</i>	<i>Spatial</i>	<i>Competence</i>	<i>Spatial</i>	<i>Competence</i>
1	-0.369*** (0.0145)	4.936*** (0.118)	-0.690*** (0.0401)	2.733*** (0.318)	-0.438*** (0.0149)	4.715*** (0.124)	-0.460*** (0.0537)	4.916*** (0.434)	-0.537*** (0.0535)	4.118*** (0.390)	-0.551*** (0.0669)	4.065*** (0.575)
2	-0.369*** (0.0137)	4.949*** (0.112)	-0.679*** (0.0381)	2.798*** (0.300)	-0.436*** (0.0140)	4.732*** (0.117)	-0.451*** (0.0501)	4.917*** (0.404)	-0.540*** (0.0507)	4.126*** (0.370)	-0.536*** (0.0630)	4.172*** (0.539)
3	-0.368*** (0.0130)	4.962*** (0.106)	-0.668*** (0.0363)	2.863*** (0.285)	-0.434*** (0.0133)	4.748*** (0.111)	-0.442*** (0.0467)	4.919*** (0.376)	-0.543*** (0.0484)	4.133*** (0.355)	-0.521*** (0.0595)	4.280*** (0.507)
4	-0.368*** (0.0123)	4.975*** (0.100)	-0.657*** (0.0348)	2.928*** (0.272)	-0.432*** (0.0126)	4.765*** (0.105)	-0.433*** (0.0435)	4.920*** (0.350)	-0.546*** (0.0466)	4.141*** (0.344)	-0.506*** (0.0565)	4.387*** (0.479)
5	-0.367*** (0.0118)	4.988*** (0.0954)	-0.646*** (0.0335)	2.992*** (0.261)	-0.430*** (0.0120)	4.782*** (0.100)	-0.424*** (0.0406)	4.921*** (0.327)	-0.549*** (0.0454)	4.149*** (0.339)	-0.492*** (0.0539)	4.495*** (0.456)
6	-0.367*** (0.0113)	5.001*** (0.0914)	-0.635*** (0.0326)	3.057*** (0.254)	-0.428*** (0.0116)	4.798*** (0.0961)	-0.415*** (0.0380)	4.922*** (0.307)	-0.552*** (0.0448)	4.156*** (0.340)	-0.477*** (0.0518)	4.602*** (0.440)
7	-0.366*** (0.0109)	5.014*** (0.0882)	-0.624*** (0.0321)	3.122*** (0.250)	-0.426*** (0.0112)	4.815*** (0.0932)	-0.406*** (0.0359)	4.923*** (0.291)	-0.554*** (0.0449)	4.164*** (0.346)	-0.462*** (0.0504)	4.710*** (0.429)
8	-0.365*** (0.0107)	5.028*** (0.0860)	-0.613*** (0.0319)	3.187*** (0.250)	-0.424*** (0.0111)	4.832*** (0.0915)	-0.397*** (0.0342)	4.924*** (0.280)	-0.557*** (0.0456)	4.172*** (0.357)	-0.447*** (0.0497)	4.817*** (0.426)
9	-0.365*** (0.0105)	5.041*** (0.0849)	-0.602*** (0.0321)	3.252*** (0.253)	-0.422*** (0.0110)	4.848*** (0.0909)	-0.388*** (0.0332)	4.925*** (0.274)	-0.560*** (0.0469)	4.179*** (0.374)	-0.432*** (0.0496)	4.924*** (0.430)

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Table A8 (continued)

10	-0.364*** (0.0105)	5.054*** (0.0848)	-0.592*** (0.0327)	3.316*** (0.260)	-0.420*** (0.0112)	4.865*** (0.0917)	-0.379*** (0.0327)	4.926*** (0.274)	-0.563*** (0.0488)	4.187*** (0.394)	-0.418*** (0.0503)	5.032*** (0.442)
11	-0.364*** (0.0106)	5.067*** (0.0859)	-0.581*** (0.0336)	3.381*** (0.270)	-0.418*** (0.0114)	4.882*** (0.0936)	-0.370*** (0.0329)	4.927*** (0.279)	-0.566*** (0.0512)	4.195*** (0.418)	-0.403*** (0.0517)	5.139*** (0.460)
12	-0.363*** (0.0108)	5.080*** (0.0880)	-0.570*** (0.0349)	3.446*** (0.283)	-0.416*** (0.0118)	4.898*** (0.0967)	-0.361*** (0.0337)	4.928*** (0.290)	-0.569*** (0.0540)	4.203*** (0.446)	-0.388*** (0.0537)	5.247*** (0.483)
13	-0.363*** (0.0112)	5.093*** (0.0910)	-0.559*** (0.0364)	3.511*** (0.298)	-0.414*** (0.0124)	4.915*** (0.101)	-0.352*** (0.0352)	4.929*** (0.306)	-0.572*** (0.0573)	4.210*** (0.475)	-0.373*** (0.0562)	5.354*** (0.512)
14	-0.362*** (0.0116)	5.106*** (0.0950)	-0.548*** (0.0382)	3.575*** (0.315)	-0.412*** (0.0130)	4.931*** (0.106)	-0.343*** (0.0371)	4.931*** (0.325)	-0.575*** (0.0608)	4.218*** (0.507)	-0.358*** (0.0593)	5.462*** (0.545)
15	-0.362*** (0.0122)	5.119*** (0.0997)	-0.537*** (0.0403)	3.640*** (0.334)	-0.410*** (0.0138)	4.948*** (0.112)	-0.334*** (0.0395)	4.932*** (0.349)	-0.577*** (0.0646)	4.226*** (0.541)	-0.344*** (0.0627)	5.569*** (0.581)
16	-0.361*** (0.0128)	5.133*** (0.105)	-0.526*** (0.0425)	3.705*** (0.355)	-0.408*** (0.0146)	4.965*** (0.118)	-0.325*** (0.0423)	4.933*** (0.374)	-0.580*** (0.0686)	4.233*** (0.576)	-0.329*** (0.0665)	5.677*** (0.621)
17	-0.361*** (0.0135)	5.146*** (0.111)	-0.515*** (0.0449)	3.770*** (0.377)	-0.406*** (0.0155)	4.981*** (0.125)	-0.316*** (0.0454)	4.934*** (0.403)	-0.583*** (0.0728)	4.241*** (0.612)	-0.314*** (0.0707)	5.784*** (0.662)
18	-0.360*** (0.0142)	5.159*** (0.117)	-0.504*** (0.0474)	3.834*** (0.400)	-0.404*** (0.0164)	4.998*** (0.133)	-0.307*** (0.0487)	4.935*** (0.432)	-0.586*** (0.0771)	4.249*** (0.649)	-0.299*** (0.0750)	5.892*** (0.706)
19	-0.360*** (0.0150)	5.172*** (0.124)	-0.493*** (0.0500)	3.899*** (0.424)	-0.403*** (0.0174)	5.015*** (0.141)	-0.297*** (0.0523)	4.936*** (0.464)	-0.589*** (0.0816)	4.257*** (0.687)	-0.284*** (0.0796)	5.999*** (0.751)
20	-0.359*** (0.0159)	5.185*** (0.132)	-0.482*** (0.0528)	3.964*** (0.448)	-0.401*** (0.0184)	5.031*** (0.149)	-0.288*** (0.0560)	4.937*** (0.496)	-0.592*** (0.0862)	4.264*** (0.725)	-0.270*** (0.0843)	6.107*** (0.798)
21	-0.358*** (0.0167)	5.198*** (0.139)	-0.472*** (0.0556)	4.029*** (0.473)	-0.399*** (0.0195)	5.048*** (0.158)	-0.279*** (0.0598)	4.938*** (0.530)	-0.595*** (0.0908)	4.272*** (0.764)	-0.255*** (0.0892)	6.214*** (0.845)

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Table A8 (continued)

22	-0.358*** (0.0177)	5.211*** (0.147)	-0.461*** (0.0585)	4.093*** (0.499)	-0.397*** (0.0206)	5.065*** (0.167)	-0.270*** (0.0637)	4.939*** (0.564)	-0.598*** (0.0956)	4.280*** (0.804)	-0.240* (0.0942)	6.322*** (0.894)
23	-0.357*** (0.0186)	5.224*** (0.155)	-0.450*** (0.0615)	4.158*** (0.525)	-0.395*** (0.0217)	5.081*** (0.176)	-0.261*** (0.0677)	4.940*** (0.599)	-0.600*** (0.100)	4.287*** (0.844)	-0.225* (0.0993)	6.429*** (0.944)
24	-0.357*** (0.0196)	5.238*** (0.163)	-0.439*** (0.0645)	4.223*** (0.552)	-0.393*** (0.0228)	5.098*** (0.185)	-0.252*** (0.0718)	4.941*** (0.635)	-0.603*** (0.105)	4.295*** (0.885)	-0.210* (0.105)	6.537*** (0.994)
25	-0.356*** (0.0205)	5.251*** (0.171)	-0.428*** (0.0675)	4.288*** (0.578)	-0.391*** (0.0240)	5.115*** (0.194)	-0.243** (0.0760)	4.943*** (0.670)	-0.606*** (0.110)	4.303*** (0.925)	-0.196 (0.110)	6.644*** (1.044)
26	-0.356*** (0.0215)	5.264*** (0.180)	-0.417*** (0.0706)	4.352*** (0.606)	-0.389*** (0.0251)	5.131*** (0.204)	-0.234** (0.0802)	4.944*** (0.707)	-0.609*** (0.115)	4.310*** (0.966)	-0.181 (0.115)	6.752*** (1.096)
27	-0.355*** (0.0225)	5.277*** (0.188)	-0.406*** (0.0738)	4.417*** (0.633)	-0.387*** (0.0263)	5.148*** (0.213)	-0.225** (0.0844)	4.945*** (0.743)	-0.612*** (0.120)	4.318*** (1.008)	-0.166 (0.121)	6.859*** (1.147)
28	-0.355*** (0.0236)	5.290*** (0.197)	-0.395*** (0.0769)	4.482*** (0.661)	-0.385*** (0.0275)	5.165*** (0.223)	-0.216* (0.0887)	4.946*** (0.780)	-0.615*** (0.125)	4.326*** (1.049)	-0.151 (0.126)	6.966*** (1.199)
29	-0.354*** (0.0246)	5.303*** (0.206)	-0.384*** (0.0801)	4.547*** (0.688)	-0.383*** (0.0287)	5.181*** (0.233)	-0.207* (0.0930)	4.947*** (0.818)	-0.618*** (0.130)	4.334*** (1.091)	-0.136 (0.132)	7.074*** (1.252)
30	-0.354*** (0.0256)	5.316*** (0.214)	-0.373*** (0.0833)	4.611*** (0.716)	-0.381*** (0.0299)	5.198*** (0.243)	-0.198* (0.0974)	4.948*** (0.855)	-0.620*** (0.135)	4.341*** (1.133)	-0.122 (0.137)	7.181*** (1.304)
31	-0.353*** (0.0267)	5.330*** (0.223)	-0.363*** (0.0866)	4.676*** (0.745)	-0.379*** (0.0311)	5.215*** (0.253)	-0.189 (0.102)	4.949*** (0.893)	-0.623*** (0.141)	4.349*** (1.175)	-0.107 (0.143)	7.289*** (1.357)
32	-0.353*** (0.0278)	5.343*** (0.232)	-0.352*** (0.0898)	4.741*** (0.773)	-0.377*** (0.0324)	5.231*** (0.263)	-0.180 (0.106)	4.950*** (0.930)	-0.626*** (0.146)	4.357*** (1.217)	-0.0921 (0.148)	7.396*** (1.410)
33	-0.352*** (0.0288)	5.356*** (0.241)	-0.341*** (0.0931)	4.806*** (0.801)	-0.375*** (0.0336)	5.248*** (0.273)	-0.171 (0.111)	4.951*** (0.968)	-0.629*** (0.151)	4.364*** (1.259)	-0.0773 (0.154)	7.504*** (1.464)

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Table A8 (continued)

34	-0.351*** (0.0299)	5.369*** (0.250)	-0.330*** (0.0964)	4.871*** (0.830)	-0.373*** (0.0348)	5.265*** (0.283)	-0.162 (0.115)	4.952*** (1.006)	-0.632*** (0.156)	4.372*** (1.302)	-0.0625 (0.160)	7.611*** (1.517)
35	-0.351*** (0.0310)	5.382*** (0.259)	-0.319** (0.0997)	4.935*** (0.858)	-0.371*** (0.0361)	5.281*** (0.293)	-0.153 (0.119)	4.953*** (1.044)	-0.635*** (0.161)	4.380** (1.344)	-0.0477 (0.165)	7.719*** (1.571)
<i>N_stacked</i>	8956	8956	1088	1088	7978	7978	1099	1099	655	655	383	383

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Note: Source: Own calculation based on CHES 2010 and EES 2009 using Stata 13.

Table A9: Marginal effects of spatial and competence voting for political knowledge

<i>Party system polarization at</i>	<i>Low political knowledge</i>		<i>High political knowledge</i>	
	<i>Spatial</i>	<i>Competence</i>	<i>Spatial</i>	<i>Competence</i>
1	-0.383*** (0.00930)	4.892*** (0.0844)	-0.443*** (0.0102)	4.493*** (0.0771)
2	-0.382*** (0.00881)	4.916*** (0.0798)	-0.440*** (0.00959)	4.519*** (0.0728)
3	-0.381*** (0.00835)	4.940*** (0.0754)	-0.438*** (0.00907)	4.546*** (0.0688)
4	-0.379*** (0.00794)	4.965*** (0.0716)	-0.436*** (0.00860)	4.572*** (0.0652)
5	-0.378*** (0.00758)	4.989*** (0.0682)	-0.433*** (0.00820)	4.599*** (0.0622)
6	-0.377*** (0.00728)	5.014*** (0.0654)	-0.431*** (0.00787)	4.625*** (0.0598)
7	-0.375*** (0.00704)	5.038*** (0.0633)	-0.428*** (0.00762)	4.652*** (0.0580)
8	-0.374*** (0.00688)	5.062*** (0.0620)	-0.426*** (0.00746)	4.678*** (0.0570)
9	-0.373*** (0.00679)	5.087*** (0.0614)	-0.424*** (0.00740)	4.705*** (0.0567)
10	-0.371***	5.111***	-0.421***	4.731***

	(0.00679)	(0.0617)	(0.00743)	(0.0573)
11	-0.370*** (0.00686)	5.135*** (0.0627)	-0.419*** (0.00757)	4.758*** (0.0586)
12	-0.369*** (0.00702)	5.160*** (0.0645)	-0.416*** (0.00779)	4.785*** (0.0606)
13	-0.367*** (0.00725)	5.184*** (0.0671)	-0.414*** (0.00810)	4.811*** (0.0633)
14	-0.366*** (0.00754)	5.208*** (0.0702)	-0.412*** (0.00849)	4.838*** (0.0665)
15	-0.365*** (0.00789)	5.233*** (0.0739)	-0.409*** (0.00894)	4.864*** (0.0702)
16	-0.363*** (0.00830)	5.257*** (0.0780)	-0.407*** (0.00945)	4.891*** (0.0744)
17	-0.362*** (0.00875)	5.281*** (0.0826)	-0.404*** (0.0100)	4.917*** (0.0789)
18	-0.361*** (0.00923)	5.306*** (0.0875)	-0.402*** (0.0106)	4.944*** (0.0836)
19	-0.360*** (0.00975)	5.330*** (0.0926)	-0.400*** (0.0112)	4.970*** (0.0887)
20	-0.358*** (0.0103)	5.354*** (0.0981)	-0.397*** (0.0119)	4.997*** (0.0939)
21	-0.357*** (0.0109)	5.379*** (0.104)	-0.395*** (0.0126)	5.023*** (0.0993)
22	-0.356*** (0.0115)	5.403*** (0.109)	-0.392*** (0.0133)	5.050*** (0.105)

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Table A9 (continued)

23	-0.354*** (0.0121)	5.428*** (0.115)	-0.390*** (0.0140)	5.076*** (0.111)
24	-0.353*** (0.0127)	5.452*** (0.121)	-0.388*** (0.0147)	5.103*** (0.116)
25	-0.352*** (0.0133)	5.476*** (0.128)	-0.385*** (0.0155)	5.130*** (0.122)
26	-0.350*** (0.0140)	5.501*** (0.134)	-0.383*** (0.0162)	5.156*** (0.128)
27	-0.349*** (0.0146)	5.525*** (0.140)	-0.380*** (0.0170)	5.183*** (0.134)
28	-0.348*** (0.0153)	5.549*** (0.147)	-0.378*** (0.0178)	5.209*** (0.140)
29	-0.346*** (0.0160)	5.574*** (0.153)	-0.376*** (0.0185)	5.236*** (0.146)
30	-0.345*** (0.0166)	5.598*** (0.159)	-0.373*** (0.0193)	5.262*** (0.153)
31	-0.344*** (0.0173)	5.622*** (0.166)	-0.371*** (0.0201)	5.289*** (0.159)
32	-0.342*** (0.0180)	5.647*** (0.173)	-0.368*** (0.0209)	5.315*** (0.165)
33	-0.341*** (0.0187)	5.671*** (0.179)	-0.366*** (0.0217)	5.342*** (0.171)
34	-0.340*** (0.0194)	5.695*** (0.186)	-0.363*** (0.0225)	5.368*** (0.178)

35	-0.338*** (0.0201)	5.720*** (0.193)	-0.361*** (0.0233)	5.395*** (0.184)
<i>N</i> _stacked	19285	19285	19746	19746

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Note: Source: Own calculation based on CHES 2010 and EES 2009 using Stata 13.

Table A10: Marginal effects of spatial and competence voting for political interest

<i>Party system polarization at</i>	<i>Low political interest</i>		<i>High political interest</i>	
	<i>Spatial</i>	<i>Competence</i>	<i>Spatial</i>	<i>Competence</i>
1	-0.422*** (0.00972)	4.591*** (0.0826)	-0.405*** (0.00968)	4.669*** (0.0784)
2	-0.419*** (0.00918)	4.616*** (0.0778)	-0.404*** (0.00916)	4.697*** (0.0741)
3	-0.415*** (0.00869)	4.641*** (0.0734)	-0.403*** (0.00868)	4.724*** (0.0701)
4	-0.412*** (0.00825)	4.666*** (0.0696)	-0.403*** (0.00825)	4.752*** (0.0665)
5	-0.409*** (0.00788)	4.691*** (0.0665)	-0.402*** (0.00786)	4.779*** (0.0633)
6	-0.406*** (0.00757)	4.716*** (0.0642)	-0.401*** (0.00754)	4.806*** (0.0606)
7	-0.402*** (0.00733)	4.742*** (0.0627)	-0.400*** (0.00729)	4.834*** (0.0585)
8	-0.399*** (0.00719)	4.767*** (0.0621)	-0.399*** (0.00712)	4.861*** (0.0570)
9	-0.396*** (0.00713)	4.792*** (0.0624)	-0.399*** (0.00703)	4.889*** (0.0563)
10	-0.393*** (0.00717)	4.817*** (0.0637)	-0.398*** (0.00702)	4.916*** (0.0562)

11	-0.389*** (0.00730)	4.842*** (0.0658)	-0.397*** (0.00710)	4.944*** (0.0568)
12	-0.386*** (0.00752)	4.867*** (0.0687)	-0.396*** (0.00726)	4.971*** (0.0581)
13	-0.383*** (0.00782)	4.892*** (0.0723)	-0.395*** (0.00749)	4.998*** (0.0601)
14	-0.379*** (0.00818)	4.917*** (0.0765)	-0.395*** (0.00780)	5.026*** (0.0626)
15	-0.376*** (0.00861)	4.942*** (0.0812)	-0.394*** (0.00817)	5.053*** (0.0657)
16	-0.373*** (0.00910)	4.967*** (0.0863)	-0.393*** (0.00860)	5.081*** (0.0692)
17	-0.370*** (0.00962)	4.992*** (0.0918)	-0.392*** (0.00907)	5.108*** (0.0731)
18	-0.366*** (0.0102)	5.017*** (0.0976)	-0.391*** (0.00958)	5.135*** (0.0774)
19	-0.363*** (0.0108)	5.043*** (0.104)	-0.390*** (0.0101)	5.163*** (0.0819)
20	-0.360*** (0.0114)	5.068*** (0.110)	-0.390*** (0.0107)	5.190*** (0.0866)
21	-0.357*** (0.0121)	5.093*** (0.116)	-0.389*** (0.0113)	5.218*** (0.0915)
22	-0.353*** (0.0127)	5.118*** (0.123)	-0.388*** (0.0119)	5.245*** (0.0966)

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Table A10 (continued)

23	-0.350*** (0.0134)	5.143*** (0.129)	-0.387*** (0.0126)	5.272*** (0.102)
24	-0.347*** (0.0141)	5.168*** (0.136)	-0.386*** (0.0132)	5.300*** (0.107)
25	-0.344*** (0.0148)	5.193*** (0.143)	-0.386*** (0.0139)	5.327*** (0.113)
26	-0.340*** (0.0155)	5.218*** (0.150)	-0.385*** (0.0145)	5.355*** (0.118)
27	-0.337*** (0.0163)	5.243*** (0.157)	-0.384*** (0.0152)	5.382*** (0.124)
28	-0.334*** (0.0170)	5.268*** (0.164)	-0.383*** (0.0159)	5.410*** (0.130)
29	-0.331*** (0.0177)	5.293*** (0.171)	-0.382*** (0.0166)	5.437*** (0.135)
30	-0.327*** (0.0185)	5.318*** (0.178)	-0.382*** (0.0173)	5.464*** (0.141)
31	-0.324*** (0.0193)	5.344*** (0.185)	-0.381*** (0.0180)	5.492*** (0.147)
32	-0.321*** (0.0200)	5.369*** (0.192)	-0.380*** (0.0188)	5.519*** (0.153)
33	-0.318*** (0.0208)	5.394*** (0.200)	-0.379*** (0.0195)	5.547*** (0.159)
34	-0.314*** (0.0215)	5.419*** (0.207)	-0.378*** (0.0202)	5.574*** (0.165)

35	-0.311*** (0.0223)	5.444*** (0.214)	-0.377*** (0.0209)	5.601*** (0.171)
<i>N</i> _stacked	18700	18700	20331	20331

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Note: Source: Own calculation based on CHES 2010 and EES 2009 using Stata 13.

Table A11: Marginal effects of spatial and competence voting for party identification

Party	Non-identifiers		Identifiers: preferred party		Identifiers: other party	
	Spatial	Competence	Spatial	Competence	Spatial	Competence
system polarization						
at						
1	-0.372*** (0.0418)	3.597*** (0.294)	-0.0974*** (0.0225)	0.677*** (0.0971)	-0.389*** (0.00704)	3.794*** (0.0846)
2	-0.373*** (0.0396)	3.613*** (0.278)	-0.0971*** (0.0211)	0.697*** (0.0908)	-0.387*** (0.00666)	3.817*** (0.0796)
3	-0.374*** (0.0376)	3.629*** (0.264)	-0.0968*** (0.0199)	0.717*** (0.0852)	-0.386*** (0.00631)	3.839*** (0.0750)
4	-0.376*** (0.0358)	3.644*** (0.251)	-0.0964*** (0.0187)	0.737*** (0.0805)	-0.384*** (0.00599)	3.862*** (0.0709)
5	-0.377*** (0.0342)	3.660*** (0.240)	-0.0961*** (0.0177)	0.756*** (0.0767)	-0.383*** (0.00572)	3.884*** (0.0675)
6	-0.378*** (0.0329)	3.676*** (0.231)	-0.0958*** (0.0169)	0.776*** (0.0742)	-0.381*** (0.00549)	3.906*** (0.0648)
7	-0.380*** (0.0318)	3.692*** (0.224)	-0.0955*** (0.0163)	0.796*** (0.0729)	-0.379*** (0.00532)	3.929*** (0.0629)
8	-0.381*** (0.0310)	3.708*** (0.220)	-0.0952*** (0.0159)	0.816*** (0.0730)	-0.378*** (0.00520)	3.951*** (0.0620)
9	-0.382*** (0.0306)	3.723*** (0.218)	-0.0948*** (0.0158)	0.836*** (0.0744)	-0.376*** (0.00515)	3.974*** (0.0620)
10	-0.383*** (0.0306)	3.739*** (0.219)	-0.0945*** (0.0159)	0.855*** (0.0772)	-0.374*** (0.00516)	3.996*** (0.0629)
11	-0.385*** (0.0308)	3.755*** (0.222)	-0.0942*** (0.0163)	0.875*** (0.0810)	-0.373*** (0.00523)	4.018*** (0.0648)
12	-0.386*** (0.0315)	3.771*** (0.228)	-0.0939*** (0.0169)	0.895*** (0.0859)	-0.371*** (0.00537)	4.041*** (0.0675)
13	-0.387*** (0.0324)	3.787*** (0.237)	-0.0935*** (0.0177)	0.915*** (0.0916)	-0.370*** (0.00556)	4.063*** (0.0709)
14	-0.389*** (0.0336)	3.802*** (0.247)	-0.0932*** (0.0186)	0.935*** (0.0980)	-0.368*** (0.00581)	4.086*** (0.0750)
15	-0.390*** (0.0351)	3.818*** (0.259)	-0.0929*** (0.0198)	0.954*** (0.105)	-0.366*** (0.00609)	4.108*** (0.0796)
16	-0.391*** (0.0369)	3.834*** (0.273)	-0.0926*** (0.0210)	0.974*** (0.112)	-0.365*** (0.00642)	4.130*** (0.0846)
17	-0.392*** (0.0388)	3.850*** (0.288)	-0.0922*** (0.0224)	0.994*** (0.120)	-0.363*** (0.00678)	4.153*** (0.0901)

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Table A11 (continued)

18	-0.394*** (0.0409)	3.865*** (0.305)	-0.0919*** (0.0239)	1.014*** (0.128)	-0.361*** (0.00717)	4.175*** (0.0958)
19	-0.395*** (0.0431)	3.881*** (0.322)	-0.0916*** (0.0254)	1.033*** (0.137)	-0.360*** (0.00759)	4.198*** (0.102)
20	-0.396*** (0.0455)	3.897*** (0.340)	-0.0913*** (0.0270)	1.053*** (0.145)	-0.358*** (0.00802)	4.220*** (0.108)
21	-0.398*** (0.0480)	3.913*** (0.359)	-0.0909** (0.0286)	1.073*** (0.154)	-0.357*** (0.00847)	4.242*** (0.114)
22	-0.399*** (0.0506)	3.929*** (0.378)	-0.0906** (0.0303)	1.093*** (0.163)	-0.355*** (0.00894)	4.265*** (0.121)
23	-0.400*** (0.0532)	3.944*** (0.398)	-0.0903** (0.0320)	1.113*** (0.172)	-0.353*** (0.00942)	4.287*** (0.128)
24	-0.401*** (0.0559)	3.960*** (0.419)	-0.0900** (0.0337)	1.132*** (0.181)	-0.352*** (0.00991)	4.310*** (0.134)
25	-0.403*** (0.0587)	3.976*** (0.440)	-0.0897* (0.0355)	1.152*** (0.190)	-0.350*** (0.0104)	4.332*** (0.141)
26	-0.404*** (0.0615)	3.992*** (0.461)	-0.0893* (0.0373)	1.172*** (0.199)	-0.348*** (0.0109)	4.354*** (0.148)
27	-0.405*** (0.0644)	4.008*** (0.482)	-0.0890* (0.0391)	1.192*** (0.209)	-0.347*** (0.0114)	4.377*** (0.155)
28	-0.407*** (0.0673)	4.023*** (0.504)	-0.0887* (0.0410)	1.212*** (0.218)	-0.345*** (0.0119)	4.399*** (0.162)
29	-0.408*** (0.0702)	4.039*** (0.526)	-0.0884* (0.0428)	1.231*** (0.228)	-0.344*** (0.0125)	4.422*** (0.170)
30	-0.409*** (0.0732)	4.055*** (0.548)	-0.0880* (0.0447)	1.251*** (0.237)	-0.342*** (0.0130)	4.444*** (0.177)
31	-0.410*** (0.0762)	4.071*** (0.570)	-0.0877 (0.0465)	1.271*** (0.247)	-0.340*** (0.0135)	4.466*** (0.184)
32	-0.412*** (0.0792)	4.087*** (0.592)	-0.0874 (0.0484)	1.291*** (0.256)	-0.339*** (0.0141)	4.489*** (0.191)
33	-0.413*** (0.0822)	4.102*** (0.615)	-0.0871 (0.0503)	1.310*** (0.266)	-0.337*** (0.0146)	4.511*** (0.199)
34	-0.414*** (0.0853)	4.118*** (0.637)	-0.0867 (0.0522)	1.330*** (0.275)	-0.335*** (0.0151)	4.534*** (0.206)
35	-0.416*** (0.0883)	4.134*** (0.660)	-0.0864 (0.0541)	1.350*** (0.285)	-0.334*** (0.0157)	4.556*** (0.213)
<i>N_stacked</i>	1473	1473	3608	3608	33950	33950

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Note: Source: Own calculation based on CHES 2010 and EES 2009 using Stata 13.

Affirmation

I hereby declare that this thesis is my own work and that I have composed it independently using only the sources mentioned. I have as such identified all passages I have taken from publications in wording or in substance. This thesis has not been submitted in the same or any similar version and has not been published anywhere. I ensure that the printed version is identical to the one I submitted in digital form.

Vienna 2018

Marco Fölsch