

Voter preferences and party loyalty under cumulative voting: political behaviour after electoral reform in Bremen and Hamburg

Shaun Bowler^{a,*}, Gail McElroy^b, Stefan Müller^b

Accepted for publication in *Electoral Studies*

^a Department of Political Science, University of California, Riverside, USA

^b Department of Political Science, Trinity College Dublin, Ireland

* Corresponding author. Department of Political Science, University of California, Riverside, CA 92521, USA.

E-mail address: shaun.bowler@ucr.edu (S. Bowler)

Abstract

Many electoral systems constrain voters to one or two votes at election time. Reformers often see this as a failing because voters' preferences are both broader and more varied than the number of choices allowed. New electoral systems therefore often permit more preferences to be expressed. In this paper we examine what happens when cumulative voting is introduced in two German states. Even when we allow for tactical considerations, we find that the principle of unconstrained choice is not widely embraced by voters, although in practice, too, many seem to have preferences for more than just one party. This finding has implications for arguments relating to electoral reform as well as how to conceive of party affiliations in multi-party systems.

Keywords: electoral reform; cumulative voting; propensity to vote; Germany; state elections

Acknowledgements: We thank Volker Best, Michael Jankowski, Tom Louwense, the editor, and two anonymous reviewers for helpful comments and suggestions. A previous version of the paper was presented at the annual general conference of the European Political Science Association Conference in Milan, 22–24 June 2017.

1. Introduction

What happens when voters are given the opportunity to express numerous preferences? Many electoral systems allow voters only a limited amount of choice. In First Past the Post (FPTP) systems and some list Proportional Representation (PR), for example, voters can choose just one candidate from one party. Other electoral systems allow for a little more choice: Mixed-member Proportional Representation (MMP) enables voters to make two choices – one according to FPTP rules and a second according to list PR rules. The Single Transferable Vote (STV) and cumulative voting (CV) permit voters to express a choice for multiple candidates and multiple parties. Voter choice is relatively less constrained by these systems. Unsurprisingly, election reformers argue that providing opportunities for voters to express more than one choice has a positive value for the quality of representation and democracy itself. For example, the reform group Fairvote promotes the use of ranked choice voting arguing “Democracy is strongest when more voices are heard. Too often ... efforts are taken to limit the number of candidates who compete. This limits voters’ choices.”¹ Britain’s Electoral Reform Society similarly sees more choice as a positive feature of electoral systems asserting “Open lists offer voters more choice and control over who is elected”.² Reformers even argue that giving voters more choice will increase voter engagement and turnout.³ Hence the question with which we began: when voters are permitted to make lots of choices, what kinds of choice behaviour do we see? Do voters take advantage of that opportunity? And if so, how varied are their choices and how are they structured?

Electoral reform in the German states of Bremen and Hamburg allow us to address this question since both have recently adopted cumulative voting for state elections. While 14

¹ <http://www.fairvote.org/rcv#rcvbenefits> (accessed August 12, 2017).

² <http://www.electoral-reform.org.uk/party-list> (accessed August 12, 2017).

³ It is probably fair to say, however, that the argument that links more choice to more turnout is one that is more often made by proponents of a given reform than demonstrated in practice.

of the 16 German Bundesländer use some form of PR system in their Land elections, only Bremen and Hamburg recently opted for this alternative preferential system.⁴ The last two elections in these states were conducted under cumulative voting. The electoral reforms were introduced after a referendum in each state initiated by the non-profit, non-partisan organisation ‘Mehr Demokratie e.V.’. Cumulative voting was promoted as a means of reversing the decline in voter turnout in land elections; voters it was argued would be more motivated to cast their ballots if they had more options to express their preferences.

Cumulative voting is, undeniably, one of the lesser known of the preferential systems. In brief, if X seats in a political system are to be elected voters are given Y votes (with $Y > 1$) and may distribute them as s/he sees fit: giving all Y votes to one candidate/party or one vote to each of X candidates or combinations in between. We will discuss the more specific details of the electoral reform in Bremen and Hamburg below. For the moment we will simply note that this is a system very similar to STV in allowing voters a wide range of choices and that these systems allow us to look at voter choice behaviour when it is relatively unconstrained. This brings us back to our initial question: when voter choices are unconstrained, then, how would we expect their choices to look?

We first develop a set of expectations relating to the factors that will drive choice behaviour. We next identify a series of factors that should foster ticket splitting as well as a variety of factors that are likely to produce more structuring of choice behaviour. We finally test these expectations using opinion data from elections in both Bremen and Hamburg. Even in a situation which allows for a great deal of choice – including tactical choices – the majority of respondents still tend to vote for a single party. In contrast to theories which

⁴ While most system are similar to the national mixed-member PR system, in Baden-Württemberg there are no party lists and every voter has only one vote. In contrast to the other states, Bavaria uses an open-list PR system with only one vote for the party list. For more information on the electoral systems in the 16 German states see <http://www.wahlrecht.de/landtage/> (accessed August 12, 2017).

suggest voters are interested in policy balance we find that voters who split their ticket between several parties choose combinations that mirror coalitions on the federal level and are, more broadly, constrained to be within the same “party family”.

2. Cumulative Voting and split ticket voting

Cumulative voting has been used in municipal elections in Germany for several decades, especially in the South. In addition to the recent introduction in Bremen and Hamburg, it is a system that has been used in both the US and UK across an eclectic range of settings including corporate elections (Glazer et al., 1983; Blair, 1958), elections to the state legislature of Illinois (Blair, 1958; Sawyer and MacRae, 1962), school board elections in Victorian England (Bowler et al., 1999) and as a means of redressing minority under-representation within some US communities (see e.g. Cole et al., 1990; Engstrom and Barrilleaux, 1991; Guinier, 1992; 1994; Still and Karlan, 1995; Brischetto and Engstrom, 1997; Brockington et al., 1998).

The essence of preferential electoral systems, such as cumulative voting, is that they provide the opportunity for voters to deviate from an expression of a single party and/or candidate preference. One of the most studied preferential electoral systems is the Single Transferable Vote, as operated in the Republic of Ireland, where it is found that most voters do indeed have a preference for more than one party and a significant number of voters cast their ballots on the basis of candidate characteristics rather than party loyalties (Marsh et al., 2008: 157). Based on the existing literature, as well as the claims of reformers, we would expect to see a great variety in voter choice. Motivations for candidate centred voting, considerations of strategic voting, and underlying preferences (e.g. for policy balancing) should all promote and shape ticket-splitting under CV in Bremen and Hamburg.

2.1 Candidate centred voting

First, a straightforward expectation is that we will observe candidate centred voting, as voters seek out high quality (or at least well-known) local notables. Under the national MMP, that operates at the federal level in Germany, voters have some leeway to express two party preferences, as such the concept of ticket splitting is not entirely new to German voters. The national data show the existence of candidate effects and ticket splitting under MMP (Pappi and Thurner, 2002; Gschwend et al., 2003; Gschwend, 2007; Gschwend and Zittel, 2015). There is some reason to think, then, that a system that allows more choice will permit an even wider range of voting behaviour. The most recent elections in Hamburg provide strong evidence of candidate effects in at least one of those state elections. Jankowski (2016) shows that in the 2015 parliamentary election in Hamburg candidates running for the same party picked up a significant ‘friends and neighbours’ bonus from their home district. Given our data (see below) we are, unfortunately, not able to geocode respondents and candidates, nevertheless, if candidate centred motivations do drive choice then we should see this in broad patterns. Votes, for example, will not show much sign of being structured by ideology but instead show patterns of choices across party lines and should be distributed more or less evenly (i.e. randomly) across parties.

2.2 Strategic voting

A second family of expectations are grounded in different varieties of strategic voting. Studies of elections at the federal level in Germany demonstrate that strategic voting does indeed take place (Bawn, 1999; Gschwend, 2007) though how widespread a phenomenon this is has been questioned (Herrmann and Pappi, 2007). Strategic voting can take several forms. One broad form of strategic voting is motivated by a desire for policy balancing. This version can take a number of configurations depending on the institutional setting. In federal systems

the hypothesis of policy balancing proposes that voters will cast ballots for ideologically different parties in order to help ensure that different branches of government will be controlled by different parties (see e.g. Lewis-Beck and Nadeau, 2004; Kedar, 2006; Bafumi et al., 2010). Alternatively, within coalition governments, voters may cast their ballot in such a way as to affect policy outcomes. For instance, the inclusion of a small leftist extremist party in a coalition will influence government legislation in a leftwards direction (Duch et al., 2010, Indridason, 2011). While there are some differences in meaning about policy balancing in a multi-party system as opposed to a two party system, we note that voters do not have to sacrifice their only vote for a non-preferred candidate to ensure policy balancing, they can mix and match. Under this set of arguments we should see a wide range of choices being made as voters seek to balance off various ideological and policy positions by splitting their ticket among several parties.

A second form of strategic voting is grounded in expectations about coalition politics. Under threshold insurance strategic motivations, supporters of large parties will vote for a less preferred party, but a preferred coalition partner, to ensure the smaller party gets above the threshold for representation in parliament. Empirically this logic does not apply for the viable small coalition partners in each of the four races under consideration in this paper. Studies have found that polling information influences voters decision to cast an insurance vote (Meffert and Gschwend, 2011; Huber and Faas, 2014; Fredén, 2017) and opinion polls in the run up to each race demonstrate that the smaller likely coalition party (in all cases the Greens) was well above the 5 per cent threshold.⁵ Furthermore, the extent of threshold

⁵ In both Bremen and Hamburg in 2011 and 2015 the only viable small party coalition partner was the Greens. In 2015 in Hamburg they were running at 11–13 per cent in pre-election opinion polls and 14–15 per cent in 2011 (indeed in 2011 the SPD won an absolute majority of seats). In Bremen in 2015 the Greens were running at 12–17 per cent and in 2011 at 22–24 per cent (largely due to the nuclear disaster in Fukushima that happened two months before the election). The FPD was hovering at the 5 per cent threshold but was not considered a

insurance voting, even at the national level, is contested. Gschwend (2007) and Fréden (2014) empirically demonstrate its existence only amongst a small subset of sophisticated voters. Still, we allow that it is possible that voters may wish to help smaller parties become coalition members.

Before becoming too deeply involved in discussions of strategic voting it is worth reiterating that the informational requirements for strategic voting escalate with electoral system complexity. As Bartholdi and Orlin (1991) have demonstrated, STV is particularly resistant to manipulation given the computational complexity involved. Much the same logic applies to cumulative voting. Outcomes under CV depend not simply on voter opinions but also the nomination strategies of parties relative to each other (Blair, 1958; Bowler et al., 1999). The level of information required on the part of voters to work out how their vote will influence final seat distributions would seem to be beyond both the capacity and interest of all but the most informed and sophisticated, especially given that these are second order elections. Similarly we may note that the standard Duvergian ‘wasted vote’ strategy does not straightforwardly apply here. In the cases under consideration the constituencies have a district magnitude of at least three and as high as 83 (Bremen). As such we do not expect small party supporters to vote for a candidate of a less preferred party in order to avoid wasting their vote at the district level. There are no single member districts, as is the case with the national level MMP, as such the closeness of the race or the marginality of any one of these seats is not easily known by a voter (Leys, 1959; Sartori, 1968). Perceptions about the probable outcome of each race are more difficult to ascertain and as such the incentives to vote strategically are dampened. Overall, then, we expect that some (though far from all) ticket splitting under CV should be related to strategic concerns. The ‘policy balancing’

viable coalition partner for any, also because a CDU-FDP coalition was impossible in all four elections due to the weakness of the CDU (share of votes ranged only between 16 [Hamburg 2011] and 22 per cent [Bremen 2015]).

argument suggests voters should choose parties quite different from each other. The ‘helping coalition partners’ motivation suggests that perhaps we see something akin to what we sometimes see in German national elections: supporters of larger parties will give some votes to smaller ones to help out their coalition prospects. In German federal elections, voters may engage in ‘coalition voting’ by casting their ballot strategically to support a certain coalition (see e.g. Gschwend et al., 2003, 2017; Pappi and Thurner, 2002). Cumulative voting systems offer similar incentives and at a lower cost, given the voter has up to five votes to distribute. Voters who favour a coalition might thus be more likely to split their votes in order to facilitate this coalition forming.

Coalition preference hypothesis: *There will be more ticket splitting exhibited by voters who have a concrete coalition preference.*

2.3 Voting according to underlying preferences

A third family of arguments relating to how choices should be structured depends on the underlying preferences of voters. A more forceful statement of that point is to say that it is important to look to see whether there are underlying ideological or affective loyalties which structure choice. Here we can consider the role of party identification. While this is an important concept in studies of voter choice in Anglo-American contexts, it is not clear how important it is in multi-party systems. As some have argued, the importance of party attachments, and especially monogamous party attachments, is in part specific to majoritarian contexts where voters have few parties from which to choose. Where there are more parties on offer, vote choice is more fluid than we, typically, see in the United States or United Kingdom (see e.g. Thomassen, 1976). However, where voters are allowed to express one, and only one, party preference (Denver et al. (2009) refer to this as “X-voting”) voter preferences

are constrained. Such a limitation on choice helps to reinforce the idea that voters are, in effect, monogamous. But election choices in such settings do not provide enough information about voter preferences to understand electoral behaviour satisfactorily (Powell, 2000, 161). Within X-voting systems voters may be behaviourally monogamous and may be constrained to have just one party preference when asked (after all why bother to develop preferences over multiple options if one is only allowed to make one choice?), but the question remains whether or not they are monogamous when choices are unconstrained. Put another way, when given the opportunity to make unconstrained choices, it is not clear that voters will remain monogamous in the same way as they seem to be in the US and UK.

Plainly, measures of party identification in multi-party systems are more complex than measures in two party systems. A standard measure of party identification in which voters are allowed to choose just one party with which they identify necessarily pushes responses into a single answer and so cannot capture the possibility that voters may have some degree of affect for several parties. One measure which helps to address both the question of dimensionality and, also, allow for multiple affect is the “propensity to vote” (PTV) measure. This approach offers a different measurement strategy (Van der Eijk and Niemoller, 1983; Van der Eijk and Franklin, 1996; Van der Eijk et al., 2006; Van der Eijk and Marsh, 2007). The PTV approach strongly suggests that voters, when they are unconstrained, may well have polygamous/polyandrous preferences over parties. However, they are (a) not allowed to vote according to this preference because of electoral and party system constraints on electoral choice, and/or (b) this underlying polygamy/polyandry may not be measured by standard party identification measures used where X-voting is common. Consequently, we cannot always tell whether voter preferences are constrained by factors like ideology or by the fact that the electoral system only gives voters the opportunity to express a preference for one party. Framing underlying voter preferences within a PTV perspective,

then, permits voters to have attachments to multiple parties – at least in principle. The main takeaway here is that these attachments may well provide a structure to voter choice.

Taken together these arguments have different expectations for how voter choices should look once voters are allowed an unconstrained choice. When we look at voter choices in practice, then, what do we see? Do we see voters making multiple choices across party lines (as arguments based in candidate centred politics or policy balancing) might suggest? Or do we see more ideological structure to the choices voters make? Our main hypothesis is based on the non-ipsative approach to measuring party attachment. Such survey measures allow us to see if voters are attached to just one party or are attached to multiple parties but are rarely tested in real world settings. One consequence of the thermometer measure is that it is possible to develop and test a straightforward expectation: voters who value more than one party are more likely to split their ticket. While this hypothesis is hardly startling, the advantage of our cases is that we can test the hypothesis in a real world setting.

Approval hypothesis: *There will be more ticket splitting exhibited by voters with a low relative approval of the favourite party.*

Over and above party attachments we would also expect to see some heterogeneity across voters in taking up the opportunity to express more choices. One frequently expressed concern in relation to preferential systems is that the system may be too confusing for voters (for examples of studies on voter competence relating to CV see Engstrom and Barrilleaux, 1991; Brischetto and Engstrom, 1997; for examples relating to STV see Denver et al., 2009; Farrell et al., 2017; Farrell and Gallagher, 1998; Curtice and Marsh, 2014). The empirical literature repeatedly demonstrates that voters can, and do, understand the system. Still, it is reasonable to suppose that there is nevertheless heterogeneity in voter understanding.

Previous literature (e.g. Curtice and Marsh, 2014) has identified both levels of education and levels of interest in politics as factors that will shape the expression of preferences and indeed the propensity to engage in strategic voting. Kedar (2005), for example, finds that a higher level of education increases the probability of policy balancing voting behaviour. More educated voters may know more about individual candidates and candidate platforms. We also assume that people who are more interested in the state election are more likely to split votes. They might engage more with the argument of each party or candidates and show a higher level of issue-specific voting which should result in more ticket splitting. We therefore control for the level of education, interest in the state election, and political knowledge.

An additional factor that takes account of heterogeneity across voters relates to the electoral system itself. Those voters who like the system are presumably ones who will want to take advantage of increased opportunity for choice and consequently are more likely to split their ticket. That is, a positive evaluation of the system is likely linked to the functioning of the system in permitting more choices. Voters who like the electoral system are expected to have a higher probability of splitting votes between parties.

3. Data and measurements

Hamburg (around 1.2 million eligible voters) and Bremen (480,000 eligible voters) are the only two German Länder with a cumulative voting electoral system. In Hamburg, voters have five votes for candidates in seventeen 3-5 seat constituencies (Wahlkreislisten), and five votes for state lists (Landeslisten) making it a mixed-member system. 71 candidates are elected through the constituency lists and 50 through the state list. While voters have to vote for candidates in the electoral districts, the state list also allows to cast votes for the complete list (which confirms the list order). Voters in Bremen cast up to five votes for parties or candidates on the state list, and there are no constituencies. All 83 MPs are elected through

one open state list. Thus, Bremen is somewhat different to Hamburg since there are no electoral districts.⁶

The seat distribution is calculated according to a formula that takes into account both the list and individual candidate votes for each party, subject to a five per cent threshold being passed.⁷ To date there have been four elections conducted under the new system (in 2011 and 2015 in each state) with the Social Democrats the clear winners in all four elections. In Hamburg the SPD gained 48.4 per cent and 45.6 per cent of the votes in 2011 and 2015 respectively. In Bremen the votes share of the Social Democratic 38.6 (2011) and 32.8 (2015) per cent.

The representative surveys of eligible voters used in the following analysis come from the Forschungsgruppe Wahlen (2012a; 2012b; 2016a; 2016b). The number of participants per survey varies from 1041 (Hamburg 2011) to 1524 (Bremen 2011). The surveys were conducted by telephone in the week before election-day and thus, unfortunately, we do not have any information on the individual candidates a respondent intended to vote for. The survey simply asks whether a respondent intends to split her vote among two or more parties, and which parties she would vote for.⁸ Therefore, we cannot distinguish between the state list and open list in Hamburg, and focus on splitting between parties, not between candidates.

One of the measurement issues we need to address, especially in light of the non-ipsative voting literature, is the need to find an appropriate proxy for party attachment in a multi-party system. *Relative Approval* captures the difference between the most preferred party and the average of all parties evaluated. Respondents were asked to evaluate how they

⁶ For a detailed overview of the respective electoral systems see: <http://www.wahlrecht.de/landtage/> (accessed August 12, 2017).

⁷ Further details on the system can be found in Horst (2011); Marcinkiewicz and Jankowski (2014); Tiefenbach (2015); Probst and Schröder (2016).

⁸ Note that the Hamburg survey asks voters only about the five votes for the state list and leaves out the five additional votes for the constituency candidates.

feel about the main parties participating in the election. We recode the values to a scale ranging from 0 (“I do not like the party at all”) to 10 (“I like the party very much”).⁹ The approval ranking is the difference between the maximum approval and the mean of all other parties evaluated by each respondent. The approval scores are estimated with the following formula:

$$A_r = A_{max} - \frac{\sum A_p - A_{max}}{\sum P_{eval} - 1}$$

where A_r is the relative approval, A_{max} is the approval score of the highest ranked party, A_p is the sum of all approval rankings and P_{eval} the number of parties a respondent has evaluated. Higher values imply a more positive attitude towards one party. We illustrate the estimation of the relative approval A_r with two examples. Voter X who has the same attitude towards all parties, for example a score of 7 for each party, will get a *Relative Approval* score of 0. No party is clearly preferred. Voter Y only favours one party very strongly. For instance, she gives the CDU an approval of 10 and strongly dislikes all other parties (0), the relative approval score will be 10. One might argue that the indicator is subject to Differential Item Functioning. The highest A_r value (10) is only possible when a voter gives the maximum approval score of 10 to one party and ranks all other parties at zero. Some voters interpret the approval scale differently. To control for this possibility, we divide A_r by A_{max} which results in a standardised scale ranging from 0 to 1. As we show in the Appendix (Section B), the results remain the same when we apply the rescaled index.¹⁰

Coalition Preference is a dummy variable that takes the value 1 if a respondent named a coalition she would favour if no single-party majority government could be formed.

⁹ PTV is usually addressed through a very specific question about the probability of voting for a given party (Van der Eijk et al., 2006; Van der Eijk and Marsh, 2007). This specific version of the question was not asked in our surveys.

¹⁰ Additionally, Figures A2 and A3 in the Appendix display the approval scores across all four elections for the basic and standardised version of *Relative Approval*. In both cases, the values approximately follow a normal distribution.

Political Knowledge is a dichotomous proxy for the knowledge concerning the election. Respondents who could name both the frontrunners of the two leading parties CDU and SPD get a value of 1, respondents who did not know the names of both frontrunners are coded 0. *Interest in Election* is a four-point variable that asked the respondent for the interest in the Land election.¹¹

We include a six-point scale measuring the level of *Education*, and also include a measure of *Electoral System Evaluation*, a dummy variable that asks the respondent whether she likes or dislikes the cumulative electoral system. *Party Affiliation* captures respondents who report feeling close to a political party. We expect that people are less likely to split votes if they feel affinity with a party. *Age* is a 11-point scale.¹² We also control for the *Gender* of the respondents. Only 19 of the 4002 respondents (less than 0.5 per cent) who replied as to whether or not they split their vote between parties have a missing value in a covariate. Therefore, missing data or nonresponse do not bias our results systematically.¹³ Our sample for the regression model amounts to 3,983 respondents.

¹¹ Surprisingly, *Interest in Election* and *Political knowledge* are not highly correlated ($r = 0.29$). Moreover, a test of the Variance Inflation Factor reveals that our models do not face a general problem of multicollinearity.

¹² The age categories are: 16–17; 18–20; 21–24; 25–29; 30–34; 35–39; 40–44; 45–49; 50–59; 60–69; >70 years of age. Although the intervals are not perfectly intervals-scaled, we treat *Age* as a continuous variable. The results remain the same if we treat *Age*, the level of *Education* and *Electoral system evaluation* as ordinal variables.

¹³ 857 respondents did not give an answer as to whether they split their ticket. We exclude these observations from our analysis because it is highly theoretical to impute values for split-option, our dependent variable.

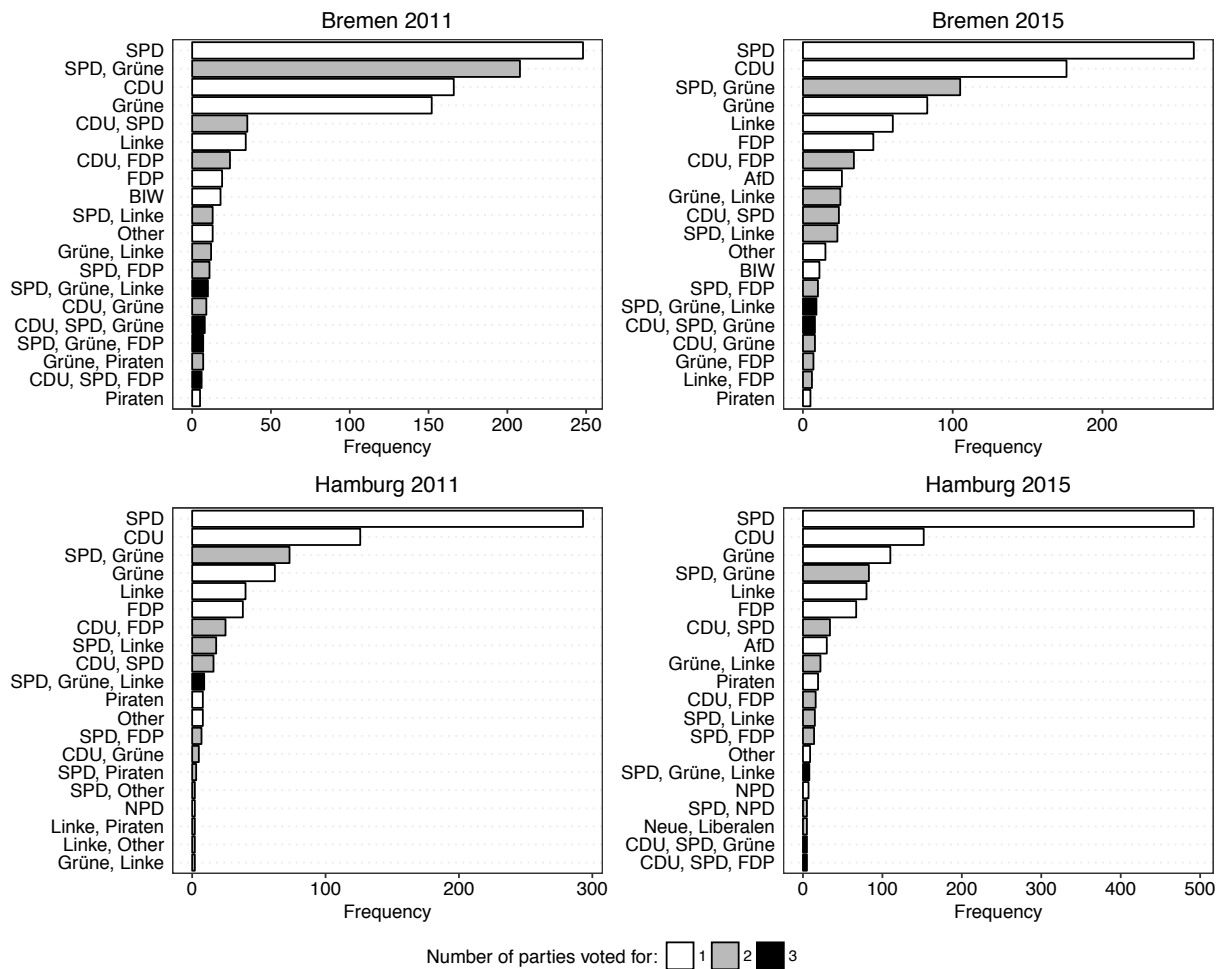
4. Results

Our results centre around the answers to two specific questions: First, and narrowly, how much ticket splitting do we see in the four elections? Second, which factors explain whether someone votes for more than one party?

4.1 The extent of split-ticket voting in Bremen and Hamburg

How much ticket splitting do we see? The answer – somewhat surprisingly given the expectations – is “not much”. Across all four elections, on average, 70.3 per cent of respondents claimed they would vote for only one party, 25.3 per cent reported they would split their vote between two parties, a mere 3.8 per cent planned to give their votes to three parties, and only 0.4 per cent intended to split their votes between four or five different parties. The official election statistics report even lower ratios of split-voting across parties. Our estimates of voting across party lines reported in the surveys might thus be even lower in reality. Voters have clearly not taken full advantage of the freedom offered by the new system. Figure 1 illustrates the top 20 vote choices in each of the four elections according to the survey responses. In each election, the very top preferences are for a straight ticket (SPD or CDU), only in Bremen in 2011 does a split ticket (SPD-Grüne) rank so highly. Nonetheless, a two-party split ticket is a reasonably popular option, with the SPD-Grüne option always making the top five. The second and third most chosen options when it comes to splitting are the ‘grand coalition’ of CDU and SPD that governed on the federal level between 2005-2009 and 2013-2017, and the traditional conservative-liberal coalition CDU-FDP. Three or more party preferences are quite uncommon; only in the 2011 Hamburg election is a three-party split in the top 10 vote choices (SPD-Grüne-Linke).

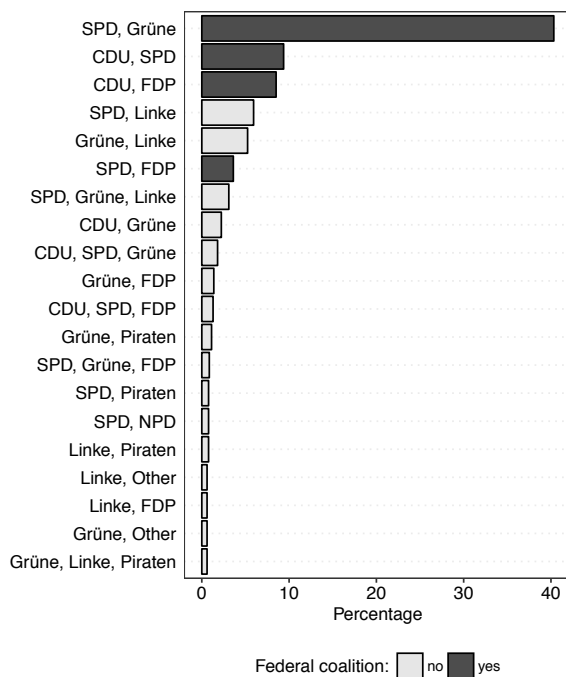
Figure 1: Party choices per election reported by respondent



Note: The combinations with the 20 highest absolute occurrences for each election displayed. For all combinations see Section C in the Appendix.

Figure 2 shows the top 20 split voting choices chosen in all four elections. Unsurprisingly, two thirds of the split ticket voters choose one of the four coalitions that have governed at the federal level (black bars). Additionally, in Bremen and Hamburg both the Social Democrats and Green party typically send out explicit mutual coalition signals (Best, 2015). The SPD-Grüne split is the most popular (indicated by 40 per cent of the split ticket voters). The descriptive data, thus, suggest that ticket-splitting voters cast their ballots for candidates from ideologically close parties, and especially from parties that have formed coalitions on the federal level and/or parties that have made formal or informal pre-election pacts.

Figure 2: Percentage of ticket split options in all four elections combined.



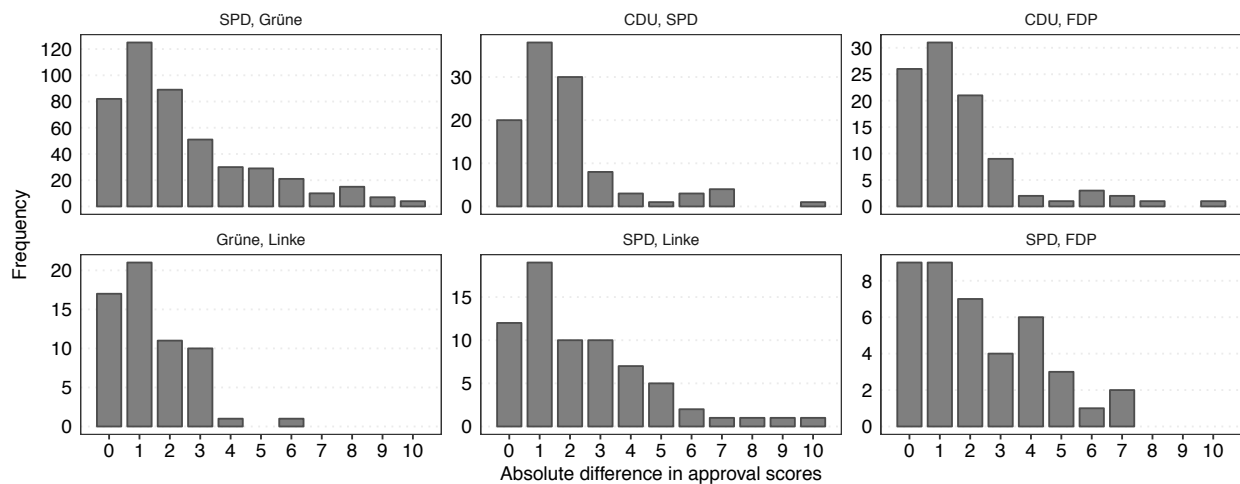
Note: The most frequent split ticket combinations. The sample consists of 1163 respondents who voted for more than one party. For all combinations see Section C in the Appendix.

To understand whether split-voters divided their vote for tactical reasons or because they have multiple preferences, we analyse how the ticket-splitting respondents evaluated the chosen parties relative to each other.¹⁴ The literature on policy-balancing and tactical voting assumes that voters clearly prefer one party over the other choice. The ‘divided loyalty’ assumption, on the other hand, expects that split-voters have multiple preferences and evaluate the parties equally positive (or negative). We compare the absolute difference in approval rankings for the six most common splitting options (Figure 3). For example, the top-left panel shows the difference in approval for the SPD and Grüne for all respondents who chose this splitting-option. A score of 0 means that the respondent has evaluated both parties equally, while 10 implies that she evaluated one party very positively and strongly disliked the other party. All distributions are skewed to the left as respondents tended to

¹⁴ We thank one reviewer for this suggestion.

evaluate both parties similarly, and usually did not clearly favour one party. Split-voters tend not to strongly dislike one of the chosen parties, but seem to have indeed multiple preferences.¹⁵

Figure 3: Approval rankings of the parties that split-ticket voters have chosen.



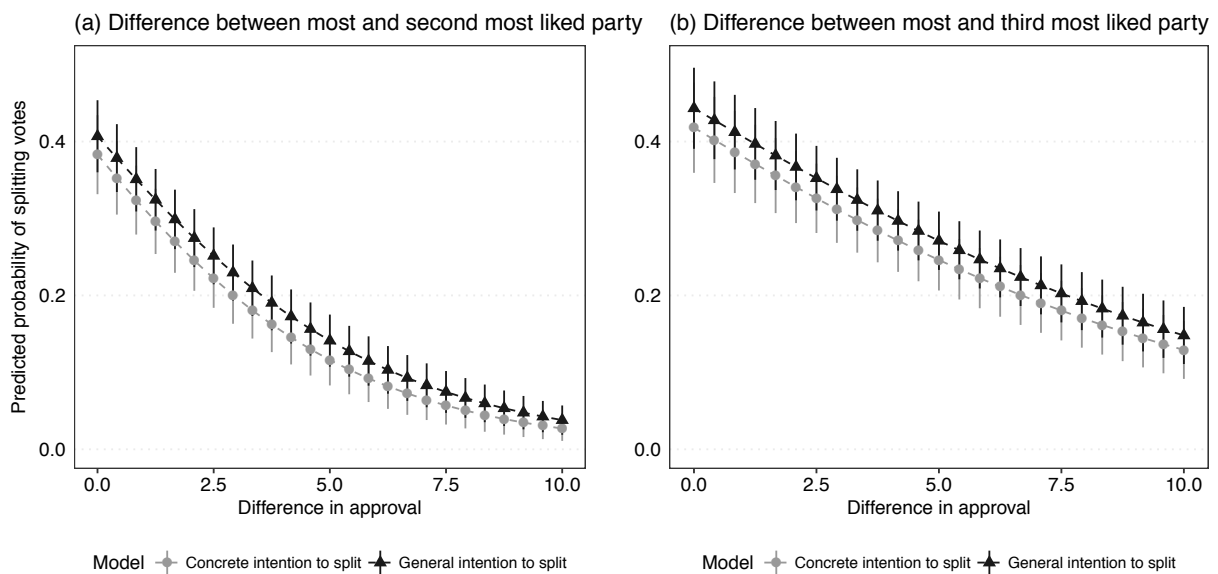
Note: The panels display the differences in evaluations among the respondents who chose one of the six most common splitting options. The score can again range from 0 (both parties evaluated equally) to 10 (one party favoured a lot, the other one not at all).

Moreover, we run a logistic regression on splitting votes for two or more parties and the difference in approval scores between the first and second highest ranked party as the main independent variable. If the “divided loyalty” argument holds, we would expect that citizens who give the same or very similar scores to the two most preferred parties should be more likely to split votes. We run the model in two ways: Figure 4 plots the marginal effects of the difference between the most and second/third most liked party on splitting votes between two or more parties. A lower distance indeed results in a higher probability of split-

¹⁵ Recall that the parties a respondent voted for are part of the relative approval score. If we exclude the two parties displayed in each panel from the estimation of *Relative approval* (dashed line), the difference would be even larger.

ticket voting.¹⁶ The effect is similar when we measure the difference between the most and third most liked party. The descriptive evidence and logistic regression models strengthen our assumption that split-ticket voting tends to be driven by divided loyalties and mixed preferences as opposed to strategic voting.

Figure 4: Predicted probability of splitting votes depending on the difference in approval for most and second/third most liked party



Note: “General intention to split” (black line) includes all respondents who reported a split vote, while the model “Concrete intention to split” (grey line) only includes voters who could name the parties they would split their votes between. The predicted probabilities are estimated based on the regressions from Table A3.

4.2 Individual-level drivers of split-ticket voting

We now turn to examine the hypotheses that seek to explain which voters are more likely to split votes between parties. The dependent variable is a dummy variable that captures whether a respondent voted for two or more parties or whether she gave all five votes to (candidates of) the same party. The results of the logistic regression models are displayed in Table 1. Model 1 contains the pooled estimates with the basic dependent variable (respondent

¹⁶ Especially the difference between the most and second most liked party is skewed to the left (Figure A4 in the Appendix). Taking the log of the difference and rerunning the model does not change the predicted probabilities (Figure A6).

reported a split vote). Model 2 replicates the first model, but just uses the subsample of postal voters (that is those who had already voted at the time of the survey). Model 3 uses only respondents who have not voted at the time when the respective surveys have been conducted. Model 4 uses a more restricted version of the measure as a dependent variable (voters who could name the parties they would split their votes between).

Table 1: Predictors of split-ticket voting

	Model 1	Model 2	Model 3	Model 4
Relative Approval	-0.18 (0.02)***	-0.16 (0.06)*	-0.19 (0.02)***	-0.17 (0.02)***
Coalition preference	0.17 (0.11)	0.38 (0.33)	0.14 (0.11)	0.94 (0.16)***
Political knowledge	-0.17 (0.08)*	-0.09 (0.23)	-0.16 (0.08)	-0.15 (0.09)
Education	0.00 (0.03)	-0.10 (0.10)	0.02 (0.03)	0.03 (0.04)
Interest in election	-0.07 (0.05)	-0.04 (0.15)	-0.06 (0.05)	-0.05 (0.06)
Electoral system eval.	0.38 (0.07)***	0.87 (0.21)***	0.32 (0.08)***	0.35 (0.08)***
Party affiliation	-0.49 (0.07)***	-0.62 (0.22)**	-0.49 (0.08)***	-0.34 (0.09)***
Female	0.26 (0.07)***	0.28 (0.20)	0.27 (0.07)***	0.24 (0.08)**
Age	-0.14 (0.07)*	-0.01 (0.27)	-0.18 (0.07)*	-0.21 (0.08)**
Age squared	0.00 (0.01)	-0.01 (0.02)	0.01 (0.01)	0.01 (0.01)
Bremen 2015	-0.14 (0.09)	0.08 (0.27)	-0.18 (0.09)	-0.29 (0.10)**
Hamburg 2011	-0.75 (0.11)***	-0.78 (0.31)*	-0.73 (0.11)***	-0.81 (0.12)***
Hamburg 2015	-0.71 (0.11)***	-0.51 (0.30)	-0.72 (0.11)***	-0.78 (0.12)***
AIC	4999.45	625.50	4381.55	3990.44
BIC	5087.51	685.48	4467.58	4076.34
Log Likelihood	-2485.73	-298.75	-2176.77	-1981.22
Deviance	4971.45	597.50	4353.55	3962.44
Num. obs.	3983	536	3447	3412

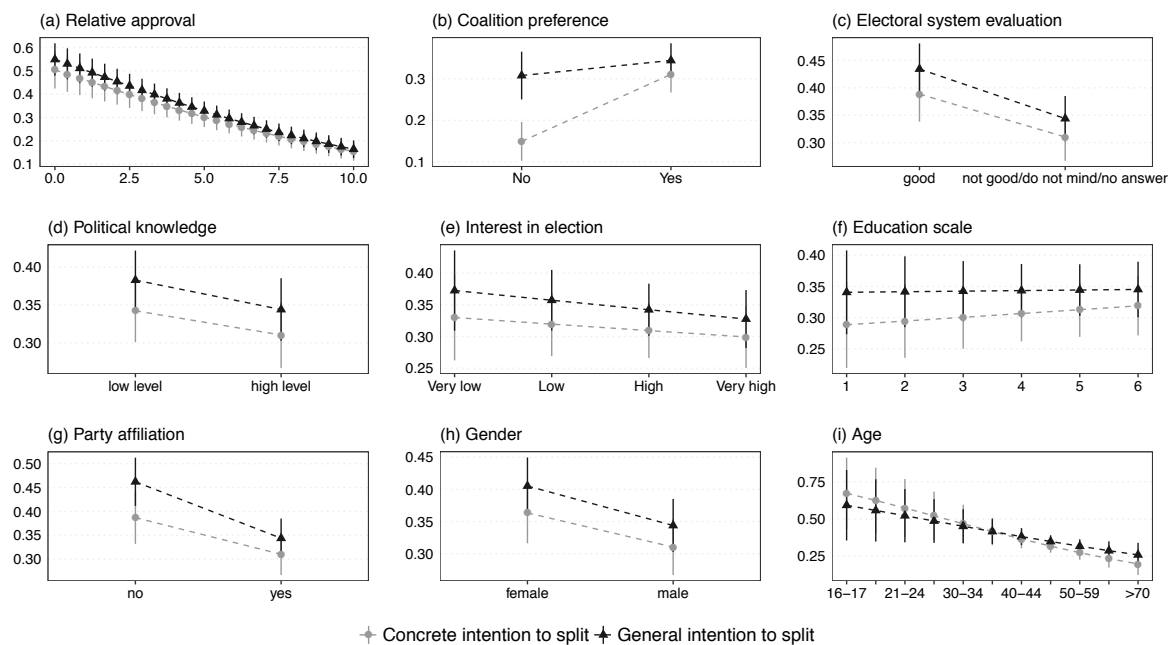
*** p < 0.001, ** p < 0.01, * p < 0.05

Note: All models are logistic regressions with robust heteroscedasticity-consistent standard errors (in parentheses). Model 1 uses the general intention to split between parties as the dependent variable, Model 2 replicates Model 1 but only uses respondents who have already casted a postal vote, Model 3 considers respondents who have not voted yet. Model 4 only considers the respondents who mentioned the parties they would split votes for.

Relative Approval has a comparable negative impact on split ticket voting in all models: the more a respondent favours one party (compared to all other parties), the less likely she is going to split votes all remaining variables held constant. The results of the various specifications let us assume that having multiple party preferences leads to the

expression of multiple choices when voters are allowed that option. Respondents with a *Coalition Preference* are more likely to split their votes. However, in contrast to *Relative Approval* which ranges from .16 to .18, the effect size of the *Coalition Preference* dummy shows much larger variation. In our basic model (Model 1), the effect is very small. When we use the subsample of respondents with a clear vote choice (Model 4) the coefficient gets larger and statistically significant. This suggests that coalition voting is in play for some voters when deciding how to cast their ballots.

Figure 5: Predicted probabilities of splitting votes between two or more parties.



Note: The predicted probabilities are based on Models 1 and 4 (Table 1). The y-axis shows expected values for different levels of the independent variables. The vertical bars display the 95 per cent confidence intervals. The grey lines show the probabilities when using the more restrictive measurement of split voting (concrete party choice reported, Model 4), the black lines report the predicted probabilities if the general intention to split votes is used as the dependent variable. Continuous variables are held constant at their mean and factor variables at their mode (Leeper, 2017).

As the substantive effects of logistic coefficient estimates are difficult to evaluate from regression tables and because the variables are measured on different scales, Figure 5 plots marginal effects of the independent variables on splitting votes. The black triangles show results from Model 1 (general split-ticket voting intention), while the grey circles

display the effects when using Model 4 (concrete split-ticket voting). First, it is clear that the predicted probability of splitting votes across all models is lower when the concrete dependent variable is used, which reflects the fact that the number of split-voters is almost ten percentage points lower if we only consider respondents with a concrete choice. However, the direction of the effects are the same, no matter which dependent variable is used. We primarily refer to the general *Split* dependent variable (Model 1, black colour) in the following. The effect of *Relative Approval* on the probability of split-ticket voting is very large when using the general intention to split. When all parties are given equal approval ratings (*Relative Approval* = 0), the predicted probability of splitting votes ranges between 48 and 61 per cent. When only one party is favoured and all other parties are disliked, the predicted probability decreases to 16±5 per cent. This effect is smaller, however, when we only consider respondents as split-voters who named the parties. Whether a respondent favours a certain coalition (*Coalition Preference*) has a large effect with the concrete split intention. Having a coalition preferences increases the probability of splitting from 14±4 to 30±6 per cent (compared to a 4±5 percentage point increase when using the general intention to split votes as the dependent variable).

For all other variables, the changes in predicted probabilities are comparable across both dependent variables. Respondents who liked the electoral system split with a higher predicted probability compared to voters who oppose the electoral law or are indifferent to it. The effect of *Political Knowledge* is small and insignificant. Neither the level of *Education*, nor *Interest in Election* have substantive effects on splitting votes. As expected, voters who feel close to a party are much more likely to give all five votes to candidates from only one party. For respondents with a *Party Affiliation* the probability of splitting votes decreases by around 10 percentage points. This effect, however, is much smaller when we use the concrete *Split* variable. Male voters split votes with a predicted probability of 34±4 per cent, while

females divide up votes with a 6 percentage point higher difference (40±4). Finally, the negative effect of *Age* on split-ticket voting shows that young people tend to have a higher probability of split-voting. Although the confidence intervals are wide, these results offer some support for a generational effect of cumulative voting.

To investigate the robustness of the findings, we tested additional model specifications.¹⁷ The results are described in the Appendix. Table A1 replicates Model 1, but estimates the coefficients for each election separately. In all four elections, *Relative Approval* has the expected negative effect (the coefficients range from -0.12 to -0.26) and is significant at least at the 0.01-level. *Coalition Preference* had a considerable positive impact in two elections (Bremen 2011 and Hamburg 2015). *Party Affiliation* has a strong negative impact in all four cases, and female voters tend to split more – but this effect is only statistically significant in one case. For all other variables we have larger variation in the effects, which mirrors our conclusions from the pooled model. Table A2 conducts two additional robustness checks. Firstly, we recalculated the *Relative Approval* score by excluding the negative party evaluations from the analysis. The original scale ranges from -5 to 5, and voters might choose extremely negative values when they dislike a party. This could push the relative approval for the most preferred party to an extreme. Therefore, we excluded all negative evaluations from the analysis. The effect size of *Relative Approval* remains as strong as in all original models, and the other coefficients do not change substantially. Moreover, voters might only evaluate a subset of parties, which biases the approval scale. Yet, out of the 3,983 respondents we include in the regressions, 81 per cent have evaluated all parties, 95 per cent of the respondents have evaluated at least 80 per cent of the parties. Non-response in this survey question is not an issue that influences the results. Finally, one might argue that the *Political Knowledge* variable is too specific. Recall that we coded respondents

¹⁷Again, we base the robustness checks on the vague split-voting intention, but the substantial results do not change if we use the concrete split intention as our dependent variable.

who knew the lead candidates of the two largest party as having high knowledge of the election. It is however possible that the CDU candidates were less well known by the respondents because in most elections they did not have any prospect of becoming the First Major.¹⁸ To test for this possibility, we recode knowing the SPD candidate alone as our proxy of political knowledge. Under the alternative specification of *Political Knowledge* the size and direction of the coefficient remain unchanged (Table A2, Model 3). In sum, while the effect of coalition preference varies depending on the model specification or subset of respondents used, having multiple party preferences shows a consistent effect on the probability to split votes.

5. Discussion

In this paper we show that even when voters are permitted unconstrained choice, their choices are strongly constrained by party preferences. Cumulative voting in Bremen and Hamburg at the individual level allows voters to express preferences for up to five parties, but in practice voters generally limit that expression to just one or two. One of the thought provoking findings is that, despite a system which allows for voters to cross party lines there seems to be a relative lack of enthusiasm among voters in both Bremen and Hamburg for this. Perhaps it is this lack of enthusiasm that helps to explain why turnout has not increased under the new system despite the hopes of reformers. Arguably there might have been a bigger decrease had the reform not been introduced. But even that counter-factual hardly represents a ringing endorsement of change. If anything, our individual level data suggest that voters may be less keen on expanding the opportunity to choose candidates than reformers. Perhaps more reasonably, what it suggests is that there are limits to candidate specific effects.

¹⁸ During the 2011 Bremen election campaign, the CDU even offered to become junior coalition party of the Green party due to the party's missing potential to become the largest coalition party.

Jankowski (2016), for example, clearly documents that there is a candidate effect, often centred on locality under CV. Within the literature on preferential voting more broadly there is a temptation to see such ‘friends and neighbours’ effects as ones that trump ideological concerns. Candidate attributes – experience, likability, integrity and so on – are seen as important and, at least implicitly, may be seen as outweighing the particular party label the candidate carries and so promote ticket splitting.

Our work provides a more nuanced view to show that what seems to be the case for voters splitting their ticket in the four instances we examined (two different elections in two different states in which voters are given great scope to express their preferences) is that the bulk of them split their ticket within party families. That is, as Jankowski (2016) shows, candidates may have their appeal but that appeal is still shaped by party and ideological concerns. In the US the phrase “I vote for the best candidate not the best party” is a familiar account of how voters explain their own behaviour. In the US it just happens to be the case that for such voters the same party most always seems to have the best candidates: for Germany it seems to be that just one party (family) mostly seems to have the best candidates (see also André and Depauw, 2017).¹⁹ Future studies should look at cumulative voting behaviour in environments with larger variation in the split-voting choices to understand whether ideology, policy balancing, or tactical coalition consideration drives split voting.

Preferential electoral systems provide us with insight into voter preferences that are not as constrained as they are under other electoral systems. While most voters do seem to remain monogamous, a sizable number of voters – roughly one quarter to one-third of the samples in the four surveys – do have more complex (less monogamous) attachments to

¹⁹ Our finding of splitting within the same party family squares with a recent analysis of voting patterns in a German municipal election: “Voters are more likely to select candidates from parties that have a similar policy position, providing structure to the vote flows” (Nyhuis 2017: 479).

parties than the Anglo-American model often suggests. This is behavioural evidence consistent with the underlying idea of the propensity to vote (PTV) approach that allows for voters to have multiple attachments. Yet, voter choices are still structured by attachment to just a handful of parties that are within the same political camp. We do not, for example, find voters are very willing to cross the left/right divide and so we find very little evidence of ‘policy balancing’ behaviour of the kind that promotes centrism.

Calls for electoral reforms to offer more choice to voters are, then, perhaps overly optimistic. There is not much evidence from these four elections that voters go wild once given free rein. Rather, voters seem somewhat conservative (small c) in their voting behaviour. Of course one could argue it takes time for things to embed and the national party and electoral system structure the state level, but even Ireland’s long experience with preferential voting suggests that most voters will only rank 3 or 4 candidates even when there are over 20 listed on the ballot. We do not claim that providing more choice to voters has no value. In principle one can say that having more choices is inherently better than having fewer. What we can say, however, is that even if voters have more choice, it does not mean they will use them.

References

- André, A. and Depauw, S., 2017. Too much choice, too little impact: a multilevel analysis of the contextual determinants of preference voting. *West European Politics* 40 (3), 598–620.
- Bartholdi, J.J. and Orlin, J.B., 1991. Single transferable vote resists strategic voting. *Social Choice and Welfare*, 8 (4), 341–354.
- Bafumi, J., Erikson, R.S. and Wlezien, C., 2010. Balancing, generic polls and midterm congressional elections. *The Journal of Politics*, 72(3), 705–719.

- Bawn, K., 1999. Voter responses to electoral complexity: ticket splitting, rational voters and representation in the Federal Republic of Germany. *British Journal of Political Science*, 29 (3), 487–505.
- Best, V., 2015. *Koalitionssignale bei Landtagswahlen: Eine empirische Analyse von 1990 bis 2012*. Nomos Verlagsgesellschaft.
- Blair, G.S., 1958. Cumulative voting: patterns of party allegiance and rational choice in Illinois State Legislative Contests. *American Political Science Review* 52 (1), 123–130.
- Bowler, S., Donovan, T. and Farrell, D.M., 1999. Party strategy and voter organization under cumulative voting in Victorian England. *Political Studies* 47 (5), 906–917.
- Brischetto, R.R. and Engstrom, R.L., 1997. Cumulative voting and Latino representation: exit surveys in fifteen Texas communities. *Social Science Quarterly* 78 (4), 973–991.
- Brockington, D., Donovan, T., Bowler, S. and Brischetto, R., 1998. Minority representation under cumulative and limited voting. *The Journal of Politics* 60(4), 1108–1125.
- Cole, R.L., Taebel, D.A. and Engstrom, R.L., 1990. Cumulative voting in a municipal election: a note on voter reactions and electoral consequences. *The Western Political Quarterly* 43(1), 191–199.
- Curtice, J. and Marsh, M., 2014. Confused or competent? How voters use the STV ballot paper. *Electoral Studies* 34, 146–158.
- Denver, D., Clark, A. and Bennie, L., 2009. Voter reactions to a preferential ballot: the 2007 Scottish local elections. *Journal of Elections, Public Opinion and Parties*, 19 (3), 265–282.
- Duch, R. M., May, J., and Armstrong, D. A., 2010. Coalition-directed voting in multiparty democracies. *American Political Science Review* 104 (4), 698–719.
- Engstrom, R.L. and Barrilleaux, C.J., 1991. Native Americans and cumulative voting: the Sisseton-Wahpeton xioux. *Social Science Quarterly* 72 (2), 388–393.
- Farrell, D.M. and Gallagher, M., 1998. Submission to the Independent Commission on the voting system. *Representation* 35 (1), 53–62.
- Farrell, D.M., Suiter, J. and Harris, C., 2017. The challenge of reforming a ‘voter-friendly’ electoral system: The debates over Ireland’s single transferable vote. *Irish Political Studies* 32 (2), 293-310.
- Forschungsgruppe Wahlen, 2012. State election in Bremen 2011. GESIS Data archive, Cologne. ZA5627 Data file Version 1.0.0. doi:10.4232/1.11467.
- Forschungsgruppe Wahlen, 2012. State election in Hamburg 2011. GESIS Data archive, Köln. ZA5623 Data file Version 1.0.0. doi:10.4232/1.11466.

- Forschungsgruppe Wahlen, 2016. State election in Bremen 2015. GESIS Data archive, Köln. ZA6699 Data file Version 1.0.0. doi:10.4232/1.12651.
- Forschungsgruppe Wahlen, 2016. State election in Hamburg 2015. GESIS Data archive, Köln. ZA6698 Data file Version 1.0.0. doi:10.4232/1.12650.
- Fredén, A., 2014. Threshold insurance voting in PR systems: a study of voters' strategic behavior in the 2010 Swedish general election. *Journal of Elections, Public Opinion & Parties* 24 (4), 473–492.
- Fredén, A., 2017. Opinion polls, coalition signals and strategic voting: evidence from a survey Experiment. *Scandinavian Political Studies* 40 (3), 247–264.
- Glazer, A., Glazer, D.G. and Grofman, B., 1983. Cumulative voting in corporate elections: introducing strategy into the equation. *South Carolina Law Review* 35 (2), 295–309.
- Gschwend, T., 2007. Ticket-splitting and strategic voting under mixed electoral rules: evidence from Germany. *European Journal of Political Research* 46 (1), 1–23.
- Gschwend, T., Johnston, R. and Pattie, C., 2003. Split-ticket patterns in mixed-member proportional election systems: estimates and analyses of their spatial variation at the German federal election, 1998. *British Journal of Political Science* 33 (1), 109–127.
- Gschwend, T. and Zittel, T., 2015. Do constituency candidates matter in German federal elections? The personal vote as an interactive process. *Electoral Studies* 39, 338–349.
- Gschwend, T., Meffert, M.F., and Stoetzer, L.F., 2017. Weighting parties and coalitions: how coalition signals influence voting behavior. *The Journal of Politics* 79 (2), 1–14.
- Guinier, L., 1992. Representation of minority interests: the question of single-member districts, *Cardozo Law Review*, 14, 1135–1174.
- Guinier, L., 1994. *The tyranny of the majority: fundamental fairness in representative democracy*. Free Press.
- Herrmann, M. and Pappi, F.U., 2007. Strategic voting in German constituencies. *Electoral Studies* 27 (2), 228–244.
- Horst, P., 2011. Das neue Hamburger Wahlrecht auf dem Prüfstand: Kontraproduktiv, aber schwer reformierbar. *Zeitschrift für Parlamentsfragen* 42 (4), 707–724.
- Huber, S. and Faas, T., 2014. How twittered exit polls can shape electoral outcomes under PR systems with electoral thresholds: an experimental test of how polls may shape the fortunes of small Parties. *Unpublished Manuscript*.
- Indridason, I.H., 2011. Proportional representation, majoritarian legislatures, and coalitional voting. *American Journal of Political Science* 55 (4), 955–971.

- Jankowski, M., 2016. Voting for locals: voters' information processing strategies in open-list PR systems. *Electoral Studies* 43, 72–84.
- Kedar, O., 2005. When moderate voters prefer extreme parties: policy balancing in parliamentary elections. *American Political Science Review* 99 (2), 185–199.
- Kedar, O., 2006. How voters work around institutions: policy balancing in staggered elections. *Electoral Studies*, 25 (3), 509–527.
- Leys, C., 1959. Models, theories, and the theory of political parties. *Political Studies* 7 (2), 127–146.
- Leeper, T.J., 2017. margins: Marginal Effects for Model Objects. R package version 0.3.6. <https://github.com/leeper/margins>.
- Lewis-Beck, M.S. and Nadeau, R., 2004. Split-ticket voting: the effects of cognitive Madisonianism. *Journal of Politics* 66 (1), 97–112.
- Marcinkiewicz, K. and Jankowski, M., 2014. When there's no easy way out: electoral law reform and ballot position effects in the 2011 Hamburg state elections. *German Politics* 23 (1–2), 103–117.
- Marsh, M., Sinnott, R., Garry, J. and Kennedy, F., 2008. The Irish voter: The nature of electoral competition in the Republic of Ireland. Manchester University Press.
- Meffert, M.F. and Gschwend, T., 2011. Polls, coalition signals and strategic voting: an experimental investigation of perceptions and effects. *European Journal of Political Research* 50 (5), 636–667.
- Nyhuis, D., 2017. Estimating policy positions of local parties in elections with multi-vote ballots. *Local Government Studies* 43 (3), 475–498.
- Pappi, F.U. and Thurner, P.W., 2002. Electoral behaviour in a two-vote system: incentives for ticket splitting in German Bundestag elections. *European Journal of Political Research* 41 (2), 207–232.
- Powell, G.B., 2000. *Elections as instruments of democracy: majoritarian and proportional Visions*. Yale University Press.
- Probst, L. and Schröder, V., 2015. Das Bremer Wahlsystem: Intransparent, paradox und möglicherweise verfassungswidrig. Eine Analyse aus wissenschaftlicher Perspektive am Beispiel der Bürgerschaftswahl 2015. www.lotharprobst.de/fileadmin/user_upload/redakteur/Aktuelles/2015/Effekte_Wahlsystem_2015.pdf.
- Sartori, G., 1968. Political development and political engineering. *Public Policy* 17, 261–298.

- Sawyer, J. and MacRae, D., 1962. Game theory and cumulative voting in Illinois: 1902–1954. *American Political Science Review* 56 (4), 936–946.
- Still, E. and Karlan, P., 1995. Cumulative voting as a remedy in voting rights cases. *National Civic Review* 84 (4), 337–346.
- Thomassen, J.J., 1976. Party identification as a cross-national concept: its meaning in the Netherlands. In Budge, I., Crewe, I. and Farlie, D. (eds.). *Party Identification and Beyond: Representations of Voting and Party Competition*. Wiley & Sons, 263–266.
- Tiefenbach, P., 2015. Das Bremer Bürgerschaftswahlrecht in der Kritik. *Zeitschrift für Parlamentsfragen* 46 (3), 578–588.
- Van der Eijk, C. and Franklin, M., 1996. *Choosing Europe?* University of Michigan Press.
- Van der Eijk, C. and Marsh, M., 2007. Don't expect me to vote for you just because I like you, even if you do make me feel warm inside: A comparison of the validity of non-ipsative measures of party support. Annual Meeting of the American Political Science Association, Chicago, 29 August-1 September. http://eprints.nottingham.ac.uk/1251/1/Cvde-MM_APSA_paper_-_F4.pdf.
- Van der Eijk, C. and Niemoller, B., 1983. *Electoral change in the Netherlands*. CT Press.
- Van der Eijk C., van der Brug, W., Kroh, M. and Franklin, M., 2006. Rethinking the dependent variable in electoral behaviour: on the measurement and analysis of utilities. *Electoral Studies* 25 (3), 424–447.