Strategic Split-Ticket Voting in Mixed Electoral Systems:
The Cases of Germany, Hungary, and Lithuania

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ABSTRACT

This article aims to examine strategic split-voting in mixed systems by analyzing the results of elections in three countries using mixed electoral systems—Germany, Hungary, and Lithuania—to further improve researchers' understanding of the relationship between strategic voting and ticket splitting. This is achieved by exploring new quantitative measures. The three selected countries do not use identical electoral systems, but their common characteristic is that they provide an opportunity for voters to split their ballot between an individual candidate running in a single-member constituency and a party list. This makes it possible to compare the two different types of votes and to search for patterns indicating strategic behavior. In this article, the authors introduce two analytic tools: one for determining the approximate quantity of split ballots and another for measuring strategic voting patterns based on the concentration of split tickets.

KEYWORDS

Electoral Behavior, Electoral Systems, Germany, Hungary, Lithuania, Mixed-Member Systems, Parallel Voting, Split-Ticket Voting, Strategic Voting, Tactical Voting

INTRODUCTION

Although researchers have extensively studied patterns of both strategic voting and split-ticket voting have in the past, they remain difficult to observe or measure and can still be considered somewhat elusive subjects in political science. At the same time, with the growing number of mixed member electoral system used around the world, the intersection of tactical and split-ticket voting provides new data for research every election year. This paper aims to examine this subject by analyzing the results of 23 legislative elections in three countries using mixed electoral systems: Germany, Hungary, and Lithuania. The main goal of this research is to further improve researchers' understanding of the relationship between strategic voting and ticket splitting by exploring new, common quantitative measures. The three selected countries do not use identical electoral systems. Rather, their common characteristic is that they provide an opportunity for the voters to split their ballot between an individual candidate running in a single-member constituency and a party list competing on either a national or a regional level. This makes it possible to compare the two different types of votes and to search for patterns indicating strategic behavior. In this paper, the authors introduce two analytic tools: one for determining the approximate quantity of split ballots and another one for measuring strategic voting patterns based on the concentration of split tickets. The two measures rely on each other in an indirect manner, and although they analyze two separate, sometimes independent phenomena, they are both calculated based on the difference between party list and candidate vote counts. The rate of split-ticket votes provides the context for the concentration of such ballots and indicates an overlap between split voting and strategic voting.

Theoretical Framework for Strategic Voting

The term "strategic voting", also called "tactical voting," refers to a situation when a voter supports a second-preferred party or candidate due to the perception that they have a better chance at winning the election then the first-preferred one (Blais & Nadeau, 1996). This definition, however, may be further expanded by replacing "second-preferred" with "another", as it is possible that the nth preference of the voter has an even higher chance to win. Researchers often note that such situations are specific to multiparty systems (Downs, 1957, p. 48), in which choosing between second- and third-preferred alternatives makes most sense. Downs explains such voter decisions with rational voter behavior: the voter considers their vote to be a tool in the selection process, not just an expression of preference (Downs, 1957, p. 48). Consequently, these voters attempt to make an optimal decision in the polling booth that promises a successful political outcome - that is, at least some of their political preferences gain representation or as a bare minimum, they may prohibit their least-preferred alternative from winning. As Downs explicitly discusses, this approach to understanding voter behavior is predicated on the theory of rational, strategic voters as opposed to expressive ones. While this study follows the same theoretical framework, it must be noted that the scientific debate on which model describes voter behavior

best is ongoing, and empirical research suggests the two explanations overlap in the real world (Spenkuch, 2018). For the purposes of examining tactical voting from an empirical aspect, this paper will assume that voters by and large make strategic decisions in the polling booth.

The entire theory of voters may choose a more viable alternative against a more-preferred one can be traced back to the works of Maurice Duverger. His prediction that first-past-the-post systems lead to two-party competition established to the concept of the Duvergerian equilibrium (Duverger, 1954). According to this theory, in a district of magnitude M, the strongest M + 1 candidates receive all rational votes (Crisp et al., 2012). Thus, a single-member constituency is in equilibrium if the two strongest candidates gain the overwhelming majority of electoral support. Consequently, this theory applies to the constituency level competition – it is entirely possible for the competition to be bipolar on the constituency level but multipolar nationally. The mechanical and psychological effects of the electoral systems, as described by Duverger, both influence this phenomenon. While the former effect influences the transformation of votes into seats, the latter affects voter decisions before the fact. This distinction is important because according to the theoretical framework of tactical voting, the expectations and predictions of the voters can not only influence their main political preferences, but they may also overrule them.

Identifying strategic voting reliably is quite difficult, and determining its precise proportions is impossible since it would require researchers to understand perfectly the individual motivations behind each ballot cast. That is why the extent of tactical voting is often measured with opinion polls (for the evaluation of such approaches, see Blais et al., 2005). However, there are a number of analytical tools developed over the years that could provide information on tactical voting based on the detailed final results of an election.

One of such tools is the so-called SF ratio (Cox, 1997). Researchers derive its name from the formula used for calculating it, as it is the vote count of the second loser in a constituency expressed as a ratio of the first losers' ballot count. The SF ratio will be 0 when the third runner up receives no support and the votes concentrate on the first runner-up, or in other words, if there is a Duvergerian equilibrium. In such an extreme situation, all supporters of the third contender defected, deserting the candidate to vote for the more likely winner. On the other hand, when the SF ratio takes the value of 1 (its maximum) then the first and second runners-up received equal amounts of votes, indicating a lack of tactical considerations behind the ballots. Researchers call such a case a non-Duvergerian equilibrium, as there was no strategic defection.

Another measure called hopeless votes (Crisp et al., 2012) looks at the ratio of all the ballots that were cast for parties or candidates besides the winner and the first runner-up. The logic behind this measure is that votes cast for parties that fail to reach representation are often considered wasted; however, these do not necessarily indicate a coordination failure. As hopeless votes include votes cast for the candidates at the third, fourth, etc. places, they provide a more complete picture of the fragmentation of competition. Another useful measure of fragmentation is derived from the well-

known effective number of parties (Laakso & Taagepera, 1979). In this case, the index could be modified to measure concentration among the losing parties by calculating it only for their seat shares. The value of this "effective number of losing parties" (Crisp et al., 2012) is close to 1 in a Duvergerian equilibrium and extremely high in non-Duvergerian situations.

As established above, researchers can define strategic or tactical voting on the constituency level and in multiparty systems, where there are more than two contestants. Obviously, this phenomenon is not independent from the electoral framework: plurality systems facilitate strategic behavior, while list PR does not necessary do so. In PR systems, the threshold may be an important motivation, and voters might desert parties with low chances of passing the threshold. However, Duverger's M + 1 theory helps researchers to generalize this aspect. As the district magnitude increases or the district level proportionality of seat allocation increases, the number of votes cast for unsuccessful parties decreases.

Theoretical Framework for Split-Ticket Voting

As discussed above, measuring tactical voting is difficult, but even detecting it can prove challenging. There are certain situations, however, when the election results reveal useful information. When multiple elections are held simultaneously or in two-vote or two-round electoral systems, it may be possible to identify strategic voter behavior based on the final tally of the ballots. Voters may choose to share their votes between different candidates and political groups, and sometimes they may be motivated to do so based on strategic considerations.

The broadest definition of ticket-splitting is that a ticket is split if a voter votes for party A in contest X and for party B in contest Y (Burden & Helmke, 2009). Ticket splitting can happen in two directions: either vertically or horizontally (Campbell & Miller, 1957). Vertical splitting is done when elections are held for seats in different levels of government simultaneously, and the voter decides to split the ballots they cast (e.g., supporting different candidates of different political parties for president and for member of the parliament). Another classical example for such an opportunity is when voters elect municipal legislative bodies and mayors at the same time. On the other hand, horizontal split voting can occur when multiple votes are available on the election of equivalent positions. Two-vote electoral systems, used in Germany, New Zealand, Lithuania, or Hungary for example, all provide opportunities for split-ticket voting. The other dimension of split voting is time, depending on whether elections are held concurrently or non-concurrently. While this article deals only with vote-splitting on concurrent elections in mixed member systems, it is possible to observe this phenomenon during votes held at different times. An example of non-concurrent horizontal ticket-splitting is the staggered U.S. Senate races held together with the mid-terms, while non-concurrent vertical splitting can happen at by-elections (Burden & Helmke, 2009). It must be noted, however, that distinguishing between electoral volatility and non-concurrent vote splitting is extremely difficult, if it all possible.

The motivations behind ticket-splitting are not necessarily strategic, and tactical considerations are only one of several possible explanations. First of all, ticket-splitting is not necessarily rational and could certainly be attributed to irrational behavior, confusion, or ignorance on the voter's part (Jesse, 1988). Even if the decision to split the ticket was conscious and rational, it may have been motivated by the agenda or personal attractiveness of a candidate running against the first-preferred party. Distinguishing between personal and tactical split-tickets is difficult since research indicates that personal factors are quite impactful in mixed member electoral systems (Moser & Scheiner, 2005). Consequently, split-ticket ballots may be fully sincere, expressing different voter preferences for candidates and party lists (Plescia, 2017). On the other hand, a straight ticket theoretically could be strategic if voters made both choices based on tactical considerations instead of political preferences. In a mixed member electoral system, the strategic aspect of the majority vote can be explained by Duverger's M + 1 rule and the proportional ballot by the threshold. Tactical voting by supporters of major parties can be explained with the so-called coalition insurance theory. According to this theory, voters are willing to support a potential coalition partner on the party list but keep their plurality vote for the viable major candidate (Gschwend, 2007). Figure 1 shows a summary of sincere or strategic and split or straight votes.

Figure 1. Voting patterns of sincere/strategic and split/straight voters (Source: Gschwend, 2007)

PREDISPOSITION	HYPOTHESIZED VOTING PATTERN			ACTUAL VOTING PATTERN	
Party supporter	Electoral calculus	Candidate vote	List vote	Candidate vote	List vote
Major party supporter	Sincere straight ticket	Sincere	Sincere	Major party	Major party
	Strategic split ticket *coalition inference*	Sincere	Strategic		
				Majory party	Small party
Small party supporter	Strategic split ticket *wasted votes*	Strategic	Sincere		
	Sincere straight ticket	Sincere	Sincere	Small party	Small party

As seen in Figure 1, regardless of the motivations of the voters, researchers expect strategically split votes to be the same, supporting the most viable candidate and a smaller party list. Consequently, for strategic major party voters, their first preference is expressed in their vote cast for a candidate, while in the case small party voters, it is carried by their proportional party list vote. For later reference, the authors will designate strategic split-ticket voting by major party supporters as type 2 strategic voting, while such voting patterns by small party supporters will be type 1 strategic voting.

Another relevant factor is the electoral system itself. There is wide variation in the seat allocation mechanisms of different mixed member systems. While Germany

has single-member districts, it is a purely proportional system in which the single-member constituency (SMC) races are closely connected to the party list results during the distribution of seats. In both New Zealand and Germany, the final seat shares are based on the proportional results. In Lithuania, the system is also mixed, including both a first-past-the-post and a proportional element, but the two are not connected by any compensatory mechanisms. On the other hand, in Hungary, there is not only a compensatory connection between the plurality and proportional parts, but majority winners in the single-member districts also receive a premium on their respective lists according to their excess votes. Voters do not need to be intimately familiar with the inner workings of their electoral systems. However, researchers expect parties' nomination strategies and campaign communications to adapt to the corresponding framework.

METHODOLOGY, DATA AND CASE SELECTION

Since one of the goals of this paper is to explore the intersection of strategic voting and split-ticket voting, it is necessary to consider the analytical tools available for such an experiment. First of all, there are measures already discussed in this paper that are used by researchers to examine strategic voting. For example, the authors already introduced the SF ratio, the effective number of losers, and the hopeless votes. Originally, researchers calculated the SF ratio for plurality races in single-member districts, but researchers could also calculate it for the PR contest in the same constituency. This is the SFPR ratio (Moser & Scheiner, 2009). The difference between the SF and the SFPR ratio indicates strategic voting: if SF is lower than SFPR, then voters switched their plurality ballots to support the second candidate. By contrast, if they are equal, then there may have been no strategic vote splitting happening at all. The SF ratio in itself only indicates strategic voting, but with the introduction of the SFPR ratio, researchers can compare the PR and FPTP contests to gather information on tactical decisions behind ticket splitting in a somewhat indirect manner.

Furthermore, the author also recommends the introduction of another measure that describes the amount of split-tickets directly. Researchers often cannot determine the exact number of split votes in systems in which the ballots are physically separate, but it is possible to obtain an approximate figure to be used for geographic comparison or time series analysis. This measure is mathematically identical to Pedersen's index of volatility (Pedersen, 1979), and researchers use the Loosemore-Hanby index (Loosemore & Hanby, 1971) for the examining disproportionality. Researchers calculate this as the absolute difference between the vote count of a candidate and the vote count of the respective national party list in each polling station. It is necessary to use absolute figures for the differences as otherwise; the negative and positive terms would cancel each other out. The sum of these absolute differences must be then divided by two since one must assume that a deficit of votes at one party appears as a surplus at another one. Basically, one considers the election a zero-sum game in which there are no missing ballots. This assumption is necessary but does not influence

the result too much as long as the number of missing ballots is at a minimum. After the division, the resulting value should be the approximate number of ballots that were split. To obtain an index useful for comparison across elections, researchers can divide the number of split ballots by the total number of votes cast, resulting in a ratio independent of the variance in election turnout. The formula for this measure, which represents the rate of split-tickets, is represented by the following expression:

$$Rate\ of\ split\ votes = \frac{\dfrac{\sum\sum\left(\left|cv_{i,j} - lv_{i,j}\right|\right)}{2}}{\sum lv_i}$$

where $cv_{i,j}$ are the votes cast in polling district or electoral constituency i for candidate j, and $lv_{i,j}$ are votes cast in the polling district or constituency i for the party list corresponding to candidate j. The lv_i in the denominator signifies all the party list votes cast in the polling district or constituency.

There are, of course, a number of requirements for the application of this measure. First of all, the majority of candidates must be assigned to a national party list. Technically, one considers votes cast for independent candidates (or any candidate without a national party list for that matter) to be a split-tickets when calculating the measure. This is not a problem until the vote share of such candidates remains marginal. However, if they receive a considerable number of votes, the value of the index may drastically increase. Even before testing the measure in practice, it is already obvious that these two factors (missing ballots, independent votes) may considerably distort the results. This deficiency is, in the author's opinion, not mathematical. In the theoretical framework of strategic split-ticket voting, skipping one of the ballots makes no sense for any member of the electorate (see Figure 1). Supporting independents is not alien if such a candidate seems to be the most viable and/or attractive; however, researchers do not expect this to happen frequently. These are both special cases that may require ad-hoc correction based on the specifics of their occurrence. Finally, even when uses absolute differences, a candidate's surpluses and deficits of votes compared to their party lists could cancel out when aggregated to a higher level (e.g., constituency, province, national level), so it is best to perform the calculations on polling district results in which there are often only a few hundred tickets in the ballot-box.

A second measure that the author introduces in this paper is another modification of the effective number of parties index by Laakso and Taagepera (1979). First, researchers calculate total number of ballots gained by each candidate in excess of their party lists' vote count in the constituency. Then, researchers calculate the concentration of split-tickets with the original formula of the index. This provides researchers with a measure of how fragmented split ballots are in a constituency. Obviously, at perfect Duvergerian equilibrium, the value of the measure is low (no higher than M+1), and if it increases, this indicates a lack of tactical considerations.

While the author has no knowledge of these last two indices ever used in political science, they are both incremental modifications of well-known analytical tools for the purpose of exploring split-ticket voting in depth. The values calculated according to this section are then to be fed into regression models both as dependent and independent variables. First of all, this is performed to examine their relation to each other. This is useful because the theoretical framework suggests that they measure distinct but closely related voting patterns. It is especially important to investigate the possible relationships between the indexes used for measuring strategic voting and those that were constructed to explore split-ticket voting. Such tests can provide information on the existence of an intersection between the two phenomena.

For the purposes of this research, the author used the official election results of three European countries. Germany, Lithuania, and Hungary all use some form of a mixed system that allows voters to split their tickets. The examined period for the three countries is 1990 to 2018, which includes eight German, eight Hungarian, and seven Lithuanian elections. The author omitted the 1990 Lithuanian elections not only because they were held according to different rules, but also as they preceded the Lithuanian declaration of independence and democratic transition. The dataset constructed for the three countries contains 131,828 observations, single-member constituency candidates, and proportional party list vote count pairs. The author constructed the dataset using the official results for their legislative elections published by the Federal Returning Officer of Germany[1], the National Election Office of Hungary[2] and the Central Election Commission of the Republic of Lithuania[3]. In the Lithuanian case, the author used the Constituency Level Election Database (Kollman et al., 2019) to complement the official statistics, mainly to identify party affiliation of individual candidates. The author chose the three countries above due to the similarities in their electoral systems and their relative geographic proximity. Other instances of mixed systems used for national legislative elections can be found in other regions and could be included in the future.

The Role of the Electoral System in Split-Ticket and Strategic Voting

It is necessary to mention that the three selected electoral systems are not identical and have numerous differences that can influence strategic voting considerably. For example, they all involve the electorate choosing both single-member constituency candidates and party lists simultaneously, and all provide an opportunity for voters to split their tickets. However, they are significantly different in terms of seat allocation. According to the rules of the German electoral system, the final seat shares of the parties in the Bundestag are determined exclusively by the vote shares of the party lists. In Hungary, there is a very unique interplay between the two sides of the system because voters cast their votes for the losing SMC candidates, and since 2011, election officials transfer the "surplus" of the winning candidate to their corresponding national party list. Thus, the FPTP race influences that PR outcome. Before the 2011 electoral reform, the Hungarian SMC races were held in a two-round system, which has a profound effect on strategic incentives as it allows citizens to cast a straight and sincere vote in the first round and

then switch in the second round only if necessary. In Lithuania, the single-member constituency races and the PR competition are entirely separate; however, a two-round system is used for the former. These differences mean that researchers consider in the taxonomy of electoral systems Germany to be mixed-member proportional, while the Lithuanian and Hungarian systems are parallel or mixed-member majoritarian (Shugart & Wattenberg, 2001; Thames & Edwards, 2006).

Another important difference is ballot construction. In Germany, both votes are cast on the same physical ballot that is divided vertically into two – one for the candidates and one for the party lists. In Lithuania and Hungary, the ballots are physically separate. This is especially relevant to this research for two reasons. First of all, if the two votes are on the same ballot, then election officials can determine and count all vote combinations, while there is no way to later reconnect them in Hungary and Lithuania. Although there is no constituency-level split-ticket statistic tallied in Germany, electoral authorities do take samples and publish estimated national split-ticket matrixes. This allows the author to use Germany as a benchmark for the two measures proposed in this paper. Secondly, and probably more importantly, ballot construction can have a psychological effect on voters that heavily influences their decision to split or to not split their ballots. Examining this, however, is outside the scope of this study. Nevertheless, the differences in electoral formulas have long-term implications for strategic voting, as they determine the value of the SMC and PR votes. In Germany, election officials determine the seat shares solely by the PR competition, and in Lithuania, election officials decide half of the seats in the SMC race. On the other hand, in Hungary, the emphasis is clearly on the majoritarian part. Thus, theoretically strategic voting has the highest pay-off in Hungary, where influencing the SMC race is the main goal.

Measuring the Proportion of Split-Ticket Votes

Researchers can observe trends over time in the three countries during the examined period can by calculating the rate of split-ticket votes for each election, as described in the methodology section. The trend in the number (relative to total PR votes) seems to be similar in Hungary and Lithuania but quite different in Germany. To find an explanation for these trends, it can be useful to plot some indicators of the main factors that influence the value of the index (see Figures 2-4).

The rate of split-ticket votes constantly increased in Germany over the examined period. Additionally, with the exception of 1998, the trend was obviously not driven by any of the distorting factors (independent candidates or missing votes). For 1998, a number of candidates, who had no corresponding party list in a constituency, received relatively high votes shares, causing the value of the index to increase. Since the missing votes did not meaningfully influence the rate of ballot splitting, it can to be explained by either some form of strategic voting or the personal appeal of extra-party candidates. Another explanation could be simple ignorance or mistakes on the voters' part; however, this does not seem too likely considering that the trend is increasing over time. It seems unrealistic to assume that the electorate is increasingly ignorant

Figure 2. The rate of split-ticket votes (Rd), the proportion of votes cast for candidates without a party list (Rn) and the percentage of missing SMC (Rsmc) and PR (Rpr) votes in Germany
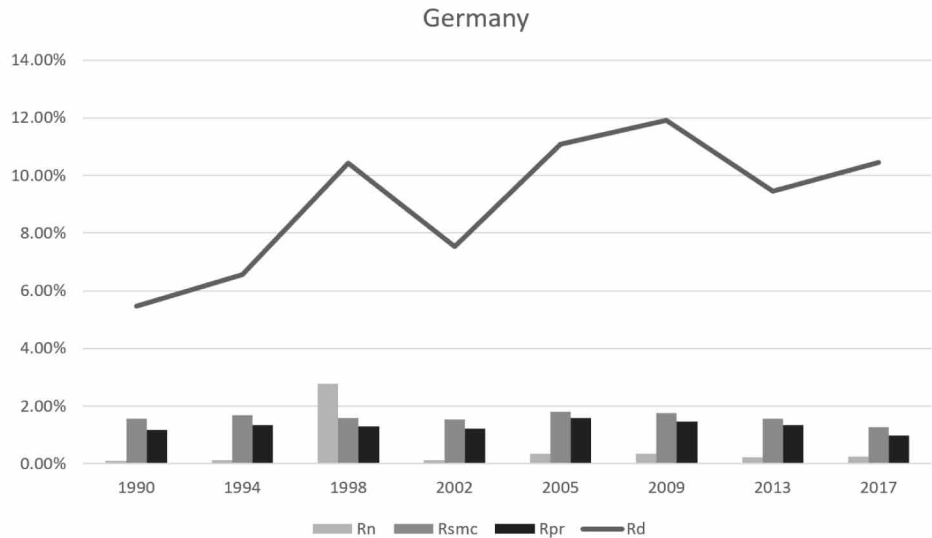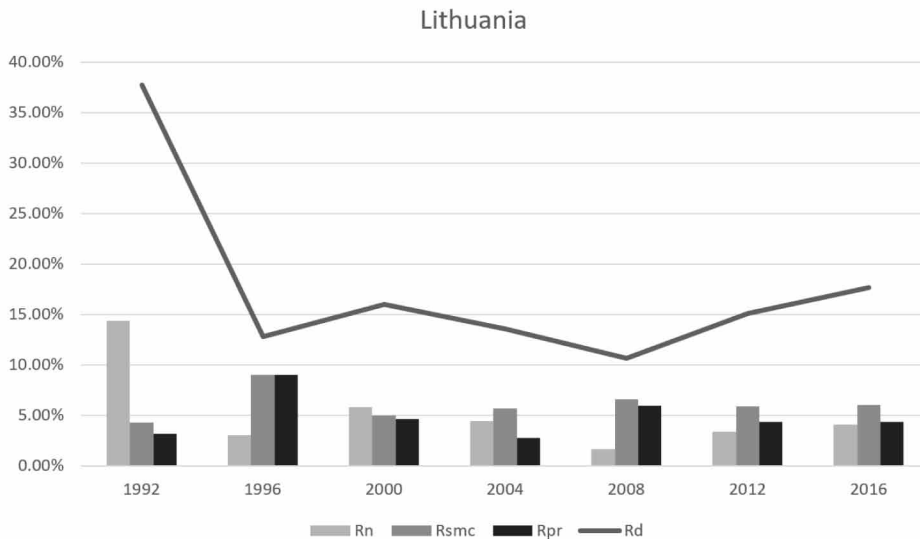

Figure 3. The rate of split-ticket votes (Rd), the proportion of candidates without a party list (Rn), and the percentage of missing SMC (Rsmc) and PR (Rpr) votes in Hungary
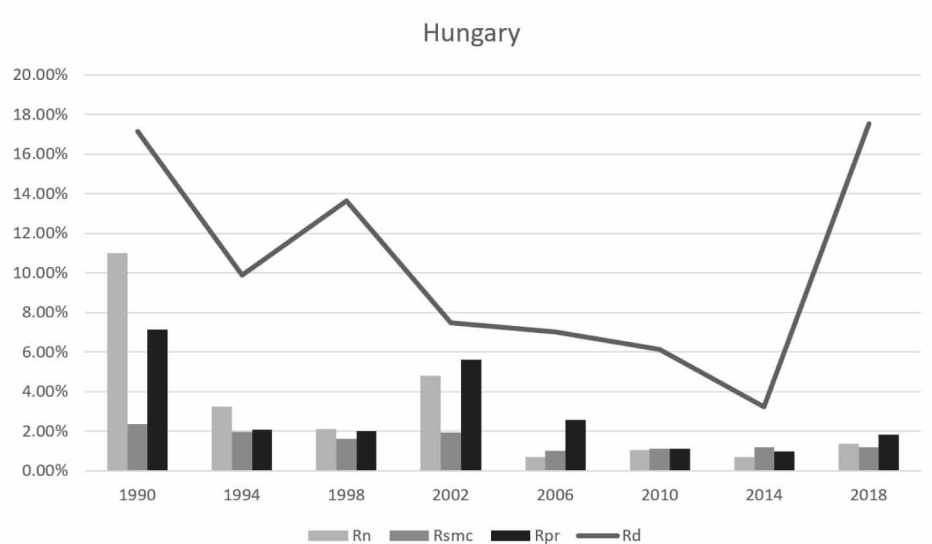
of the electoral rules and the competing parties and that the political actors do not attempt to intervene and inform.

In Hungary, the time series displays more variety than in Germany. During the founding elections in 1990, a large portion of the total vote was spent on candidates

Figure 4. The rate of split-ticket votes (Rd), the proportion of candidates without a party list (Rn), and the percentage of missing SMC (Rsmc) and PR (Rpr) votes in Lithuania

without a corresponding party list. As this number decreased, so did the rate of split-ticket votes. Both the vote share of these candidates and the rate of missing votes decreased over time, but the rate of split-tickets only followed this trend until 2018. Candidates framed the election in that year by a campaign for strategic vote splitting, which should explain how the index skyrocketed without any meaningful change in the distorting factors. This is where the rate of split-tickets indicates strategic voting.

In Lithuania, the rate of split-tickets was extremely high during the founding elections in 1992, and then it stabilized to a fairly lower level. The extreme values in 1992 can only be partially explained by the high vote share of candidates without a party list. What may seem to be a good explanation is that after the democratization of Eastern-European nations, the first elections were held without a stable party system, causing voters to follow less than optimal strategies and split their ballots.

In all observed cases, only a minority of voters decide to support a different candidate and party list, and with the exception of the 1992 Lithuanian elections, their percentage was always below 20%. Figures 3 and 4 clearly indicate that the percentage of votes cast for candidates without a corresponding party list can drastically influence the value of the index. However, the proportion of such votes is generally low across all examined countries and elections with the exception of the early 90s founding elections in Lithuania and Hungary. Already, by the second election after the democratic transitions, the vote share of such candidates significantly decreased. This can possibly be explained by political actors recognizing that it is not a viable strategy to run without a party list and with the electorate deciding that such candidates have very low chance of winning a seat.

However, the results lead to an interesting observation. Both in Hungary and in Lithuania, the rate of split-tickets decreases simultaneously with the vote share of candidates without lists, and together with the proportion of missing votes until 2018 in the former and 2008 and in the latter. In Germany, there is a gradual increase in the rate of split-tickets during the three examined decades without a similar change in missing votes or independent candidates. The increase in vote splitting that is not explained by other the plotted values has to be caused by another effect – strategic voting, the personal attractiveness of certain candidates, coalition preferences, or ignorantly cast ballots.

An interesting theoretical consideration is how to interpret cases in which independent candidates (any candidate without a party list regardless of their political affiliation) receive a lot of votes and how to deal with constituencies in which certain parties have a list available but refuse to run any candidates. In both cases, the voters are required decide between splitting the ticket or defecting from their candidate/party list. For the first case (independent candidates), it is impossible to decipher voter motivations without some form of an opinion survey as election results simply do not provide enough information. For the second one, however, when parties intentionally decide to not run any candidates, there are often strategic incentives - another, more viable contender who is supported either explicitly or implicitly. From the electorate's point of view, this is still strategic voting; however, it is promoted by a "supply side" factor. Consequently, there should be a distinction made between both "supply side" strategic voting and split-ticket voting, in which the voters do not have to desert their own candidate (because there isn't any), and "demand side" strategic and split-ticket voting, in which they decide to desert the non-viable contender on their own. The analysis in this section only scratches the surface of this phenomena, however, as researching it will require in-depth qualitative analysis of each constituency in a given election.

It is also necessary to emphasize that the rate of split-tickets is an approximation that is mainly distorted by cross-voting, which refers to the supporters of two parties voting for each other's party lists or candidates. This distortion cannot be completely eliminated in the case of Hungary and Lithuania, but it would be possible in Germany and in other countries where the two votes are cast on a single ballot paper (or a digital equivalent). While even in Germany, the relevant statistics published by the Federal Returning Officer are not detailed enough to asses strategic voting (there is no constituency level breakdown available), researchers can use the national split-ticket matrix to assess the approximation given by the index proposed in this paper. This matrix (available for the 2017 Bundestag elections at the website of the Federal Returning Officer[4]) shows that there was a total of about 7 million split-tickets cast. At the same time, the rate of split-tickets is only about 5 million, meaning that the 10% value is closer to 15% for 2017. This discrepancy is not surprising at all as the proposed index is necessarily an approximation, albeit there does not seem to be a better tool for now. It is obviously not an appropriate tool for measuring the exact number of split ballots. However, it should be adequate to display significant sways and changes in the ratio of voters who decide to split their vote.

Voting Patterns Indicating Strategic Split-Ticket Voting

Now that the author has established how the rate of split-ticket voting was estimated for this study, the next step is to examine it from the aspect of strategic voter behavior. The idea of measuring strategic voting on election results, as established in the theoretical framework, is to find voting patterns that indicate citizens were switching their ballots (or in this case, splitting them) to achieve an M+1 Duvergerian equilibrium in the constituency. As described above, the tool used for this purpose in this study is the index measuring the concentration of split tickets. The value of the index is easy to interpret for anyone who is used to the original effective number of parties measure: When all votes concentrate on a single candidate, the index takes the value of 1, and any increase indicates fragmentation of the split tickets. In all three countries, there are only single seat constituencies (regardless of the PR races), so M=1. Consequently, the requirement of the Duvergerian equilibrium is that the concentration of split tickets is less than or equal to 2.

Germany is different from the other two examined nations in terms of the proportional method used for electing the members of the Bundestag but also in regards to the party system. Even before the reunification and the 1990 elections, (West) German political life was long dominated by the competition between the Christian Democratic Union and the Social Democratic Party (with their junior allies). This bipolar party system was more or less carried over to the reunified country, so political competition in 1990 was more stable and established than in Lithuania or Hungary. Figure 5 shows the constituency level concentration of split tickets in every German election during the examined period.

The histograms clearly indicate that voters who split their ballots gravitate towards the M+1 number of candidates in their constituency. With the exception of 1990 and 1998, the median of the concentration index is close to 2, meaning that in more than half of the SMCs, split votes concentrated on two contenders.

Although there were some cases in Germany, namely 1990 and 1998 when split ballots became relatively fragmented, Figure 5 clearly shows that the first two candidates received the overwhelming majority (often almost all) of the split-ticket votes. There is little variety across time in this regard. If anything, this proportion somewhat increased over the years. This is a voting pattern that strongly implies strategic behavior.

In the case of Hungary, an apparent downwards trend is present in the median values of the index. In the 1990s, the distribution of the split-tickets was quite fragmented with a median value close to 3. As the Hungarian party system began to show signs of concentration, so did the split votes. From 2002 to 2018, the median value decreased considerably, with only a short upturn in 2014. The lowest median value that was calculated for any election in any of the countries in the dataset was for 2018. It was this election that prompted the research described in this study, as it was preceded by a communication campaign that explicitly aimed at convincing Hungarian voters to cast strategic ballots and to split their votes.

Figure 5. Distribution of the constituency level values of concentration of split-tickets index in Germany[5]
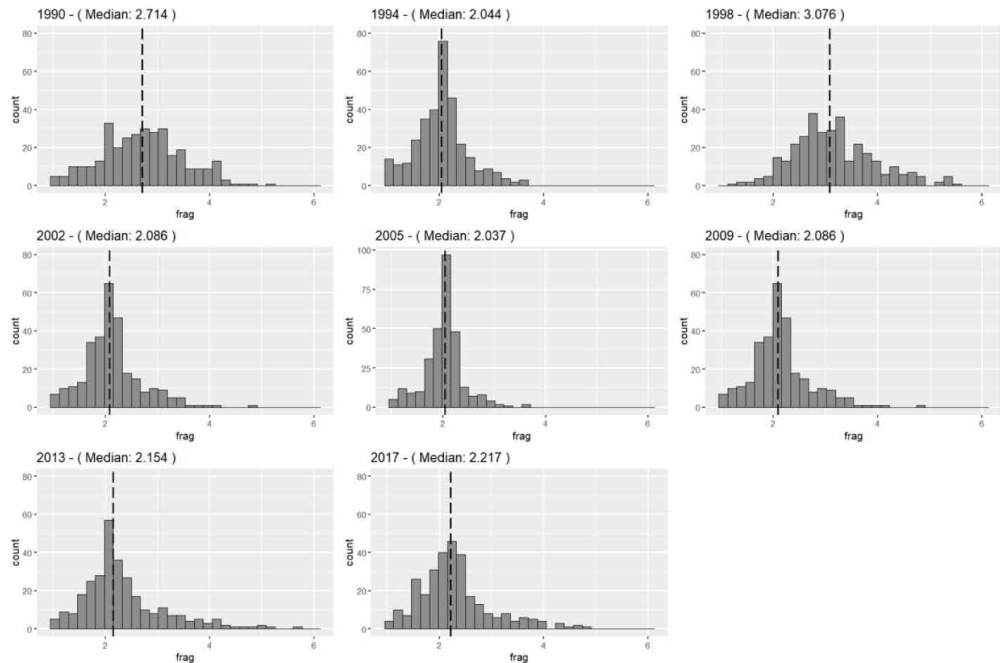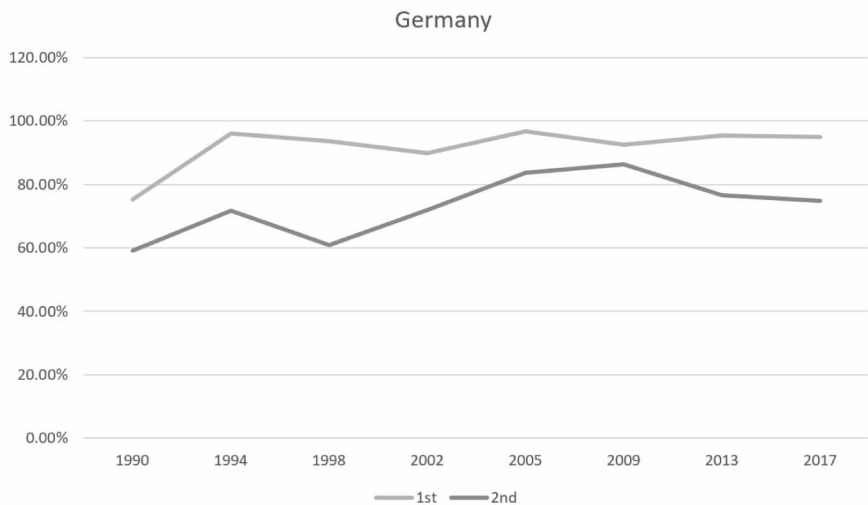

Figure 6. The percentage of constituencies where top split-ticket recipients (1st and 2nd place) were also top straight vote recipients (either 1st or 2nd place) in Germany

A remarkable result of the analysis is how the two methods introduced can describe these two distinct but related phenomena: split-ticket voting and strategic voting. In the previous section, the author established that vote splitting happened most often in 1990 and 2018 (Figure 7). However, the two were driven by entirely different motivations.

Figure 7. Distribution of the constituency level values of concentration of split-tickets index in Hungary
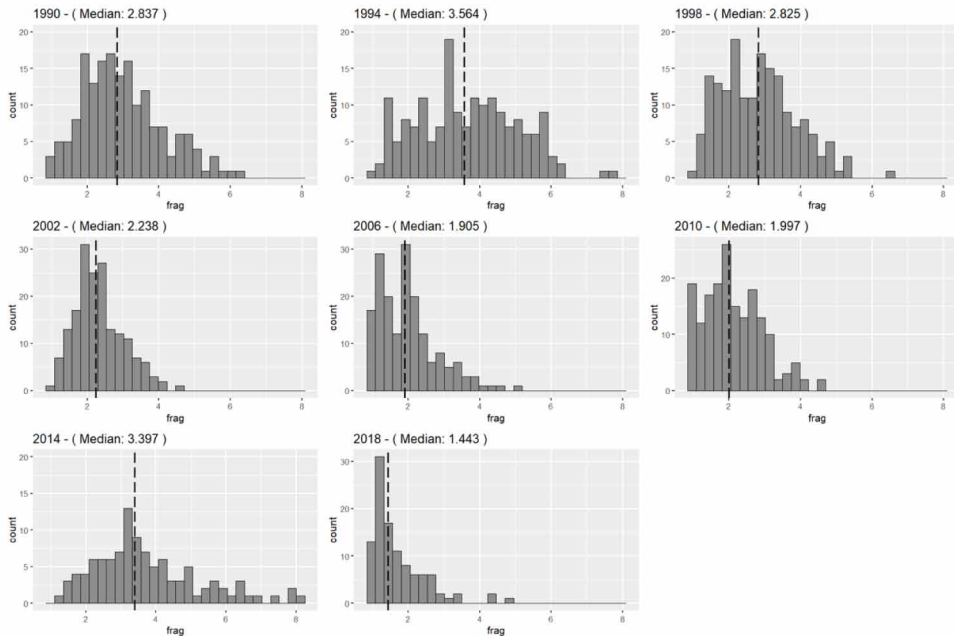

In the founding election of the Third Hungarian Republic, many citizens cast split ballots, but these votes were all over the place in a somewhat chaotic manner with many non-viable contenders and without corresponding party lists gaining votes. In 2018, the split-tickets significantly concentrated on a single candidate in each SMC. Thus, medians for the two elections are on different ends of the spectrum (Figure 8).

It is not only the concentration of the split-ticket votes that displays a clear tendency, but also the number of constituencies in which the M+1 candidates received the most split ballots that increased dramatically. Figure 6 shows that in the 1990s, the two leading candidates generally received 20 to 30% of the split ballots. By the late 2000s, this ratio doubled, and in 2018, 90% of top split ballot receivers were also either winners or runner ups.

The case of Lithuania is again, different. The consolidation of the party system was not as pronounced as in Hungary, and volatility remained relatively high (Lane & Ersson, 2007). For the electorate to act strategically, voters need to have a good understanding of the balance of power among the parties and candidates. That is quite difficult in an instable party system, however. Lithuanian constituencies display the highest levels of fragmentation of split-tickets.

The fragmentation of split-ticket ballots and the lack of a trend pointing towards concentration is not the only unique aspect of the Lithuanian dataset (Figure 9). The Baltic country is the only nation out of the three where a downward trend can be found in the split-ticket vote share of the first two candidates. A very interesting aspect of this type of analysis is when discrepancies appear, like for the 2016 election.

Figure 8. The percentage of constituencies where top split-ticket recipients (1st and 2nd place) were also top straight vote recipients (either 1st or 2nd place) in Hungary
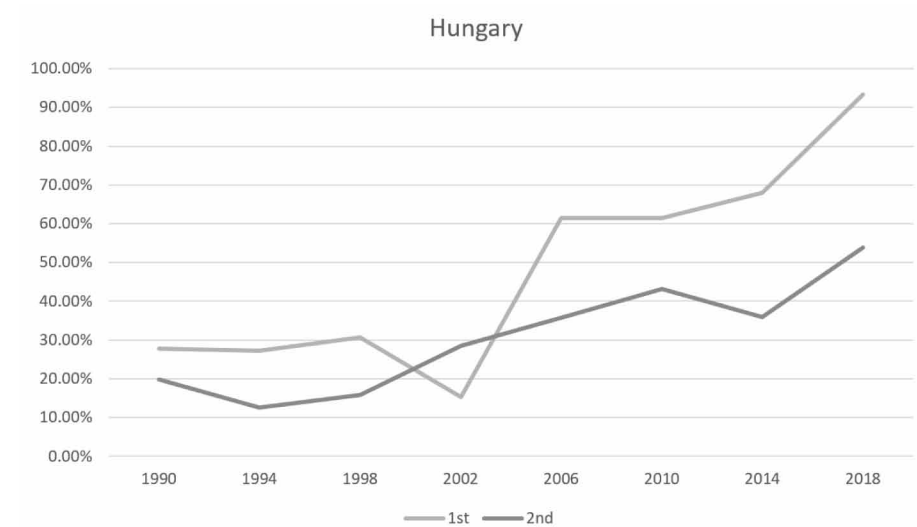
Figure 9. Distribution of the constituency level values of concentration of split-tickets index in Lithuania
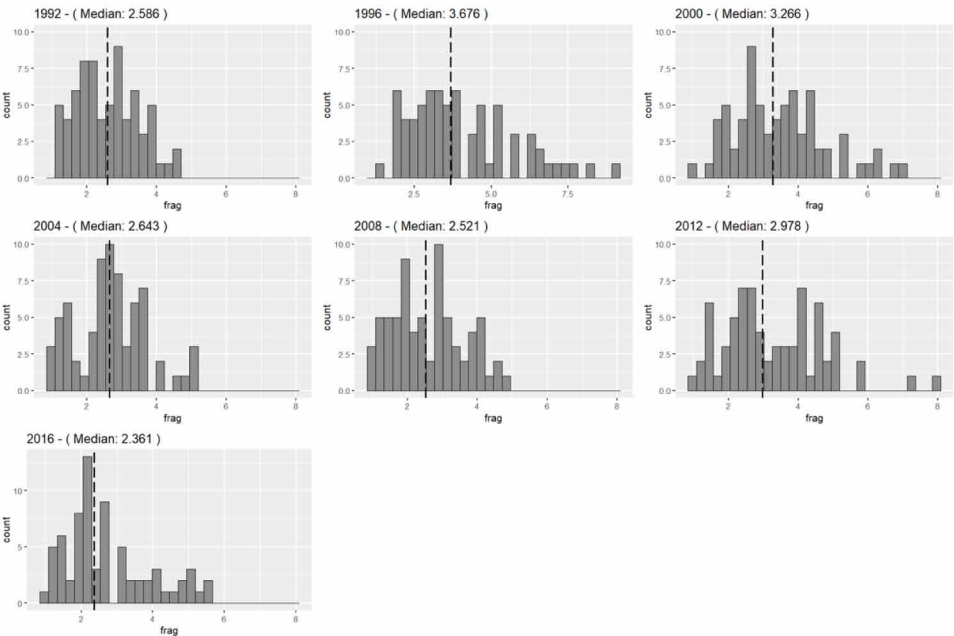

Concentration was lower than 2008 and 1992 with a median of 2.361 (Figure 10). However, the first two candidates did not receive the majority of the split-ticket votes in half of the constituencies.

This makes the analysis of the Lithuanian data somewhat inconclusive, as the proper explanation for these values should come from in-depth, qualitative studies.

Figure 10. The percentage of constituencies in which top split-ticket recipients (1st and 2nd place) were also top straight vote recipients (either 1st or 2nd place) in Lithuania
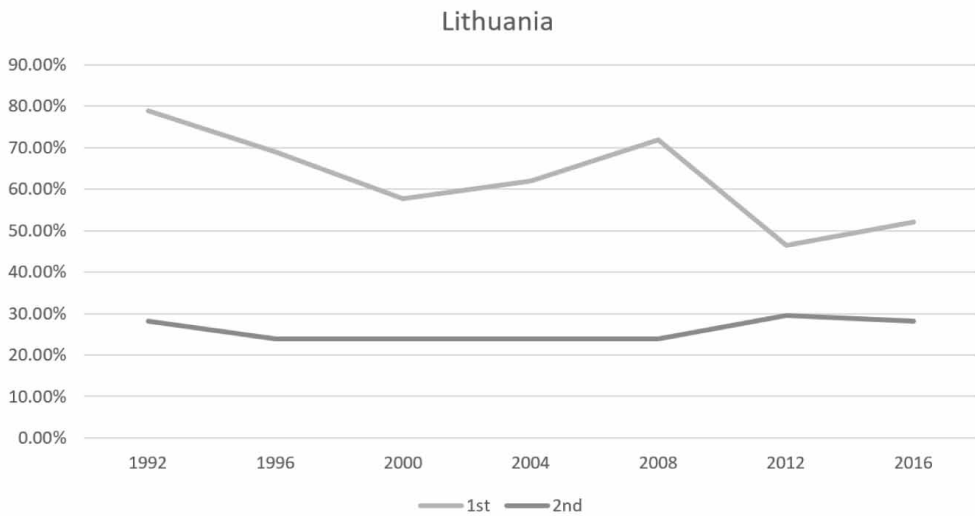
Based on the results of the research, it currently seems like there is no large-scale strategic voting in Lithuania. However, the electorate was more than willing to split their votes in past elections.

CONCLUSION

In all three countries, there is an apparent tendency among voters to both split their ballots and to use the split vote to support a relatively small set of candidates – a pattern that most of the time indicates strategic behavior. However, the strength of this trend is quite different across the three electorates. Hungary is the case in which both the increase in the number of split-tickets and the concentration of split ballots show a clear pattern. The German data shows lower variance and indicates that for the most part, ticket splitting is common and strategic. Lithuania shows the weakest signs of strategic behavior since the distribution of split tickets was quite fragmented over the years.

Apparently, the rate of split votes can be quite imprecise, and when the level of cross-voting is high, it can prove valuable as a tool for examining voting patterns over time or across countries. The concentration of split votes on the M+1 number of candidates is a strong indicator of strategic voting. Competing explanations of the results all have strong limitations, too: If the voters split their ballots out of ignorance, how did most of them manage to vote for the two viable contenders of a single seat constituency? Split voting can also be motivated by the personal attractiveness of another candidate; however, that indicates the presence of objectively attractive and integrative candidates in the majority of the constituencies. The most probable explanation of split voting is a mixture of these three theories. Ignorance of the electoral

rules or the parties and candidates running is obviously an important factor, just as is the candidate's personal appeal. Nonetheless, without strategic behavior, one would expect less concentration in the distribution of the split ballots. Another strong sign of strategic voting is that especially in Germany and later in Hungary, the split ballots concentrated on the winner and the runner up. This was only observed to a lesser extent in Lithuania, although the direction of the relationship was more or less similar.

Citizens in all three countries are willing to share their support between different political groups competing in legislative elections, and based on the results of this research, the majority does not do it randomly. An interesting aspect of this research is how political actors can influence such decisions by projecting candidate viability. The long-term implications of this are that expectations increasingly predetermine election outcomes, "surprise wins" are rare, and candidates ran by new parties are deserted by their voters for strategic reasons. Not all of these can be observed in each country or election, and most of these do not hold true for Lithuania. Testing the relationship between these developments and strategic voting was not the focus of this study and should be researched separately in the future.

Split-ticket voting is impossible to measure precisely, and strategic voting remains elusive, but these analytical tools allow researchers to better examine and compare them across both time and space. The goal of this paper was to introduce these methods and showcase some of their capabilities on a large dataset. Its main limitation is that it can only provide low-resolution image of strategic split-ticket voting and requires further research into the specific cases, countries, elections, or even constituencies in which any of the indices display unusual or interesting values. Furthermore, researchers could and should refine the calculations even more by examining the supply side and demand side of split-ticket voting.

ACKNOWLEDGMENT

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ENDNOTES

[1]   The official election results for the Bundestag are published at https://www. bundeswahlleiter.de/en/

[2]   The official election results were provided by the National Election Office of Hungary.

[3]   The official election results for Lithuania are published at https://www.vrk.lt/en

[4]   https://www.bundeswahlleiter.de/en/bundestagswahlen/2017/ergebnisse/weitere-ergebnisse.html

[5]   Data for the charts was processed by the R programming language (R Development Core Team 2008), charts were created with the ggplot2 package (Wickham 2016) and assembled with the gridExtra package (Baptiste 2017).