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Abstract

How do voters react to electoral incentives for strategic voting when presidential and parliamentary elections are held concurrently and under different systems? Previous research has concluded that different systems can shape the preferences of voters and create different incentives to vote strategically, yet the effect of the concurrent presidential and parliamentary elections is still unclear. This study analyzes the incentives in such a setting in a case study of Turkey. By employing King's ecological inference solution and using ballot-box level data, this article shows that 9 percent of total voters cast a strategic vote in the 2018 elections. Moreover, if supporters of the two main parties are excluded from the analysis, as they had no reason to vote strategically because their most preferred candidate was perceived to be one of the top two contenders, the percentage of strategic voters increases to 25 percent.

Keywords: strategic voting, split-ticket voting, ecological inference, Turkey, voting behavior.

Introduction

It is generally assumed that voters cast their ballots for their preferred party, and that election results are a clear reflection of those preferences. However, voters can deviate from this assumption, acting as rational agents under certain conditions.[1] The strategic voting model has made an important contribution to the field of electoral behavior by presenting meaningful explanations for why some people deviate from the behavioral assumptions of the classical models. It asserts that if a voter believes that voting for a less-preferred party will likely result in a more favorable outcome, then rationality commands the voter to cast a "strategic" vote for that party.[2] Strategic voters

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[1]   Gary W. Cox, Making Votes Count: Strategic Coordination in the World's Electoral Systems (Cambridge: Cambridge University Press, 1997), 71.

[2]   Anthony Downs, *An Economic Theory of Democracy* (New York: Harper & Row, 1957), 48; John H. Aldrich, André Blais and Laura B. Stephenson, "Strategic Voting and Political Institutions," in *The Many Faces of Strategic Voting: Tactical Behavior in*

consider the likely choices of other people and take the risk of an undesirable candidate or party winning into account while making their voting decision.[3] Thus, a rational calculation is made to maximize the utility of their vote.[4] A substantial body of literature has studied strategic voting in general elections in some industrialized democracies such as the United States, the United Kingdom, and Japan.[5] Furthermore, the amount of literature has been growing rapidly in recent years in the area of strategic voting in new democracies.[6] Previous studies on strategic voting have extensively dealt with the issue of ticket-splitting in mixed electoral systems that combine plurality or majority with proportional formulas for an election to a single body.[7] However, very

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Electoral Systems Around the World, ed. John H. Aldrich, André Blais and Laura B. Stephenson (University of Michigan Press, 2018), 1–27; William H. Riker, "The Two-Party System and Duverger's Law: An Essay on the History of Political Science," *American Political Science Review* 76, no. 4 (1982): 753–766; Thomas Gschwend, *Strategic Voting in Mixed Electoral Systems* (PhD diss., State University of New York at Stony Brook, 2004), 10.

[3]   Donald J. McCrone, "Identifying Voting Strategies from Roll Call Votes: A Method and an Application," *Legislative Studies Quarterly* 2, no. 2 (1977): 177–191; Rui Antunes, "Theoretical Models of Voting Behaviour," *Exedra*, no. 4 (2010): 145–170.; David J. Lanoue and Shaun Bowler, "The Sources of Tactical Voting in British Parliamentary Elections, 1983–1987," *Political Behavior* 14, no. 2 (1992): 141–157; André Blais, Richard Nadeau, Elisabeth Gidengil and Neil Nevitte, "Measuring Strategic Voting in Multiparty Plurality Elections," *Electoral Studies* 20, no. 3 (2001): 343–352.

[4]   Maurice Duverger, *Political Parties: Their Organization and Activity in the Modern State* (London: Methuen & Co, 1954); Geoffrey Evans and Anthony Heath, "A Tactical Error in the Analysis of Tactical Voting: A Response to Niemi, Whitten and Franklin," *British Journal of Political Science* 23, no. 1 (1993): 131–137; Stephen D. Fisher, "Definition and Measurement of Tactical Voting: The Role of Rational Choice," *British Journal of Political Science* 34, no.1 (2004): 152–166.

[5]   See R. Michael Alvarez and Jonathan Nagler, "A New Approach for Modelling Strategic Voting in Multiparty Elections," *British Journal of Political Science* 30, no. 1 (2000): 57–75; Bruce E. Cain, "Strategic Voting in Britain," *American Journal of Political Science* 22, no. 3 (1978): 639–655; Jennifer Earl and Alan Schussman, "Cease and Desist: Repression, Strategic Voting and the 2000 US Presidential Election," *Mobilization: An International Quarterly* 9, no. 2 (2004): 181–202; Kei Kawai and Yasutora Watanabe, "Inferring Strategic Voting," *The American Economic Review* 103, no. 2 (2013): 624–662.

[6]   See Jeremy Horowitz and James Long, "Strategic Voting, Information, and Ethnicity in Emerging Democracies: Evidence from Kenya," *Electoral Studies* 44, (2016): 351–361; Pavel Maškarinec, "Strategic Voting in the 2011 and 2015 Polish Senate Elections: Testing Duverger's Law in the Second-Order Elections," *Slovak Journal of Political Sciences* 16, no. 4 (2016): 369–391; Pavel Maškarinec, "Testing Duverger's Law: Strategic Voting in Mongolian Elections, 1996–2004," *Post-Soviet Affairs* 33, no. 2 (2017): 145–160.

[7]   Louis Massicotte and André Blais, "Mixed electoral systems: a conceptual and empirical survey," *Electoral Studies* 18, no.3 (1999): 341-366; Federico Ferrara and Erik S. Herron, "Going it alone? Strategic entry under mixed electoral rules," *American Journal of Political Science* 49, no.1 (2005): 16-31; Thomas Gschwend, "Ticket-splitting and

little is known about how voters react to incentives for strategic voting in concurrent elections, especially when new and two different electoral systems are used.

The effect of the concurrent presidential and parliamentary elections on strategic voting is still unclear. This paper aims to provide an empirical contribution to our understanding of how voters react to electoral incentives for strategic voting when presidential and parliamentary elections are held concurrently and under different systems. This study analyzes the incentives in such a setting using a case study of Turkey where both the members of the parliament and the president are directly and concurrently elected. If voters split their tickets to avoid wasting their vote and attain a more favorable outcome in the presidential elections, this is considered as strategic voting. Sincere voting is defined as voting for the same party and its presidential candidate in these elections. Turkey's new electoral system serves as an ideal example to examine the effects of the concurrent presidential and parliamentary elections on strategic voting. Firstly, the new electoral laws[8] applied in the June 2018 elections as the first elections during the transition to executive presidential system combine majoritarian and proportional elements. Voters cast two ballots simultaneously: the first one is for a candidate in the presidential election and the second one is for a party or an alliance in the parliamentary election. The president is elected under a majoritarian system while the members of parliament are elected from closed party lists under a proportional representation system. Hence, voters cast two separate ballots concurrently in identical contexts but under different rules. Presidential and parliamentary elections held together allow us to directly examine the effect of institutional incentives on strategic voting in a systematic way while controlling for other relevant personal factors that may influence voting decisions such as age, gender, culture, religion and socioeconomic status.[9] Secondly, despite the fact that voting was conducted under new electoral rules for concurrent presidential and parliamentary elections for the first time, most Turkish voters have been familiar with concurrent elections due to the different systems that have been enacted since 1963[10] for local elections. Therefore, there is little reason to suspect that voters unintentionally split their ballots without any strategic reasoning.

Despite wider discussions on the direction and size of strategic votes and their impact on election results after almost every election in Turkey, this topic

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strategic voting under mixed electoral rules: Evidence from Germany," *European Journal of Political Research* 46, no.1 (2007): 1-23.

[8] Law No. 7102, *T.C. Resmi Gazete*, no. 30362, March 16, 2018.

[9] Gschwend, "Ticket-splitting," 1-23.

[10] Tayfun Çınar, "Yerel Seçimlerde Kent Büyüklüğü ile Oy Vermenin Yönü Arasındaki İlişki: Türkiye Örneği 1963-1999," *Ankara Üniversitesi SBF Dergisi* 62, no. 3 (2007): 141–165.

has been surprisingly neglected for a long time by researchers of Turkish voting behavior. The few extant studies[11] that are examining the determinants of strategic voting in local and national elections are relatively limited due to their use of cross-provincial data. Each unit of cross-provincial data has an electorate of more than half a million on average, inevitably leading to changes in vote shares canceling each other out because of aggregation. As a result, it is plausible that these limitations could have influenced the results obtained. Making individual-level inferences from aggregate data is required when individual-level data are not available. But it is also challenging because it generates the ecological fallacy problem due to the uncertainties and the information lost in aggregation. For example, although a party and its presidential candidate get a very similar number of votes in the presidential and parliamentary elections, this does not necessarily mean that the people who voted for that party are the same people who voted in favor of that party's presidential candidate. From a methodological point of view, the difficulty of analysis comes from the principle of the secret ballot. This voting method ensures that voters cast their ballots in secret and that their choices remain anonymous. Therefore, the lack of information about who voted for whom makes any method prone to ecological fallacy when making inferences about individuals.

In this study, King's[12] ecological inference solution is applied to determine the size and direction of strategic voting in Turkey's 2018 presidential and parliamentary elections. This solution is well known for producing robust and reliable estimates.[13] King suggests that the ecological inference problem can be minimized by incorporating two prevailing approaches in the literature: the deterministic method of bounds and the Goodman Regression. Firstly, the method of bounds is employed to restrict estimates for unknown values. After identifying all possible values for each observation, a tomography plot of the quantities of interest is built. The plot shows how flexible or constrained the parameters are, and there is a tomography line for each observation. The mean of the distribution on the tomography line

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[11]   Ali T. Akarca and Aysit Tansel, "Economic Performance and Political Outcomes: An Analysis of the Turkish Parliamentary and Local Election Results between 1950 and 2004," *Public Choice* 129, no. 1-2 (2006): 77–105; Ali T. Akarca and Aysit Tansel, "Social and Economic Determinants of Turkish Voter Choice in the 1995 Parliamentary Election," *Electoral Studies* 26, no. 3 (2007): 633–647; Ali T. Akarca, "A Prediction for AKP's Nationwide Vote Share in the 29 March 2009 Turkish Local Elections," *İktisat İşletme ve Finans* 24, no. 276 (2009): 7–22; Ali T. Akarca, "Analysis of the 2009 Turkish Election Results from an Economic Voting Perspective," *European Research Studies* 13, no. 3 (2010): 3–38.

[12]   Gary King, A Solution to the Ecological Inference Problem: Reconstructing Individual Behavior from Aggregate Data (Princeton: Princeton University Press, 1997).

[13]   Eom, Kihong and Youngjae Jin. "Inferring Individual Level Relationships from Aggregate Data," *Statistical Studies* 10, no. 2 (2005): 211-231.

in the interval [0, 1] is used to estimate the true parameter values. Applying this solution allows us to answer previously intractable questions in the field. For instance, we can examine what percent of voters who voted for a party in the parliamentary election cast their votes for that party's candidate in the presidential elections. After applying this solution for every possible voting combination, it will allow us to infer the size and the extent of the strategic vote in the presidential and parliamentary elections in Turkey. Data for the June 2018 presidential and parliamentary elections were collected at the ballot-box level from all provinces in Turkey. Since this dataset consists of all ballot boxes nationwide (179,524 observations per election), each unit has only 270 electorates on average, which is the smallest that is legally available. Robinson[14] asserted in his seminal paper that the problem of ecological fallacy becomes more severe when large units are involved. The number of votes per party at the parliamentary elections will be compared with the presidential election results for each ballot box. The aim is to compare the differences between the actual results and the results that would have been observed if all voters had voted sincerely. The degree to which voting behavior differs between parliamentary and presidential elections at the ballot-box level indicates the prevalence of strategic voting that would remain hidden if the data used were from the provincial level.

The remainder of the paper is structured as follows. The next section provides a brief overview of Turkey's June 2018 elections. The third section presents the method used in the present study and how the data were collected and introduces the types of strategic voting behavior that can occur under the new electoral system. The subsequent sections discuss the results of the analysis by parties and the final section concludes.

Turkey's June 2018
Presidential and Parliamentary Elections

A narrowly backed constitutional referendum in April 2017 has brought about several reforms and replaced the existing parliamentary system with the executive presidential system. The new system abolishes the office of prime minister and extends the powers of the president, including powers to dissolve parliament, rule by decree, and declaring a state of emergency. The system was fully implemented after the June 2018 presidential and parliamentary elections, which were originally scheduled for November 2019.[15]

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[14] William S. Robinson, "Ecological Correlations and the Behavior of Individuals," *American Sociological Review* 15, no. 3 (1950): 351–357.
[15] Table 1 gives short descriptions of the political parties running in the 2018 elections.

In response to the initial proposal of Devlet Bahçeli, the leader of the far-right Nationalist Action Party (*Milliyetçi Hareket Partisi* [MHP]), President Recep Tayyip Erdoğan called snap presidential and parliamentary elections to rid the old system of "diseases"[16] and shift to the new executive presidential system. The early election call, which was made more than 18 months in advance, came amid regional uncertainty, a state of emergency, and a worsening economy. The Turkish Lira had been in rapid decline against the US dollar, inflation had been stubbornly high, and unemployment had been rising. Critics have interpreted Erdoğan's call for the snap elections as a preemptive move to secure a new mandate before the electorate turns against the government due to the rapidly deteriorating economy[17] and to catch the opposition off guard. For instance, the newly founded Good Party (*İyi Parti* [İYİ Party]) failed to fulfill one of the preconditions for entering the elections, which is to hold its required general congress more than six months prior to elections. However, 15 of the Republican People's Party (*Cumhuriyet Halk Partisi* [CHP]) deputies joined the İYİ Party to ensure its participation in the elections.

The election alliance bill presented by the Justice and Development Party (*Adalet ve Kalkınma Partisi* [AKP]) and the MHP, which changed Turkey's electoral system, was ratified by parliament. It allows political parties to form an alliance and run with their own candidate lists and emblems for the first time. Moreover, if the sum of the votes of an alliance passes the ten percent threshold, all parties in that alliance will be considered above the threshold and thus be able to run in the parliamentary election. Subsequently, the ruling AKP and its right-wing ally, the MHP, announced their alliance and named themselves the People's Alliance (*Cumhur İttifakı*). The MHP agreed not to field any presidential candidate but to fully support AKP candidate President Erdoğan. The other alliance, the Nation Alliance (*Millet İttifakı*), was formed by the main opposition center-left CHP and three right-wing parties including the İYİ Party, Felicity Party (*Saadet Partisi* [SP]), and Democrat Party (*Demokrat Parti* [DP]), hoping to oust the incumbent AKP. Different from the People's Alliance, this alliance only pertains to the parliamentary polls. Three partners within the alliance decided to nominate their own candidates for the presidential election but also promised to support whoever could make it to a run-off election against Erdoğan. The pro-Kurdish People's Democracy Party (*Halkların Demokratik Partisi* [HDP]) also participated in the elections without forming an alliance.

President Erdoğan has never lost an election since founding the AKP. He is by far the most popular politician in Turkey and has remained popular despite the faltering economy. Although Erdoğan was the definite favorite to win from the beginning, the presidential race was surprisingly heated, as it featured five other candidates. Muharrem İnce, the candidate of the main opposition party, the CHP, posed a serious challenge to Erdoğan. He had held a series of rallies

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[16]   *Al Jazeera*, Jun 4, 2018.
[17]   Kemal Kirişci and Ömer Taşpınar, "Ahead of Turkey's Snap Elections, Erdogan Faces Three Main Challenges," *Brookings* (June 2018).

and reached out to galvanized crowds across the country. The nationalist İYİ Party's candidate Meral Akşener, the Islamist SP's candidate Temel Karamollaoğlu, and the leftist-nationalist Homeland Party's (*Vatan Partisi* [VP]) candidate Doğu Perinçek ran for the presidency by collecting 100,000 signatures each from the public, since their parties had neither received at least 5 percent of the total votes in the last election nor had they elected representatives to the parliament.[18] The pro-Kurdish HDP candidate Selahattin Demirtaş had to run from behind bars, as he had been detained since late 2016 on multiple charges but without indictment.

The 2018 Turkish general elections were held on June 24, 2018. Despite compulsory voting in Turkey, the turnout among registered voters was 86.2 percent for both presidential and parliamentary elections. Compulsory voting combined with the rising awareness among voters that every vote counts meant that there was a high turnout rate, reflecting the strong public interest in the elections. As presented in Table 2, the incumbent President Erdoğan defeated the other five candidates with 52.6 percent of the vote and was elected president in the first round of the presidential election. The second-strongest candidate, İnce of the CHP, received 30.6 percent of the vote, with Demirtaş of the HDP trailing behind in third place with 8.4 percent of the vote. Akşener of the İYİ came in fourth, with 7.3 percent of the vote. Karamollaoğlu of the SP and Perinçek of the VP received 0.9 and 0.2 percent of the vote, respectively. For comparison, the results of the last two presidential elections are given in the Table 3.

The economic voting model argues that poorer economic performance tends to hurt the incumbent party's vote share. Therefore, the AKP was expected to fail to maintain its share of the popular vote in the 2018 parliamentary elections despite performing strongly in the November 2015 general elections. The AKP secured 42.6 percent of the vote and 295 of the 600 seats, remaining the largest party, but it fell just short of obtaining a parliamentary majority. Its ally, the MHP, won 49 seats with 11.1 percent of the vote. The CHP came in second, securing 146 seats with 22.7 percent of the vote. Its newly formed ally the İYİ Party won 43 seats with 10 percent of the vote. The HDP won 11.7 percent of the vote and 67 seats in parliament. For comparison, the results of the last three parliamentary elections are given in the Table 4.

Data and Methods

Systematic analyses of strategic voting frequently devise survey designs that are usually highly costly to implement and low in representation by the

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[18] The İYİ Party had a group in parliament after 15 deputies resigned from the CHP and joined them. However, Akşener decided to become a candidate by collecting signatures from citizens instead of being presented by her party.

nature of the research design.[19] In cases where individual data are inaccessible or lacking, using only province-level or national-level aggregate data to make inferences about individual-level relationships seems appealing to political science researchers, although estimation at the higher aggregate levels leads to a substantially higher risk of committing an ecological fallacy.[20] Therefore, this study aims to infer the voting behavior of individuals from low-level aggregate data, despite the requisite for massive data-collecting efforts and methodological challenges. Even if downloading all the data from the official website of the Supreme Election Council of Turkey (*Yüksek Seçim Kurulu* [YSK]) on separate sheets is accomplished, to perform data merging and cleaning operations for several thousand downloaded files can be considered as beyond the capacity of the average researcher. These hurdles may partially account for why the present study is the first to use official electoral outcomes at the ballot-box level to analyze Turkish voting behavior in the general elections, even though the data for previous elections have been made publicly available.

The ecological inference method proposed by Gary King[21] combines two prevailing approaches in the literature, which are the method of bounds and the Goodman regression. This approach eliminates impossible combinations of voting strategies using the method of bounds and then borrows statistical strength from the truncated multivariate normal to locate the most probable regions within known deterministic bounds. In this study, this approach was used to measure changes in vote distribution between the presidential and parliamentary elections for each party and candidate at the ballot-box level. Then, it was used to estimate the size and direction of sincere and strategic voting in the two elections and aggregate the data at the national level. All analyses in this article were performed in R by employing commands in the Zelig package[22] version 3.5.3 with 100 iterations.[23]

In the 2018 elections, a mixed electoral system was employed that combines proportional and majoritarian components. Voters cast two ballots concurrently: the first for a party or an alliance in the parliamentary election and the second for a candidate in the presidential election. The parliamentary members are elected from closed party lists for each province under a proportional representation system. To win seats in the parliament, parties or

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[19] Luana Russo, "Estimating Floating Voters: A Comparison Between the Ecological Inference and the Survey Methods," *Quality & Quantity* 48, no. 3 (2014): 1667–1683.

[20] King, *Solution*, 7.

[21] King, *Solution*, 26–27.

[22] Kosuke Imai, Gary King and Olivia Lau, "Zelig: Everyone's Statistical Software," *R Package Version* 3, no. 5 (2009).

[23] The complete replication code and data are available at the website Harvard Dataverse, https://doi.org/10.7910/DVN/QJEV1J.

alliances need to pass the ten percent threshold at the national level. On the other hand, the president is elected based on a simple majority of votes.

Strategic voters assess the competitive viability of their most preferred party or candidate and decides how to vote according to the circumstances of the election. If the voters conclude that their most preferred party or candidate has no chance of winning, this provides an incentive to split their ticket to maximize their expected return. Although there is no consensus on what makes people split their vote, split voting is generally considered a result of voters' reaction to the different strategic incentives provided by the electoral rules[24] and accepted as a deliberate act intended to influence the outcome of the elections.[25]

In the 2018 parliamentary elections, under proportional representation rules, the only incentive for strategic voting could be the electoral threshold stipulating that parties or alliances must receive at least 10 percent of the total vote. One possible strategy in the parliamentary elections could be casting a vote for a small party to ensure that it surpassed the threshold to gain seats in the parliament, a strategy which is also referred to as threshold insurance voting.[26] For instance, a main opposition party supporter could have strategically backed a small party in the parliamentary elections to ensure that the party surpassed the electoral threshold, with the hope of opposition parties forming the majority in parliament. However, the new electoral law made significant changes with respect to threshold rules. The 10 percent threshold is still intact but if the total votes of an alliance pass the threshold, each party within that alliance would be eligible to claim seats in the parliament regardless of their own vote share. Therefore, small party voters are encouraged to support their party without fear of wasting their vote if their party is in one of the pre-electoral alliances. As a result, I assume that all voters tend to vote sincerely in the parliamentary elections.

Under this new electoral system, voters were more likely to vote strategically in the presidential elections. Here, two main strategies that can be considered alternatives to sincere voting are available. The first one is that if a voter believed their party's presidential candidate could not win, they may have been tempted to vote for the ideologically closest candidate instead of "wasting" their vote. The other strategy is to vote for the lesser evil of the two main

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[24] Fiorina Morris, *Divided government* (London: Longman Publishing Group, 1996); Gschwend, "Ticket-splitting," 1-23.
[25] Timothy S. Rich, "Reinterpreting Split-Ticket Voting in South Korea's 2004 Legislative Election: Party Identification and Impeachment Perceptions," *Asian Journal of Social Science* 45, no. 4-5 (2017): 529-547..
[26] Cox, *Making*, 194; Annika Fredén, "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, no. 4 (2014): 473-492.

candidates. Abstaining could be the third strategy, but this falls outside the scope of this paper since this act has no effect on the results of either election.

This study has two primary limitations which must be considered when interpreting the results. First, if the president was not elected in the first round of voting, the size of strategic voting would be expected to be higher in the second round because there would be only two candidates and close competition between the top two contenders would provide stronger incentives to vote strategically.[27] The other limitation of this study is that all registered voters are included, and that the entire country is taken as a single electoral unit in order to assess the overall pattern of strategic voting in the 2018 Turkish elections, meaning that the results cannot show variation in strategic voting across the provinces.

Electoral Results and Testing

The overall results of the presidential and parliamentary elections indicated that the vote shares of parties did not completely coincide with the vote shares of the candidates supported by those parties. Even if they did, the overall comparison hinders a great extent of vote changes among parties and candidates. Applying King's ecological inference solution using the ballot-box level data reveals the hidden volatility and gives us more accurate estimations about the amount and direction of strategic voting in the 2018 Turkish elections.

Table 5 shows the summary statistics for the percentage distribution of each party's parliamentary votes according to the candidate supported in the presidential votes. As the candidates of their parties were the front-runners of this election, there was no incentive for AKP or CHP supporters to vote strategically. The estimates suggest that the voting patterns of AKP and CHP supporters for the two elections were almost identical, which implies that most of them voted for the same party and its candidates in both contests. Thus, as expected, the AKP and CHP had the highest rates of sincere voting. On average, only 0.4 percent and 0.2 percent of AKP and CHP supporters voted for another party's candidate, respectively.

Erdoğan had been expected to win the re-election easily, since he was still very popular in Turkey. This did not provide strong incentives for MHP supporters to vote strategically and resulted in a higher proportion of votes being cast for Erdoğan. A total of 84.4 percent of MHP electors voted a straight-ticket and the rest split their tickets between different party-candidate

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[27]   Bernard Dolez, Annie Laurent, and André Blais, "Strategic voting in the second round of a two-round system: The 2014 French municipal elections," *French Politics* 15, no. 1 (2017): 27-42.

combinations; for example, 12.8 percent of MHP supporters defected to Akşener and another 2.3 percent defected to İnce.

The only presidential candidate other than Demirtaş that HDP voters supported was CHP's candidate Muharrem İnce. The estimates show that the 10.9 percent of HDP voters switched to İnce. This can be seen as a positive return to CHP's support to HDP in previous general elections to pass the electoral threshold. On the other hand, it can also be interpreted as voting for a lesser evil to beat Erdoğan in the presidential elections.

A strategic element of SP supporters' decision is that if they thought that their first choice of candidate, Karamollaoğlu, had no chance of winning, they may have chosen to vote for their second choice of candidate, rather than wasting their vote on a candidate with no chance of winning. SP voters were almost equally divided between Karamollaoğlu (43.5 percent) and İnce (42.3 percent). Meanwhile, 7.9 percent supported the İYİ Party's candidate Akşener, and 4.8 percent switched to Erdoğan. SP again lost a large proportion of its sincere vote, 56.5 percent. VP lost more, with 93.2 percent defections. However, that much insincere voting of VP voters can be associated with the party's widespread and very low level of vote share, which resulted in higher levels of estimation error. Finally, it is important to note that invalid votes for parliamentary elections were highly correlated with Erdoğan, which means that a large number of voters who failed to cast a valid vote preferred Erdoğan for the presidency.

Overall, 91 percent voted for the presidential candidate of the party they voted for in the parliamentary election, and 9 percent split their tickets. However, it can be argued that when computing the amount of strategic voting behavior in any election, we should consider only those who engage in strategic behavior when presented with the opportunity to do so. This leads us to a more accurate and significantly larger estimate of the aggregate amount of strategic voting among those with the opportunity to behave strategically. When AKP and CHP voters are excluded, the percentage of voters who switched their votes increases from 9 to 25 percent. Moreover, the share of the total electors who voted a straight ticket, according to our estimates, drops to 75 percent.

Conclusion

The concurrent elections, held under different systems, can shape the expectations of voters and create different incentives for strategic ticket-splitting. The unique feature of these elections provides a perfect setting to investigate the institutional determinants of strategic voting by controlling for many personal factors that may influence voting decisions. This study aims to make an empirical contribution to our knowledge on how voters react to

strategic voting incentives by examining the case of Turkey's 2018 concurrent presidential and parliamentary elections.

Turkish voting behavior is known for being highly volatile, which means that most voters are open to changing their preferences between elections. They are also familiar with the concurrent nature of elections from the local elections, and for this reason they know how to adopt strategies that can have an impact on electoral results. In Turkey's new electoral system, the concurrent presidential and parliamentary elections are held under different systems. The president is elected based on a simple majority of votes. In the parliamentary elections, the proportional representation system is applied, which gives a chance to more than one party or alliance to win seats in the parliament if they exceed the ten percent threshold at the national level. The new mechanism of alliances removed the need for strategic voting for a small party for threshold insurance. Only the HDP was not in any alliance and subject to a threat of national threshold, but its performances in the two general elections of 2015 created an expectation that it could pass it rather confidently. Therefore, I assume that all people vote sincerely under new parliamentary elections law. On the other hand, in this context, if a voter decides that their most preferred party's presidential candidate has a poor chance of winning, they can choose an ideologically closer or a lesser evil candidate with the highest probability of winning. Ticket-splitting to avoid wasting their vote and attain a more favorable outcome in the presidential elections is considered as strategic voting. Sincere voting is defined as voting for a party and that party's presidential candidate in both of these elections.

Estimating the size and direction of strategic voting from aggregate data is quite problematic due to the problem of the ecological fallacy. This study has tried to overcome this problem by applying King's ecological inference solution. Advanced quantitative analysis of this solution compares the differences between the actual results and the results that would have been observed if all voters had voted sincerely for each ballot box and provides us with a new dataset containing the estimation of the amount and direction of strategic voting. In addition to this, this is the first study that relies on ballot box level data rather than provincial or national aggregate data to determine strategic vote-splitting in Turkey. The use of ballot-box level data which is the smallest unit that is legally available, helps alleviate the problem of ecological fallacy.

An analysis of voting behavior in Turkey's first elections under a new system shows that 9 percent of total voters cast a strategic vote in the presidential elections. Moreover, if supporters of the two main parties, AKP and CHP, are excluded from the analysis because they had no reason to vote strategically, the percentage of strategic voters increases to 25 percent. This corresponds to one-fourth of voters that changed their voting preferences due to strategic calculations. The 12.8 percent of MHP supporters voted for IYI Party's candidate Akşener and 2.3 percent voted for CHP's candidate İnce. The 10.9 percent of HDP and 43.5 percent of SP voters switched to İnce. The 7.9 percent of SP supporters voted for Akşener, and 4.8 percent switched to Erdoğan.

Invalid votes in the parliamentary elections are highly correlated with Erdoğan's vote in the presidential election, which means that a large number of voters who failed to cast a valid vote preferred Erdoğan for presidency. If there were a second round of the presidential elections, it would be plausible to expect higher levels of strategic voting because a close competition between the top two contenders would have provided stronger incentives to vote strategically.

Annexes

Table 1. Descriptions of the political parties running in the 2018 elections

Party	Party Leader	Presidential Candidate	Description	Alliance
AKP	Recep Tayyip Erdoğan	Recep Tayyip Erdoğan	the right-wing conservative, governing party since 2002	People
MHP	Devlet Bahçeli	Recep Tayyip Erdoğan	the far-right ultranationalist	People
CHP	Kemal Kılıçdaroğlu	Muharrem İnce	the main opposition party, center-left, founded by Ataturk	Nation
IYI	Meral Akşener	Meral Akşener	the right-wing nationalist, formed by former members of MHP	Nation
SP	Temel Karamollaoğlu	Temel Karamollaoğlu	the Islamist, right-wing	Nation
HDP	Sezai Temelli Pervin Buldan	Selahattin Demirtaş	the pro-Kurdish	-
VP	Doğu Perinçek	Doğu Perinçek	the left-wing nationalist	-

Source: Author's own elaboration.

Table 2. Results of the 2018 parliamentary and presidential elections in Turkey

Party	Alliance	Vote %	Seats	Candidate	Vote %
AKP	People	42.6	295	Recep Tayyip Erdoğan	52.6
MHP	People	11.1	49	Recep Tayyip Erdoğan	52.6
CHP	Nation	22.7	146	Muharrem İnce	30.6
IYI	Nation	10	43	Meral Akşener	7.3
SP	Nation	1.3	-	Temel Karamollaoğlu	0.9
HDP	-	11.7	67	Selahattin Demirtaş	8.4
VP	-	0.2	-	Doğu Perinçek	0.2
HÜDAPAR	-	0.3	-		
Others	-	0.1	-		

Source: Based on Supreme Election Council of Turkey official data, accessed May 9, 2020, http://www.ysk.gov.tr/tr/secim-arsivi/2612.

Table 3. Results of the Presidential Elections

2014			2018		
Candidate	**Vote %**	**Supporting Party**	**Candidate**	**Vote %**	**Supporting Party**
Recep Tayyip Erdoğan	51.8	AKP	Recep Tayyip Erdoğan	52.6	AKP, MHP
Ekmeleddin İhsanoğlu	38.4	CHP, MHP	Muharrem İnce	30.6	CHP
Selahattin Demirtaş	9.8	HDP	Selahattin Demirtaş	8.4	HDP
			Meral Akşener	7.3	IYI
			Temel Karamollaoğlu	0.9	SP
			Doğu Perinçek	0.2	VP

Source: Based on Supreme Election Council of Turkey official data, accessed May 9, 2020, http://www.ysk.gov.tr/tr/secim-arsivi/2612.

Table 4. Results of the Parliamentary Elections

	Jun 2015		Nov 2015		2018	
Party	**Vote %**	**Seats**	**Vote %**	**Seats**	**Vote %**	**Seats**
AKP	40.9	258	49.5	317	42.6	295
CHP	25	132	25.3	134	22.7	146
MHP	16.3	80	11.9	40	11.1	49
HDP	13.1	80	10.8	59	11.7	67
IYI	-	-	-	-	10	43
SP	2.1	-	0.7	-	1.3	-

Source: Based on Supreme Election Council of Turkey official data, accessed May 9, 2020, http://www.ysk.gov.tr/tr/secim-arsivi/2612.

Table 5. The overall pattern of strategic voting in the 2018 Turkish elections

		ERD	İNC	DEM	AKŞ	KAR	PER	Invalid
AKP								
	Min	96.1	0.0	0.0	0.0	0.0	0.0	0.0
	Mean	99.6	0.1	0.0	0.2	0.0	0.0	0.0
	Max	100.0	3.2	0.0	3.8	0.1	0.1	0.1
CHP								
	Min	0.0	91.6	0.0	0.0	0.0	0.0	0.0
	Mean	0.0	99.8	0.0	0.2	0.0	0.0	0.0
	Max	0.0	100.0	0.0	8.4	0.0	0.0	0.0
HDP								
	Min	0.0	0.0	87.1	0.0	0.0	0.0	0.0

		ERD	İNC	AKŞ	DEM	KAR	PER	
	Mean	0.1	**10.9**	88.6	0.0	0.1	0.0	0.3
	Max	1.6	12.6	100.0	0.6	2.1	0.5	12.1
MHP								
	Min	72.6	0.0	0.0	0.0	0.0	0.0	0.0
	Mean	84.4	2.3	0.0	**12.8**	0.2	0.0	0.2
	Max	100.0	16.4	0.0	27.4	5.0	1.7	2.6
İYİ								
	Min	0.0	30.7	0.0	0.0	0.0	0.0	0.0
	Mean	0.0	**46.2**	0.0	53.8	0.0	0.0	0.0
	Max	0.0	100.0	0.0	69.3	3.2	0.1	0.2
SP								
	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Mean	**4.8**	**42.3**	0.0	**7.9**	43.5	0.4	1.1
	Max	100.0	100.0	1.2	100.0	61.7	7.3	9.0
VP								
	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Mean	1.1	**36.1**	0.4	**46.9**	**4.8**	6.8	3.9
	Max	15.0	100.0	2.6	100.0	96.8	30.2	13.7
HÜDAPAR								
	Min	68.5	0.0	0.0	0.0	0.0	0.0	0.0
	Mean	94.1	0.3	0.4	**2.2**	**1.2**	0.5	1.2
	Max	100.0	8.4	2.6	24.6	14.4	3.3	7.7
Others								
	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Mean	84.0	5.8	0.1	6.4	2.1	0.5	1.1
	Max	100.0	100.0	0.4	100.0	45.1	9.7	7.4
Invalid								
	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Mean	81.3	3.0	0.3	11.9	1.1	0.7	1.7
	Max	100.0	99.4	1.2	100.0	22.2	4.9	6.6

ERD=Erdoğan;   İNC=İnce;   AKŞ=Akşener;   DEM=Demirtaş;   KAR=Karamollaoğlu;
PER=Perinçek; Min= Minimum Percentage; Mean=Mean Percentage; Max=Maximum
Percentage.
Source: Author's own calculation based on the ballot-box level data by applying King's EI
model. Data and code are available at: https://doi.org/10.7910/DVN/QJEV1J.