

Social and economic determinants of electoral behavior in Turkey

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Abstract

Purpose – In this study the authors aim to comprehensively investigate the determinants of voting behavior in Turkey, with a specific focus on the dynamics of the center-periphery debate. Mainly, the authors focus on regional voting patterns during the period that is dominated by the Justice and Development Party (JDP/AKP) in the elections. The authors apply the random effects generalized least squares (GLS) methodology, and analyze electoral data covering four pivotal parliamentary elections (2007, 2011, 2015 and 2018) across all 81 provinces (NUTS III regions). The authors individually examine voting dynamics of the four major parties in parliament: the JDP/AKP, the Republican People's Party (RPP/CHP), the Nationalist Movement Party (NMP/MHP) and the Peoples' Democratic Party (PDP/HDP). The authors contribute to a comprehensive understanding of how socioeconomic cleavages, economic performance, party alignment and social dynamics shape voter preferences in the Turkish context, thereby addressing gaps in the existing literature.

Design/methodology/approach – This research employs an ecological study of Turkish NUTS III sub-regions, covering national elections from 2007 to 2018. The authors utilize the random effects GLS method to account for heteroscedasticity and time effects. The inclusion of the June and November 2015 elections enables a comprehensive analysis of the evolving dynamics in Turkish voting behavior. The results remain robust when applying pooled OLS and fixed effect OLS techniques for control.

Findings – The study's findings reveal that economic performance, specifically economic growth, plays a pivotal role in the sustained dominance of the JDP/AKP party. Voters closely associate JDP preference with economic growth, resulting in higher voting shares during periods of economic prosperity. Along with economic growth; share of agriculture in regions' GDP, female illiteracy rate, old population rate, net domestic migration, terrorism and party alignment are also influential factors in the Turkish case. Furthermore, differences among sociocultural groups, and East–West dichotomy seem to be important factors that reveal the impact of social cleavages to understand electoral choice in Turkey.

JEL Classification — D70, D72, P16, R11

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Originality/value – This study contributes to the existing literature by offering a comprehensive multidimensional analysis of electoral behavior in Turkey, focusing on the JDP/AKP dominance period. The main contribution of this study is its multidimensional perspective on the power bases of all main parties, considering key voter choice theories (cleavages, party alignment and retrospective economic performance voting) that have not been systematically analyzed in prior research. The main research question of this study is to examine which factors affect voting behavior in Turkey and how the dynamics of center-periphery or eastern-western region voting behavior under the JDP hegemony can be explained. The contribution of this study consists not only in its empirical testing of panel data approaches but also in its comprehensive analysis of four major political parties. Building upon existing studies in the literature, this research seeks to extend the understanding of voting dynamics for the four main parties in the parliament — JDP/AKP, RPP/CHP, NMP/MHP and PPDP/HDP — by delving into their dynamics individually, thereby expanding the scope of previous studies. This study aims to make a contribution by not only empirically testing panel data approaches but also conducting a comprehensive analysis of four major political parties. Furthermore, the separate inclusion of the 2015 elections and utilization of a panel data approach enrich the analysis by capturing the evolving dynamics of Turkish voting behavior. The study underscores the significance of socioeconomic factors, economic performance and social cleavages for voters' choices within the context of a dominant party rule.

Keywords Voting behavior, General elections, Political parties, Turkey

Paper type Research paper

1. Introduction

Following the establishment of the Turkish Republic in 1923 subsequent to the Ottoman era, the Turkish party system underwent three significant structural transformations. The initial juncture occurred during the period of single-party dominance spanning from 1923 to 1946. This phase subsequently transitioned into a competitive party system with the advent of the 1946 election, wherein the Democratic Party (DP) emerged as a legitimate contender against the incumbent Republican People's Party (RPP). Notably, despite the RPP's notable electoral advantage, the integrity of this election was marred by widespread allegations of irregularities and undue influence, rendering it a subject of fervent controversy. The trajectory toward equitable electoral practices materialized with the advent of the first impartial elections in 1950, culminating in the ascension of the DP to the power. This pivotal juncture marked the emergence of a new political epoch, characterized by the prominence of two primary mainstream parties that substantially reconfigured the Turkish political landscape.

The second significant event was the 2002 election, during which the Justice and Development Party (JDP) secured the majority of votes after being founded in 2001. Subsequently, every election since 2002 has resulted in JDP-majority governments, except for the June 2015 elections, which yielded an indecisive outcome. Following a failure to form a coalition agreement among the parties, these elections were rerun in November 2015, ultimately leading to the formation of a JDP majority government. Academic literature examining the Turkish political party system underscores a transformative shift from a multi-party era to a dominant party system after the 2002 elections, which persisted throughout the JDP's successive governments (Musil, 2015; Gumuscu, 2013). Moreover, the aftermath of the attempted coup on 15 July 2016 witnessed a state crisis unfolding amidst a political transition period, where the ruling party sought to implement a systemic shift from a parliamentary to a presidential system (Aras and Yorulmazlar, 2018). Given the circumstances, the JDP's dominance in the party system is often explained by its ability to broaden its core support through material benefits, delegitimization of the opposition and selective use of ideological rigidity and flexibility (Gumuscu, 2013). Therefore, it is crucial to scrutinize the re-elections of the incumbent political party when examining voting behavior. Put differently, it is important to address the underlying stability in the allocation of electoral preferences in Turkey. It appears that a comprehensive analysis of general elections, considering multiple dimensions, is imperative.

The literature on electoral behavior distinguishes three main factors in defining electoral choice. The first is party identification, generally perceived as long-term partisanship. In the

Turkish case, party-switching and volatility are high (Hazama, 2012). This is mostly due to interventions by the military, leading to fragmentation in the center-right and left. From a historical perspective, it is evident that electors are primarily aligned with the center-right and left (Kumbaracibasi, 2016). Another factor is the effects of social cleavages, which are accompanied by differences in socioeconomic structures in the country. In Turkey, the main cleavages revolve around the center-periphery debate and Kurdish ethnicity. These cleavages are usually visible in a regional dimension, where some regions exhibit clusters of economic development and distinct ethnicities. Finally, retrospective voting -generally called economic voting as well-is another critical factor in determining elections as the electors evaluate the previous performances of the political parties. Economic voting is mainly the most visible pattern of retrospective decision-making of electorates as the voters make judgments on the economic performances of the governments.

Apart from the literature, the main research question of this study is: which factors affect voting behavior in Turkey, and how can we explain the dynamics of center-periphery or eastern-western region voting behavior under the JDP hegemony? We apply a Generalized Least Squares (GLS) approach for the elections covering 2007, 2011, 2015, and 2018, encompassing all 81 provinces (NUTS III regions), to determine the main characteristics of voter choice for the major political parties represented in the parliament. Our primary expected contribution is to shed light on the local determinants that shape voters' choices using a much larger dataset covering four parliamentary elections since 2002. The contribution of this study lies not only in its empirical testing of panel data approaches but also in its comprehensive analysis of four major political parties. Unlike existing studies in the literature, we will seek to understand the voting dynamics for the four main parties in the parliament: JDP, RPP, Nationalist Movement Party (NMP) and Peoples' Democratic Party (PDP), separately. The study distinguishes the determinants of voter behavior by comparing panels with and without the 2015 indecisive election to show similarities and differences in voting behavior. Moreover, it places significant emphasis on examining economic voting, center-periphery thesis, and socio-economic as well as cultural disparities by incorporating all the variables with a dummy variable which reflects the classical center-periphery thesis in Turkey, as highlighted by Wuthrich (2015). Alongside traditional explanations like the cleavages approach, we contend that localities have played an even more substantial role in shaping election outcomes in Turkey.

In the next section, we summarize the existing literature on the determinants of electoral choice in Turkey. Following that, we present the data and methodology in Section 3, empirical results will be discussed in Section 4, followed by a conclusion and discussion.

2. Literature review: the determinants of electoral choice in Turkey

Extensive literature delves into voter behavior across different countries, periods, and theoretical perspectives. The Turkish case is particularly distinct due to the evolution of its democracy, presenting challenges for cross-election comparisons. Despite multi-party elections since 1950, military interventions, party bans, urbanization, and immigration have disrupted analyses. Moreover, regional tensions, socio-economic disparities, and cultural differences have rendered Turkey's elections complex and worthy of multifaceted study. Categorizing Turkish voter behavior proves challenging due to mixed theoretical approaches – economic voting, cleavages, and party alignment – often coexisting in studies. In the literature before 2002, the prevailing hypothesis was centered around economic voting, establishing a connection between economic factors and voter choices. After 2002, research continued to acknowledge economic voting while delving into a broader spectrum of factors, including socio-economic and cultural differences, party alignment, and various cleavages such as center-periphery and ethnic distinctions.

Within this section, we summarize the Turkish electoral behavior literature, recognizing its intricate amalgamation of theoretical viewpoints and variable utilization. As noted earlier,

plenty of literature prior to 2002 predominantly supported the notion of economic voting. Later research expanded its scope to include socio-economic disparities, cleavages, and party alignment. This nuanced approach casts light on Turkey's distinctive electoral landscape, mirroring its historical and socio-political complexities. Early studies by [Bulutay and Yildirim \(1969\)](#) examined economic factors' impact on party voting between 1950 and 1965, revealing economic influences on voter choices when growth exceeded 5%. [Çarkoğlu \(1997\)](#) explored macroeconomic determinants of incumbents' electoral support from 1950 to 1995, aligning with economic voting theory. [Akarca and Tansel \(2007\)](#) highlighted economic performance's importance in elections between 1950 and 2004, observing a "cost of ruling" phenomenon after parties assume power. [Akarca's \(2019\)](#) study covering 1950 to 2019 confirmed economic voting, highlighting weakened effects with more parties and ideological distance. [Deniz et al. \(2021\)](#) employed panel data analysis covering the period from 2002 to 2018 to explore the fluctuations in JDP's vote shares over time. Their findings underscored the substantial influence of economic conditions on these variations, indicating that the electorate tended to reward or penalize the party based on economic developments. Furthermore, evidence from survey-based studies also supports economic voting theory, as demonstrated in [Başlevent et al. \(2005\)](#), [Kalaycıoğlu \(2014\)](#), and [Aytac's \(2020\)](#) work, showing that electorates are more inclined to support the JDP in order to reward growth or, more broadly, good economic conditions.

Turkish cleavages mainly encompass center/periphery and ethnic divides ([Wuthrich, 2015](#)). [Özbudun and Tachau \(1975\)](#) observed socio-economic cleavages' rise post-1973 elections, replacing center-periphery and cultural divides. [Isik and Pinarcioglu \(2010\)](#) highlighted local determinants differentiating JDP and RPP votes, emphasizing center/periphery tensions in 2002. This complex network of evolving research captures the intricate electoral dynamics of Turkey, illuminating the interaction between economic factors, socio-political variables, and overlapping cleavages. The Turkish-Kurdish cleavage holds paramount significance, with Kurdish opposition engaging legally through political parties. While empirical studies heavily rely on survey data due to the scarcity of official data, it's important to acknowledge the interwoven nature of both center-periphery and ethnic cleavages. Within this context, [Çarkoğlu and Hinich \(2006\)](#) scrutinized urban population survey data, identifying the dominance of the center-periphery/secularist vs. pro-Islamist cleavage in the ideological dimension. Another facet involves the nationalist cleavage, pitting Turkish and Kurdish identities against each other. Empirical evidence supports the differentiation of major parties along these cleavage lines. [Kumbaracibasi's \(2016\)](#) regression models dissected district-level election data from 1950 to 2011, revealing the shaping influence of electoral geography and ideological continuities since the 1970s. JDP votes exhibit connections to pro-Islamist movements of the 70s, underpinned by shared organizational roots and ideological origins.

[Kalaycıoğlu \(2014\)](#) empirically examined pre-2009 and 2014 local election surveys, unveiling how party support aligns with voters' party identification, ideological stances, and economic contentment across national and local elections. Religiosity emerges as a critical factor distinguishing JDP preferences from other parties. Bilecen's study ([2006](#)) confirmed religiosity and ethnicity (Turk/Kurd) as pivotal determinants of electoral choices, using a 2010 survey dataset. [Gidengil and Karakoc \(2016\)](#) found economic factors, social services, democracy, and religiosity shaping JDP's success, alongside the independent effect of political leaders' popularity on party preference. Wuthrich's analysis ([2015](#)) of previous elections acknowledged the partial validity of cleavage hypotheses, indicating the variable roles of culture and religion within the system. However, the primary influence remains local and routine decision-making among voters. [Deniz et al. \(2021\)](#) concluded that socio-economic factors are influenced by ethnicity and ideology, particularly considering historically underdeveloped eastern regions, predominantly Kurdish-populated and JDP-stronghold areas. Most recently, [Gundem \(2022\)](#) uncovers a significant link between religious activities and nationwide support for the JDP/

AKP. However, this association shifts when regional variations are considered, revealing three distinct spatial divisions. The relationship between voting behavior, religious activities, and demographic variables varies notably regions. Another study of [Gundem's \(2023\)](#) also investigates the validity of conventional economic voting theory for the Turkish case. However, the study reveals that factors like religious conservatism and ethnic identity hold greater predictive power for the AKP's electoral success than economic conditions, both nationally and locally. The spatial analysis shows unique voting patterns linked to ethnic identity, with no significant spillover effect between these patterns.

The realm of comprehending variations in voting behavior in Turkey has expanded to incorporate alternative variables. [Akarca and Tansel \(2015\)](#) aimed to comprehend the influence of internal migration on political participation in Turkey, integrating other socioeconomic variables. Their findings suggest that internal migration adversely affects political participation both in migrants' origins and destinations. The aging demographic also garnered attention through studies by [Kayaoglu \(2017\)](#) and [Erdogan and Semerci \(2017\)](#). [Kayaoglu \(2017\)](#) finds that women, highly educated and urban area residents are more inclined to abstain from voting. Conversely, educated young individuals were inclined to vote for the primary opposition RPP, while indecisive young Kurds turned to the PDP (Peace and Democracy Party) after the Gezi Park protests. In contrast, [Erdogan and Semerci \(2017\)](#) find out that the being young does not matter. The consideration of regional insecurity has garnered attention in the examination of voting behavior, primarily through two variables: crime and terrorism. While crime is used internationally to gauge regional insecurity, as seen in studies by [Cerde and Vergara \(2007\)](#), [Coleman \(2002\)](#), and [Sønderskov et al. \(2022\)](#), terrorism has gained more traction in Turkish studies, often within the theoretical framework of ethnic cleavages. [Kibris \(2011\)](#) contributes to the literature by analyzing the effects of terrorism on the voting choices of Turkish citizens during the 1991 and 1995 general elections, focusing on district-level data involving soldiers and police officers who died fighting the KWP. The results indicate that exposure to terrorism detrimentally impacts the incumbent party's district-level votes, further boosting the vote share of right-wing parties that adopt less conciliatory stances and adopt a more assertive approach against terrorism.

This study stands out for its pioneering approach in the domain of voting behavior, particularly within the context of the JDP's extended dominance. By leveraging an extensive dataset covering parliamentary elections throughout the JDP's re-election era, this research breaks new ground in unraveling the intricate local determinants shaping voter preferences. The application of advanced panel data methods significantly expands the sample size to encompass all 81 provinces (at the NUTS-3 level), ensuring robust precision in estimating parameters. In a departure from conventional studies, this research also ventures into uncharted territory by delving into the dynamic voting patterns of four major parties – JDP, RPP, NMP, and PDP. This multidimensional approach incorporates crucial factors such as cleavages, party alignment, and retrospective (economic) performance voting. By doing so, it offers a comprehensive perspective on the power bases of these parties. Moreover, the separate analysis of the June and November 2015 elections within the panel sets this study apart, as it endeavors to uncover the nuanced dynamics that played a pivotal role in both the decline and subsequent resurgence of the JDP.

3. Data and model

Our analysis covers four general elections 2007, 2011, 2015, and 2018 held in Turkey. In 2015, two elections held in June and November, and in the June election JDP lost its parliamentary majority for the first time with an indecisive election result that no party gained an absolute majority to form a government. And the election was rerun in November 2015, resulting in an increase in JDP votes and the party securing a clear majority to form a government without

needing a coalition partner. In this study, both elections were considered to identify differences or similarities in voting patterns for both the incumbent party and other major parties.

The regional variables, as well as the election data set, are obtained through TURKSTAT, the official statistics agency of Turkey. Data on terrorism is obtained from a different source, Global Terrorism Database (GTD). Table 1 displays the information about dataset. Descriptive statistics for each variable and the correlation matrix are also provided in Appendixes 1 and 2, respectively.

In order to analyze the effects of conservative Islamist/secularist social structures, first we employ female illiteracy (*filliteracyrate*) presumption that conservative values are biased against schooling of girls in the periphery. Also, the economic infrastructures of these regions are more traditional, and the share of the primary sector is higher. Therefore, we use (*agrishare*) variable to denote the share of agriculture in regional gross domestic product.

The JDP period witnessed a high level of economic growth compared to the previous decade of the 90s. However, the growth rate was uneven across the regions. To consider the effects of economic voting, we measure the effects of economic growth in regional level between two consecutive elections (*regionalgrowth*). The coefficient for *regionalgrowth* is expected to be positive for JDP and negative for the opposition parties. In order to measure the characteristics of the regions, we use natural logarithm income per capita in US Dollars (*gdppercapita*) considering the value one year before the election and the number of hospital beds for 1,000 persons (*hospitalbed*). These variables are used to characterize the development levels of the regions. Due to clusters of industry and population, the western part of Turkey is more developed and urbanized than the eastern part. These variables also can be interpreted as the effects of urbanization, and modernization on one hand, and the effects of healthcare infrastructural investments, which voters overwhelmingly give credit to the JDP governments on the other hand. In addition, several studies indirectly indicate that understanding the behavior of the ruling party, specifically how they allocate the budget to health infrastructure – in other words, health-related political commitment, spending priority, and the political will to

Variable name	Definition
JDP(−4)	The vote share of the specific parties in the previous election
RPP(−4)	
NMP(−4)	
PDP(−4)	
gdppercapita	The natural logarithm of GDP per capita in one year before the election
regionalgrowth	The compound growth rate of the region between two elections
agrishare	The share of agriculture in regions' total GDP
filliteracyrate	The share of illiterate women in total women population
universityedu	The share of people with a university in 15+ population
oldpopulation	The share of 65+ population in total population
netmig	Rate of net domestic immigration
hospitalbed	Natural logarithm of number of hospital beds for 1,000 persons
crimerate	Share of convicts received into prison in total
terrorism	Share of terrorist attacks between two elections in total attacks
east	East is a dummy takes the value of 1, if the province is in East, otherwise 0 ^a

Note(s): ^aAgri, Adiyaman, Ardahan, Batman, Bayburt, Bingol, Bitlis, Diyarbakir, Elazig, Erzincan, Gaziantep, Kars, Kilis, Igdir, Malatya, Tunceli, Mus, Hakkari, Sanliurfa, Mardin, Sirtak, Siirt and Van are the regions in which dummy variable takes the value of 1

Source(s): Compiled by the authors

Table 1.
Variables and
definitions

spend – helps us determine whether it affects the electoral preferences of voter (Behera *et al.*, 2022). To address the cultural differences, we incorporate education variable, as it is expected to affect ideologies of voters. In this respect, the share of the population with a university degree (*universityedu*) is included, as votes of people with high level of education may differ by political parties, it can be expected that high level of education can be associated with the support of the opposition parties to contribute the changes in political rigidities.

As another region-specific variable, we use the rate of net domestic immigration (*netmig*) in the provincial level. This variable also has two distinct implications. The first is that it indicates the “pull and push factors” for the region covering overall desirable social and economic conditions. The other implication is the increasing competition in the local labor markets due to immigration. Historically, the immigration process has been increased by the industrialization process in Turkey, which increased substantially in the 1980s due to clusters of industries in the western part. In the 1990s Turkey witnessed another wave of immigrants from the South-eastern part due to increased terror and security measures the predominantly Kurdish population moved to the western parts. Still, the main pattern of immigration is from the east to the west. Share of terrorist attacks between elections in total attacks (*terrorism*) was also added to the model to control both the effect of insecurity of the region on voting behavior and also the political division between KWP and the other parties, in other words, to control how the vote share of the incumbent and the others responded to terrorism. We also use the crime rate (*crimerate*) in the region to determine the effect of safety and security concerns of the voters in the elections. The coefficient of this variable is expected to be negative for the governing party and positive for the opposition as voters may punish the incumbent party for the lack of security in their regions. The effects of different age groups are taken into consideration as their economic, social, and ideological expectations may differ. Old population (*oldpopulation*) -aged 65 and above-is used as dependent variables to measure the impact of the high dependency ratio. These variables are able to capture distinct socioeconomic and demographic features of the peripheral groups at the province level.

Although ethnic cleavages are important, especially in the Turkish context, official and systematic dataset related to ethnicity does not exist up to date. The data relating to the mother tongue of the citizens were collected in the 1960 census for the first and last time. In this study, however, we use a dummy variable (*east*) for the regions in east and southeast Turkey in which Kurdish citizens compose a big share. Lastly, party alignment can be an important factor to understand the endurance of the JDP and this can be modeled by using the vote share of the previous election for a specific party. If the coefficient of this variable is close to unity, it indicates a high degree of political inertia. However, if the parameter is less than unity, it is consistent with strategic voting.

We employ generalized least squares regression with *xtgls* command in Stata 15. If the panels are heteroscedastic, cross-sectionally correlated and autocorrelated of type AR(1), *xtgls* command with panels (heteroscedastic) and *corr* (*psar1*) command is suggested by Torres-Reyna (2007). This command presents basically a random effect estimator, but also allows dealing with heteroskedasticity and correlation. In this study, Wooldridge test for autocorrelation in panel data and Modified Wald test for groupwise heteroskedasticity are applied and for each regression, we detect AR(1) structure and heteroscedasticity, in this respect we employ and display the random effect GLS regression results in following Tables. This technique can be accepted as a more efficient estimator than fixed effects regression when the number of time periods is small (Gujarati, 2003), the time-invariant variables are important predictors of the outcome variable, and there is heteroscedasticity and time effects into account. In addition to these, we also estimate pooled OLS and Fixed Effect Regression to make a robustness check and compare models in Appendix 3.

$$Y_{ij,t} = \beta_0 + \beta_1 Y_{ij,t-4} + \beta_2 \mathbf{X}_{ij,t} + \delta_t + \beta_3 \text{East} * \mathbf{X}_{ij,t} + \alpha_i + \varepsilon_{it} \quad (1)$$

Equation (1) represents the basic version of the random effect GLS regression adopting our model. In this equation $Y_{ij,t}$ represents the share of the main political parties (i) which are represented in the parliament, namely JDP, RPP, NMP and PDP in the elections of ($t = 2007, 2011, 2015, 2018$) in NUTS III regions ($j = 1, \dots, 81$). PDP joined the elections as a party in June and November 2015 elections, but its predecessors supported independent candidates in the previous elections. For 2007 and 2011, we take the vote shares of pro-Kurdish independent candidates. $Y_{ij,t-4}$ is the share of the party in the previous election that was four years ago. As we mentioned before, this variable is interpreted mostly as the “cost of ruling” in political science. It is expected to be significantly lower than 1 for the governing party in a way that voters may strategically be against the parties in the government to dilute their power, or they may be tired of the leaders by time, or because of the compromises, the government needs to make while ruling the government (Akarca and Tansel, 2007). However, when there is strong inertia in the party system, this coefficient will be close to unity. Because of the adverse reasons related to strategic voting and the cost of ruling, the coefficient of this variable for opposition parties is expected to be greater than unity. In most of the studies prior to the 2007 elections, this was the case in the Turkish party system, however during the predominant party system period, we expect that the situation has evolved into strong inertia whereas in a polarized party system, it may represent ideological orientation and party alignment. Furthermore, network effects may create such an alignment procedure where voters are influenced by the choices of their families and peers. In the case of strong network effects, this coefficient will be also close to unity.

$$\begin{aligned} Y_{ij,t} = & \beta_0 + \beta_1 Y_{ij,t-4} + \beta_2 \text{gdp} \text{percapita} + \beta_3 \text{regionalgrowth} + \beta_4 \text{agrishare} \\ & + \beta_5 \text{filliteracyrate} + \beta_6 \text{universityedu} + \beta_7 \text{oldpopulation} + \beta_8 \text{netmigration} \\ & + \beta_9 \text{hospitalbed} + \beta_{10} \text{crimerate} + \beta_{11} \text{terrorism} + \delta_t \\ & + \beta_3 \text{East} * \mathbf{X}_{ij,t} + \alpha_i + \varepsilon_{it} \end{aligned} \quad (2)$$

$\mathbf{X}_{ij,t}$ is the individual vector for each independent variable. α_i is the unobserved individual-specific random effect, δ_t are the coefficients for the time dummies for each election capturing time-specific effects. *East* is a time-invariant dummy variable to capture regional differences between Eastern and Western regions. $\text{East} * \mathbf{X}_{ij,t}$ is the interaction term of East and $\mathbf{X}_{ij,t}$, where the former stands for region dummies (0 for the West and 1 for the Eastern region) and the latter denotes the individual independent variable. Regarding these variables, Equation (2) represents the extended version of the random effect GLS regression for a specific political party.

4. Empirical findings

Random effects GLS regression results for each political party are presented in Tables 2–9. To conduct robustness checks and compare alternative techniques, we estimate all the models without interaction terms using simple pooled OLS and fixed effects regression as well. The comparison of alternative techniques is displayed in Appendix 3. The results of empirical analysis indicate that voters in Turkey are affected by the ideological, economic, cultural, and social factors, or in other words; regions with different characteristics tend to vote in distinctive ways. The variable of political inertia or alignment is statistically significant for all parties and in line with the expectations, the coefficient is closed the value of 1 for the incumbent party.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Political inertia</i>										
JDPlag	0.841*** (0.015)	0.85*** (0.014)	0.83*** (0.017)	0.859*** (0.014)	0.846*** (0.015)	0.845*** (0.016)	0.846*** (0.016)	0.842*** (0.015)	0.853*** (0.015)	0.826*** (0.016)
<i>Economic factors</i>										
gdppercapita	0.004 (0.01)	0.008 (0.01)	0.012 (0.01)	0.022** (0.009)	0.007 (0.01)	0.013 (0.01)	0.009 (0.01)	0.004 (0.01)	0.013 (0.01)	0.001 (0.009)
regionalgrowth	0.272*** (0.091)	0.263*** (0.089)	0.272*** (0.094)	0.1 (0.085)	0.294*** (0.091)	0.269*** (0.093)	0.171* (0.089)	0.278*** (0.09)	0.201** (0.092)	0.232*** (0.075)
qgrishare	-0.066** (0.031)	-0.072** (0.032)	-0.021 (0.031)	-0.06* (0.032)	-0.055* (0.031)	-0.049 (0.031)	-0.063** (0.032)	-0.065** (0.031)	-0.058* (0.032)	-0.084*** (0.032)
<i>Socio-economic and socio-demographic factors</i>										
filliteracyrate	0.52*** (0.075)	0.469*** (0.063)	0.556*** (0.077)	0.33*** (0.065)	0.514*** (0.068)	0.555*** (0.075)	0.463*** (0.067)	0.508*** (0.074)	0.464*** (0.069)	0.458*** (0.054)
universityedu	-0.07 (0.096)	-0.047 (0.088)	-0.104 (0.109)	-0.117 (0.084)	-0.033 (0.087)	-0.048 (0.094)	-0.068 (0.096)	-0.078 (0.094)	-0.076 (0.093)	-0.166** (0.084)
oldpopulation	0.165*** (0.057)	0.182*** (0.054)	0.154** (0.06)	0.202*** (0.055)	0.164*** (0.057)	0.246*** (0.06)	0.165*** (0.057)	0.162*** (0.056)	0.186*** (0.055)	0.153*** (0.054)
netmig	0.05*** (0.014)	0.047*** (0.014)	0.047*** (0.014)	0.04*** (0.012)	0.047*** (0.013)	0.05*** (0.014)	0.044*** (0.013)	0.052*** (0.014)	0.049*** (0.014)	0.043*** (0.013)
hospitalbed	-0.003 (0.005)	-0.001 (0.005)	-0.005 (0.006)	0 (0.005)	-0.002 (0.006)	-0.003 (0.005)	-0.002 (0.005)	-0.001 (0.005)	-0.002 (0.005)	0.002 (0.006)
<i>Security concern</i>										
crimrate	0.014 (0.052)	0.017 (0.047)	0.014 (0.047)	0.026 (0.038)	0.012 (0.048)	0.012 (0.046)	0.019 (0.047)	0.013 (0.052)	0.018 (0.045)	0.009 (0.047)
terrorism	-0.43*** (0.127)	-0.544*** (0.121)	-0.459*** (0.13)	-0.547*** (0.12)	-0.384*** (0.125)	-0.403*** (0.126)	-0.504*** (0.123)	-0.429*** (0.126)	-0.484*** (0.124)	-0.12 (0.092)

(continued)

Determinants
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Table 2.
GLS Result for JDP
(with November
election and time
dummies)

[illegible]

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Political inertia</i>										
JDPlag	0.785*** (0.017)	0.8*** (0.016)	0.779*** (0.017)	0.807*** (0.017)	0.79*** (0.017)	0.79*** (0.017)	0.783*** (0.018)	0.789*** (0.017)	0.794*** (0.017)	0.774*** (0.018)
<i>Economic factors</i>										
gdppercapita	-0.002 (0.01)	0.011 (0.01)	0.008 (0.01)	0.019** (0.009)	-0.002 (0.01)	0.008 (0.01)	0.007 (0.01)	-0.001 (0.01)	0.004 (0.01)	0.001 (0.009)
regionalgrowth	0.245*** (0.089)	0.211** (0.095)	0.249*** (0.092)	-0.04 (0.065)	0.276*** (0.084)	0.233*** (0.091)	0.086 (0.096)	0.226** (0.09)	0.18* (0.093)	0.232*** (0.087)
agrishare	-0.036 (0.033)	-0.031 (0.035)	0.018 (0.033)	-0.011 (0.031)	-0.031 (0.032)	-0.024 (0.032)	-0.026 (0.034)	-0.037 (0.033)	-0.034 (0.034)	-0.056 (0.034)
<i>Socio-economic and socio-demographic factors</i>										
filliteracyrate	0.524*** (0.078)	0.481*** (0.067)	0.557*** (0.081)	0.375*** (0.061)	0.461*** (0.07)	0.521*** (0.077)	0.409*** (0.067)	0.507*** (0.076)	0.388*** (0.065)	0.387*** (0.057)
universityedu	0.12 (0.079)	0.101 (0.077)	0.085 (0.097)	0.067 (0.075)	0.118 (0.075)	0.127* (0.077)	0.059 (0.083)	0.108 (0.079)	0.057 (0.08)	-0.08 (0.082)
oldpopulation	0.162** (0.063)	0.222*** (0.061)	0.139** (0.065)	0.223*** (0.061)	0.168*** (0.062)	0.266*** (0.065)	0.158** (0.062)	0.171*** (0.063)	0.192*** (0.06)	0.169*** (0.062)
netmig	0.03*** (0.013)	0.031** (0.013)	0.028*** (0.013)	0.021** (0.01)	0.028** (0.012)	0.032** (0.013)	0.026*** (0.013)	0.031*** (0.013)	0.033** (0.014)	0.033*** (0.013)
hospitalbed	0 (0.006)	0 (0.005)	-0.002 (0.006)	0 (0.005)	0.001 (0.006)	0 (0.005)	0.001 (0.006)	0.002 (0.006)	0.003 (0.005)	0.005 (0.006)
crimerate	0.018 (0.056)	0.019 (0.05)	0.016 (0.05)	0.02 (0.039)	0.013 (0.053)	0.011 (0.05)	0.016 (0.049)	0.017 (0.056)	0.014 (0.048)	0.008 (0.051)
terrorism	-0.479*** (0.11)	-0.551*** (0.104)	-0.519*** (0.114)	-0.556*** (0.111)	-0.434*** (0.109)	-0.489*** (0.107)	-0.499*** (0.112)	-0.489*** (0.11)	-0.504*** (0.106)	-0.183* (0.103)

(continued)

Determinants
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Table 3.
GLS Result for JDP
(with June election and
time dummies)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Interaction terms</i>										
East*gdpcc	-0.003*** (0.001)									
East*regionalgrowth		-0.227** (0.111)								
East*agrishare			-0.183*** (0.045)							
East*flliteracyrate				0.11** (0.047)						
East*universityedu					-0.329*** (0.091)					
East*oldpopulation						-0.25*** (0.08)	0.087 (0.054)			
East*netmig								-0.005*** (0.002)		
East*hospitalbed									-4.413** (1.971)	
East*crimrate										-0.558*** (0.172)
East*terrorism										
Time dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
_cons	0.131 (0.1)	0.016 (0.09)	0.05 (0.103)	-0.036 (0.081)	0.131 (0.098)	0.033 (0.093)	0.077 (0.097)	0.114 (0.097)	0.087 (0.089)	0.117 (0.088)
Observations	323	323	323	323	323	323	323	323	323	323

Note(s): Standard errors are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Source(s): Authors' calculations.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Political inertia</i>										
RPPlag	0.849*** (0.022)	0.863*** (0.022)	0.848*** (0.022)	0.859*** (0.022)	0.848*** (0.022)	0.848*** (0.022)	0.842*** (0.022)	0.849*** (0.022)	0.859*** (0.02)	0.846*** (0.022)
<i>Economic factors</i>										
gdppercapita	0.053*** (0.008)	0.055*** (0.008)	0.053*** (0.008)	0.051*** (0.008)	0.054*** (0.008)	0.054*** (0.008)	0.054*** (0.008)	0.053*** (0.008)	0.054*** (0.008)	0.054*** (0.008)
regionalgrowth	-0.302*** (0.047)	-0.249*** (0.048)	-0.306*** (0.046)	-0.295*** (0.046)	-0.324*** (0.046)	-0.304*** (0.046)	-0.315*** (0.046)	-0.304*** (0.047)	-0.268*** (0.047)	-0.303*** (0.045)
agrishare	0.021 (0.023)	0.01 (0.023)	0.022 (0.023)	0.011 (0.023)	0.018 (0.023)	0.022 (0.023)	0.027 (0.023)	0.021 (0.023)	0.017 (0.023)	0.019 (0.023)
<i>Socio-economic and socio-demographic factors</i>										
filliteracyrate	-0.121** (0.052)	-0.075* (0.045)	-0.129** (0.053)	-0.046 (0.057)	-0.156*** (0.05)	-0.121** (0.052)	-0.116** (0.046)	-0.125** (0.052)	-0.083* (0.045)	-0.117** (0.047)
universityedu	-0.079 (0.109)	-0.133 (0.109)	-0.092 (0.11)	-0.072 (0.107)	-0.156 (0.112)	-0.085 (0.111)	-0.073 (0.108)	-0.082 (0.109)	-0.074 (0.108)	-0.095 (0.111)
oldpopulation	0.043 (0.05)	0.038 (0.048)	0.044 (0.049)	0.036 (0.049)	0.052 (0.049)	0.045 (0.048)	0.026 (0.048)	0.043 (0.05)	0.028 (0.042)	0.035 (0.048)
netmig	-0.008 (0.011)	-0.012 (0.011)	-0.008 (0.011)	-0.006 (0.01)	-0.006 (0.011)	-0.008 (0.011)	-0.014 (0.011)	-0.008 (0.011)	-0.011 (0.011)	-0.009 (0.01)
hospitalbed	0 (0.005)	0 (0.005)	0 (0.005)	0 (0.005)	0 (0.005)	0 (0.005)	-0.001 (0.005)	0 (0.005)	0.002 (0.004)	0 (0.005)
<i>Security concern</i>										
crimrate	-0.031 (0.083)	-0.033 (0.082)	-0.03 (0.083)	-0.035 (0.083)	-0.027 (0.083)	-0.03 (0.083)	-0.029 (0.082)	-0.031 (0.083)	-0.036 (0.082)	-0.03 (0.082)
terrorism	0.106 (0.065)	0.098 (0.064)	0.107 (0.068)	0.114* (0.061)	0.068 (0.066)	0.106 (0.066)	0.125* (0.064)	0.105 (0.066)	0.104 (0.067)	0.15 (0.093)

(continued)

Determinants
of electoral
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Table 4.
GLS Result for RPP
(with November
election and time
dummies)

[illegible]

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Political inertia</i>										
RPPlag	0.842*** (0.021)	0.843*** (0.022)	0.834*** (0.021)	0.847*** (0.021)	0.834*** (0.021)	0.833*** (0.021)	0.829*** (0.021)	0.842*** (0.021)	0.84*** (0.017)	0.827*** (0.022)
<i>Economic factors</i>										
gdppercapita	0.042*** (0.008)	0.038*** (0.008)	0.04*** (0.008)	0.039*** (0.008)	0.042*** (0.008)	0.043*** (0.008)	0.041*** (0.008)	0.041*** (0.008)	0.041*** (0.008)	0.039*** (0.008)
regionalgrowth	-0.239*** (0.057)	-0.196*** (0.063)	-0.261*** (0.058)	-0.259*** (0.058)	-0.237*** (0.057)	-0.243*** (0.057)	-0.278*** (0.057)	-0.243*** (0.057)	-0.215*** (0.06)	-0.237*** (0.057)
agrishare	0.006 (0.02)	-0.009 (0.02)	0.011 (0.022)	-0.001 (0.02)	0.003 (0.02)	0.009 (0.02)	0.005 (0.022)	0.005 (0.02)	-0.005 (0.02)	-0.006 (0.019)
<i>Socio-economic and socio-demographic factors</i>										
filliteracyrate	-0.1** (0.05)	-0.143*** (0.047)	-0.152*** (0.05)	-0.072 (0.057)	-0.137*** (0.048)	-0.114** (0.051)	-0.156*** (0.047)	-0.107*** (0.05)	-0.106*** (0.04)	-0.154*** (0.048)
universityedu	0.002 (0.103)	-0.019 (0.115)	-0.014 (0.112)	0.003 (0.109)	0.007 (0.111)	0.028 (0.109)	-0.003 (0.113)	-0.001 (0.105)	-0.043 (0.103)	-0.001 (0.114)
oldpopulation	-0.017 (0.046)	0.018 (0.044)	-0.001 (0.047)	-0.015 (0.045)	0.003 (0.045)	0.015 (0.043)	-0.008 (0.047)	-0.015 (0.046)	0.023 (0.025)	0.016 (0.044)
netmig	-0.006 (0.011)	-0.008 (0.011)	-0.005 (0.011)	-0.003 (0.011)	-0.007 (0.011)	-0.006 (0.011)	-0.01 (0.011)	-0.006 (0.011)	-0.005 (0.01)	-0.004 (0.011)
hospitalbed	0.011*** (0.004)	0.008* (0.004)	0.009*** (0.004)	0.008* (0.004)	0.011*** (0.004)	0.011** (0.004)	0.009*** (0.004)	0.011*** (0.004)	0.01*** (0.004)	0.009*** (0.004)
<i>Security concern</i>										
crimirate	-0.063 (0.069)	-0.061 (0.071)	-0.061 (0.07)	-0.062 (0.069)	-0.062 (0.069)	-0.063 (0.07)	-0.059 (0.07)	-0.063 (0.069)	-0.064 (0.069)	-0.063 (0.07)
terrorism	0.091 (0.057)	0.026 (0.063)	0.056 (0.062)	0.066 (0.056)	0.089 (0.063)	0.08 (0.059)	0.06 (0.061)	0.088 (0.057)	0.07 (0.065)	0.058 (0.048)

(continued)

Determinants
of electoral
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Table 5.
GLS Result for RPP
(with June election and
time dummies)

[illegible]

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Political inertia</i>										
NMPlag	0.645*** (0.031)	0.75*** (0.022)	0.65*** (0.031)	0.683*** (0.025)	0.736*** (0.034)	0.656*** (0.031)	0.694*** (0.03)	0.647*** (0.031)	0.698*** (0.031)	0.692*** (0.032)
<i>Economic factors</i>										
gdppercapita	-0.006 (0.006)	-0.003 (0.005)	0.003 (0.006)	-0.003 (0.006)	0.004 (0.006)	-0.001 (0.006)	0.001 (0.006)	-0.006 (0.006)	0 (0.006)	-0.001 (0.007)
regionalgrowth	-0.201*** (0.042)	-0.084*** (0.042)	-0.214*** (0.041)	-0.159*** (0.039)	-0.183*** (0.038)	-0.212*** (0.037)	-0.205*** (0.039)	-0.2*** (0.041)	-0.198*** (0.038)	-0.195*** (0.039)
agrishare	0.126*** (0.023)	0.062*** (0.021)	0.157*** (0.022)	0.105*** (0.018)	0.088*** (0.023)	0.126*** (0.022)	0.118*** (0.023)	0.123*** (0.022)	0.109*** (0.023)	0.107*** (0.023)
<i>Socio-economic and socio-demographic factors</i>										
fillteracyrate	-0.33*** (0.023)	-0.335*** (0.022)	-0.32*** (0.021)	-0.053 (0.047)	-0.429*** (0.036)	-0.366*** (0.032)	-0.387*** (0.033)	-0.332*** (0.023)	-0.417*** (0.036)	-0.405*** (0.037)
universityedu	-0.179** (0.09)	-0.261*** (0.072)	-0.276*** (0.091)	-0.214*** (0.074)	-0.351*** (0.097)	-0.153* (0.092)	-0.25*** (0.094)	-0.193** (0.09)	-0.26*** (0.097)	-0.287*** (0.096)
oldpopulation	-0.06 (0.047)	-0.028 (0.05)	-0.055 (0.043)	-0.131*** (0.04)	0.014 (0.052)	0.024 (0.046)	-0.043 (0.049)	-0.066 (0.046)	-0.012 (0.049)	-0.017 (0.05)
netmig	0.01 (0.008)	0.009 (0.008)	0.01 (0.008)	0.01 (0.007)	0.013 (0.008)	0.01 (0.008)	0 (0.01)	0.009 (0.008)	0.012 (0.008)	0.014* (0.008)
hospitalbed	0 (0.003)	0.001 (0.003)	-0.001 (0.003)	0 (0.003)	-0.001 (0.003)	-0.004 (0.003)	0.001 (0.003)	0.001 (0.003)	-0.001 (0.003)	0 (0.003)
<i>Security concern</i>										
crimrate	0.028 (0.041)	0.031 (0.043)	0.036 (0.04)	0.012 (0.043)	0.042 (0.041)	0.037 (0.039)	0.035 (0.041)	0.027 (0.041)	0.04 (0.04)	0.038 (0.04)
terrorism	-0.046 (0.029)	-0.115*** (0.033)	-0.048 (0.035)	-0.024 (0.02)	-0.101** (0.041)	-0.07** (0.034)	-0.079** (0.034)	-0.044 (0.029)	-0.076** (0.038)	-0.046 (0.042)

(continued)

Determinants
of electoral
behavior in
Turkey

Table 6.
GLS Result for NMP
(with November
election and time
dummies)

[illegible]

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Political inertia</i>										
NMPlag	0.248*** (0.048)	0.247*** (0.047)	0.261*** (0.048)	0.212*** (0.044)	0.171*** (0.047)	0.204*** (0.047)	0.226*** (0.047)	0.243*** (0.047)	0.195*** (0.046)	0.187*** (0.045)
<i>Economic factors</i>										
gdppercapita	0.089*** (0.014)	0.094*** (0.014)	0.093*** (0.014)	0.104*** (0.014)	0.081*** (0.013)	0.087*** (0.014)	0.085*** (0.014)	0.09*** (0.014)	0.086*** (0.014)	0.088*** (0.013)
regionalgrowth	0.047 (0.061)	-0.006 (0.066)	0.065 (0.061)	-0.002 (0.06)	0.081 (0.058)	0.072 (0.061)	0.048 (0.062)	0.052 (0.061)	0.045 (0.062)	0.082 (0.057)
agrishare	-0.055 (0.048)	-0.026 (0.049)	-0.088* (0.049)	0.007 (0.048)	-0.047 (0.045)	-0.071 (0.047)	-0.056 (0.049)	-0.055 (0.048)	-0.054 (0.049)	-0.031 (0.044)
<i>Socio-economic and socio-demographic factors</i>										
fillteracyrate	0.005 (0.081)	-0.057 (0.079)	0.018 (0.079)	-0.222** (0.086)	0.054 (0.074)	0.045 (0.077)	0.052 (0.077)	0.015 (0.081)	0.059 (0.078)	0.125* (0.071)
universityedu	1.472*** (0.209)	1.462*** (0.195)	1.485*** (0.206)	1.551*** (0.199)	1.564*** (0.203)	1.362*** (0.209)	1.507*** (0.207)	1.461*** (0.21)	1.445*** (0.209)	1.446*** (0.199)
oldpopulation	0.243** (0.107)	0.082 (0.098)	0.219** (0.104)	0.18* (0.101)	0.189* (0.101)	0.278*** (0.104)	0.191* (0.105)	0.245** (0.107)	0.291*** (0.108)	0.248** (0.101)
netmig	-0.033*** (0.01)	-0.039*** (0.009)	-0.034*** (0.01)	-0.035*** (0.01)	-0.035*** (0.009)	-0.032*** (0.01)	-0.037*** (0.01)	-0.033*** (0.01)	-0.033*** (0.01)	-0.031*** (0.009)
hospitalbed	0.024*** (0.008)	0.025*** (0.007)	0.027*** (0.008)	0.027*** (0.007)	0.02*** (0.007)	0.022*** (0.008)	0.023*** (0.008)	0.023*** (0.008)	0.021*** (0.008)	0.021*** (0.007)
<i>Security concern</i>										
crimrate	-0.005 (0.117)	-0.016 (0.112)	-0.011 (0.113)	-0.002 (0.124)	-0.011 (0.109)	-0.007 (0.113)	-0.008 (0.112)	-0.005 (0.117)	-0.006 (0.113)	-0.01 (0.11)
terrorism	-0.417*** (0.078)	-0.438*** (0.074)	-0.411*** (0.076)	-0.44*** (0.076)	-0.35*** (0.083)	-0.41*** (0.076)	-0.369*** (0.083)	-0.415*** (0.078)	-0.399*** (0.079)	0.084 (0.068)

(continued)

Determinants
of electoral
behavior in
Turkey

Table 7.
GLS Result for NMP
(with June election and
time dummies)

[illegible]

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Political inertia</i>										
PDPlag	0.545*** (0.041)	0.878*** (0.03)	0.63*** (0.034)	0.797*** (0.027)	0.785*** (0.044)	0.699*** (0.037)	0.782*** (0.033)	0.578*** (0.042)	0.812*** (0.029)	0.787*** (0.037)
<i>Economic factors</i>										
gdppercapita	-0.001 (0.007)	-0.012 (0.009)	-0.015** (0.007)	-0.001 (0.005)	-0.001 (0.011)	-0.009 (0.008)	-0.008 (0.008)	0 (0.008)	-0.014 (0.009)	-0.018* (0.009)
regionalgrowth	-0.096* (0.054)	-0.05 (0.077)	-0.031 (0.056)	-0.101** (0.044)	-0.029 (0.073)	-0.022 (0.063)	-0.047 (0.063)	-0.079 (0.06)	0.063 (0.069)	-0.01 (0.071)
agrishare	-0.018 (0.017)	-0.012 (0.023)	-0.084*** (0.023)	-0.009 (0.014)	-0.02 (0.022)	-0.032 (0.021)	-0.042** (0.017)	-0.018 (0.018)	-0.011 (0.021)	-0.015 (0.019)
<i>Socio-economic and socio-demographic factors</i>										
filliteracyrate	0.044 (0.049)	0.477*** (0.065)	0.141*** (0.044)	-0.054** (0.023)	0.413*** (0.07)	0.296*** (0.044)	0.337*** (0.061)	0.077 (0.054)	0.471*** (0.061)	0.432*** (0.066)
universityedu	0.035 (0.082)	0.309*** (0.1)	0.361*** (0.09)	-0.01 (0.046)	0.026 (0.129)	-0.167 (0.103)	0.169* (0.101)	0.058 (0.095)	0.361*** (0.109)	0.394*** (0.113)
oldpopulation	0.006 (0.042)	-0.149*** (0.055)	-0.031 (0.034)	-0.018 (0.026)	-0.136** (0.061)	-0.469*** (0.054)	-0.098* (0.051)	0.004 (0.046)	-0.206*** (0.054)	-0.173*** (0.054)
netmig	-0.004 (0.009)	-0.026* (0.014)	-0.004 (0.008)	-0.007 (0.007)	-0.022* (0.013)	-0.013 (0.009)	0 (0.012)	-0.005 (0.01)	-0.037*** (0.012)	-0.023* (0.013)
hospitalbed	-0.014*** (0.004)	-0.018*** (0.005)	-0.01*** (0.004)	-0.006** (0.003)	-0.019*** (0.005)	-0.02*** (0.005)	-0.014*** (0.005)	-0.017*** (0.005)	-0.016*** (0.005)	-0.019*** (0.005)
<i>Security concern</i>										
crimrate	-0.015 (0.028)	-0.05 (0.058)	-0.032 (0.053)	-0.019 (0.037)	-0.042 (0.059)	-0.037 (0.052)	-0.031 (0.061)	-0.017 (0.029)	-0.043 (0.06)	-0.042 (0.056)
terrorism	0.308*** (0.105)	0.437*** (0.138)	0.444*** (0.132)	0.177*** (0.069)	0.486*** (0.143)	0.567*** (0.115)	0.44*** (0.126)	0.31*** (0.116)	0.466*** (0.137)	0.159*** (0.072)

(continued)

Determinants
of electoral
behavior in
Turkey

Table 8.
GLS Result for PDP
(with November
election and time
dummies)

[illegible]

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Political inertia</i>										
PDPlag	-0.114*** (0.02)	-0.099*** (0.02)	-0.112*** (0.02)	-0.1*** (0.02)	-0.083*** (0.023)	-0.103*** (0.02)	-0.098*** (0.02)	-0.112*** (0.02)	-0.092*** (0.02)	-0.064*** (0.021)
<i>Economic factors</i>										
gdppercapi	0.096*** (0.013)	0.101*** (0.013)	0.1*** (0.012)	0.106*** (0.012)	0.095*** (0.013)	0.095*** (0.013)	0.094*** (0.013)	0.096*** (0.013)	0.092*** (0.014)	0.093*** (0.013)
regionalgrowth	0.036 (0.059)	0.027 (0.062)	0.043 (0.056)	0.015 (0.056)	0.056 (0.059)	0.057 (0.056)	0.047 (0.06)	0.04 (0.058)	0.053 (0.059)	0.038 (0.057)
agrishare	0.009 (0.045)	0.018 (0.046)	0.008 (0.042)	0.03 (0.042)	0.005 (0.047)	0 (0.04)	0.012 (0.047)	0.01 (0.046)	-0.009 (0.047)	0.011 (0.044)
<i>Socio-economic and socio-demographic factors</i>										
fillteracyrate	-0.024 (0.081)	-0.039 (0.076)	-0.011 (0.074)	-0.123 (0.088)	0.038 (0.076)	-0.002 (0.074)	0.02 (0.076)	-0.018 (0.08)	0.037 (0.076)	0.08 (0.074)
universityedu	1.467*** (0.207)	1.434*** (0.201)	1.492*** (0.204)	1.574*** (0.195)	1.539*** (0.208)	1.42*** (0.203)	1.477*** (0.21)	1.472*** (0.207)	1.463*** (0.21)	1.565*** (0.202)
oldpopulation	0.252** (0.105)	0.16 (0.098)	0.243** (0.101)	0.211** (0.105)	0.236** (0.104)	0.257** (0.101)	0.235** (0.104)	0.253** (0.105)	0.318*** (0.106)	0.261** (0.101)
netmig	-0.031*** (0.009)	-0.034*** (0.009)	-0.031*** (0.009)	-0.031*** (0.009)	-0.033*** (0.009)	-0.031*** (0.009)	-0.032*** (0.009)	-0.031*** (0.009)	-0.03*** (0.01)	-0.031*** (0.009)
hospitalbed	0.013** (0.006)	0.01 (0.007)	0.013** (0.006)	0.015*** (0.005)	0.01* (0.006)	0.012* (0.006)	0.011 (0.007)	0.013** (0.006)	0.012* (0.007)	0.012** (0.006)
<i>Security concern</i>										
crimrate	-0.007 (0.109)	-0.011 (0.107)	-0.01 (0.109)	-0.009 (0.115)	-0.008 (0.105)	-0.006 (0.109)	-0.007 (0.108)	-0.007 (0.109)	-0.005 (0.109)	-0.004 (0.106)
terrorism	-0.157* (0.087)	-0.215** (0.094)	-0.142 (0.087)	-0.191** (0.093)	-0.17* (0.094)	-0.175** (0.086)	-0.158* (0.09)	-0.159* (0.088)	-0.194** (0.091)	0.064 (0.071)

(continued)

Determinants
of electoral
behavior in
Turkey

Table 9.
GLS Result for PDP
(with June election and
time dummies)

[illegible]

4.1 Discussion on JDP's voting dynamics

In terms of economic factors, it can be inferred that an increase in a region's economic growth rate leads to a rise in the vote share of the ruling party. The positive correlation between a region's economic growth rate and the JDP's vote share is evident, while the share of agriculture exhibits a negative correlation with the vote share, particularly in the panel with the November election. This aligns with our expectations, highlighting economic voting as a pivotal aspect for voters. They tend to reward the JDP for its economic successes over the previous decade, a finding in concurrence with the recent study by [Gundem \(2023\)](#). It is worth noting that while the growth rhetoric of the incumbent party proves effective for the JDP, this positive effect dissipates when income per capita, acting as a proxy for the region's development level, becomes a focal point.

This study employs variables like female illiteracy rate, university education, old population rate, net migration rate, and number of hospital bed per person as socio-economic and demographic control variables to capture regional disparities in Turkey. While the share of the population with a university degree and the number of hospital beds per person do not exert any influence on the JDP's vote share, the other three variables – female illiteracy rate, old population rate, and net migration rate – play significant roles in shaping votes for the JDP. An increase in female illiteracy rate, often interpreted as reflecting more conservative values, contributes to an increase in the voting share for the JDP in line with the [Kayaoglu's \(2017\)](#) findings, with a coefficient second only to the compound growth rate of the region. The old population rate, as a reflective of a region's dependency ratio, increases the vote share of the ruling party, contrary to the findings of the survey-based study by [Erdogan and Semerci \(2017\)](#), and in line with the results from the study by [Deniz et al. \(2021\)](#). This study presents a novel finding concerning the positive relationship between domestic migration and an increase in JDP's vote share. Regions attracting more domestic migrants witness an upswing in votes for the ruling party. Given the flow of migration in Turkey, predominantly from eastern regions to western ones, the significant positive coefficient of immigration for the JDP indicates that individuals in western regions tend to cast their votes in favor of the party supported by their hometowns – largely the JDP. [Baslevent and Akarca \(2008\)](#) also discuss a significant and positive “origin effect” for most migrants, implying a tendency to vote for parties supported by their hometowns.

Turning to security concerns, while crime exhibits no discernible effect on shaping voter behavior for the JDP, terrorism does impact JDP votes. As anticipated, the coefficient for this variable is expected to be negative for the governing party, as voters may penalize the incumbent party for any perceived security lapses in their regions. In line with these expectations, an increasing number of terrorist attacks in regions leads to a decrease in the rate of JDP votes, effectively acting as a form of punishment.

To capture regional disparities, interaction terms with an Eastern region dummy variable have been incorporated, particularly to delve deeper into the Center-Periphery thesis. When examining estimations made with the panels including both the indecisive June and November elections, it is evident that the signs of regression coefficients exhibit robustness, with only a few exceptions noted, such as the compound growth rate and crime rate. In the eastern regions, an increase in GDP per capita, growth rate, share of agriculture in GDP, share of the population with a university degree, old population rate, number of hospital beds per person, crime, and terrorism collectively lead to a decrease in support for the JDP. Conversely, in Eastern regions with a high female illiteracy rate, support for the JDP experiences a significant increase.

Comparing the main and center-periphery effects, it is evident that the compound growth rate and female illiteracy rate significantly enhance the JDP's vote share, while terrorism results in a decrease. In eastern regions, the most substantial positive effect on the JDP's vote share is attributed to the female illiteracy rate, whereas the most negative impact is associated with terrorism.

4.2 Discussion on RPP's voting dynamics

The main opposition party, RPP, experiences negative impacts from regional growth rates, in contrast to JDP. However, when we consider GDP per capita, which is more indicative of economic development than mere growth, RPP's vote share rises. As mentioned earlier, while the growth rhetoric of the incumbent party benefits JDP significantly, once income per capita – acting as a proxy for the region's development level – becomes a focal point, this positive effect diminishes, and electorates tend to lean toward RPP. The most substantial positive impact on RPP's vote share comes from GDP per capita. In comparison, while JDP's positive relationship with growth is relatively high (0.272), the positive effect of GDP per capita on RPP's vote (0.042) is comparatively lower.

Only two socio-economic and demographic factors significantly affect RPP's vote share. Firstly, an increasing rate of female illiteracy decreases support for RPP. It is very important for party's gender equality rhetoric during its electoral campaign and other areas in party politics. Despite the ruling party not receiving credit for investing in healthcare facilities, there exists a positive relationship between improved healthcare and RPP votes. However, this effect vanishes in the panel with the November election. We were unable to find any evidence related to education level, aging, and net migration variables to explain variations in voting behavior. Interestingly, security concerns do not seem to impact the main opposition party. Given the negative coefficients for JDP and NMP, it appears that voters assign the responsibility for creating a secure environment to right-wing parties. While there is a positive correlation between GDP per capita and RPP votes, this relationship does not hold for regions with higher GDP per capita and high growth rates in the East. In fact, in Eastern regions with high GDP per capita and compound growth rate, the vote share of RPP decreases. Additionally, higher female illiteracy, an elevated old population rate, and an abundance of hospital beds (only in the panel with June elections), along with high crime rates in Eastern regions, lead to a decrease in RPP's vote share.

4.3 Discussion of NMP's voting dynamics

The effects of various factors on the NMP's vote share exhibit significant variations between the panels with June and November elections. Concerning economic factors, GDP per capita and the share of agriculture in regions' GDP emerge as crucial determinants for increasing the vote share. The regression results from the panel with the November election indicate that following the indecisive election, an increase in the agriculture share in GDP augments the tendency to vote for NMP, in contrast to JDP. In the panel with the June indecisive election, NMP's vote share rises with an increase in GDP per capita. This inclination may be interpreted as a signal of NMP being a viable alternative in rural areas to JDP. It appears that NMP positions itself as a complete alternative to JDP in these regions. Specifically, the panel with the November election suggests that NMP's vote share rises with an increase in the share of agriculture in a region's GDP, whereas for AKP, this relationship displays a negative trend. The significant shifts observed between the June and November elections suggest a high degree of volatility among NMP electorates. These substantial changes indicate a dynamic and potentially unpredictable voting pattern within this demographic.

Considering socio-economic and demographic factors, female illiteracy rate leads to a decrease in the vote share (noted in the November election). In the indecisive June election, the share of individuals with a university degree and the old population rate, which initially had positive effects, turn negative in the November election. Additionally, the number of hospital beds per person increases votes for NMP in the June election. An increase in net migration rate negatively impacts the NMP and PDP, while it positively affects the JDP's vote share. Regions that draw in more domestic migrants tend to bolster support for the ruling party. Considering the migration flow in Turkey, which predominantly moves from eastern regions to western

ones, the significant positive coefficient of immigration for JDP indicates that individuals in western regions tend to vote for the party supported by their hometowns – mostly the JDP. The negative coefficients for PDP and NMP suggest that supporters of NMP in eastern regions may view the JDP as the second-best alternative in the western region. As anticipated, security concerns (terrorism) seem to impact both JDP and NMP vote shares. This suggests that voters tend to entrust right-wing parties with the responsibility of creating a secure environment.

The interaction term with the East dummy variable demonstrates significant shifts between the panels with June and November. Almost every independent variable either changes sign or becomes statistically insignificant between the two panels. This suggests considerable vote volatility between right-wing parties in the East. Upon further analysis, we can affirm that in the November 2015 election, AKP increased its vote share. MHP's vote share generally decreased in Eastern regions, while JDP increased its voting share in nearly every Eastern region.

4.4 Discussion on PDP's voting dynamics

The effects of various factors on the PDP's vote share exhibit significant variations between the panels with June and November elections. In terms of economic variables, the compound growth rate is statistically insignificant, while GDP per capita has a positive impact on PDP votes. However, when comparing coefficients with other parties, the effect is relatively small and not robust between panels. This finding aligns with the results of [Gundem's \(2023\)](#) study. During the November election, an upswing in the female illiteracy rate significantly elevates the vote share for PDP, while no such relationship is observed in the panel with the June election. Conversely, university education demonstrates a substantial increase in votes for RPP in the panel with June election, with a relatively high coefficient. However, when examining the panel for the November election, it is challenging to assert a robust positive relationship between these two variables. Especially in the 2015 election, there was a trend of strategically voting for PDP to surpass the election threshold. This tendency could potentially elucidate the positive relationship with the share of people holding university degrees. In addition to these, an increase in net migration leads to a decrease in PDP support. Considering regional migration patterns, "hometown voting" may not be as effective for PDP.

The strategic role of the right party is crucial for voter consolidation, especially in the November election. While the old population rate and the number of hospital beds show positive effects in June, these factors turn negative in the panel with the November election. Additionally, an increase in female illiteracy and university education positively influences PDP's vote share, while the rate of net migration diminishes it.

Regarding aging, in panels with the indecisive June election, the old population rate increases votes for PDP. However, this effect turns negative when considering the November election. The negative coefficient for net migration in the case of NMP and PDP may be associated with concerns among workers about the adverse labor market effects of immigration ([Halla et al., 2017](#); [Roupakias and Chletsos, 2020](#)).

Interaction terms add complexity to the story. Panel data estimations with November election reveal that PDP secures the majority of its votes in regions characterized by insecurity and higher occurrences of terrorist attacks, particularly in the Eastern part of Turkey. An increasing number of terrorist attacks decrease the vote share in the Eastern region in June, yet terrorism has a positive impact on PDP votes in the panel with the November election. Panels with the November election show a positive relationship between high net migration and PDP vote share, but this effect disappears in the panel with the June election.

4.5 Robustness check

In the initial step, we employ diverse estimation techniques, specifically Pooled Ordinary Least Squares (OLS), Fixed Effect OLS (FE), for both benchmarking purposes and robustness verification. The implementation of FGLS accounts for heteroscedasticity and temporal effects, ultimately validating the stability of the results ([Appendix 3](#)). Subsequently, our second step involves the exclusion of three major urban regions – namely Istanbul, Ankara, and Izmir – which could potentially introduce outliers due to their status as significant metropolitan municipalities with elevated valid ballot counts ([Appendix 4](#)). All results mainly show the robustness of our analysis.

5. Conclusion

The continuous rule of the JDP for two decades prompts a thorough exploration of Turkey's electoral landscape. This era of single-party dominance since 2002 invites nuanced analysis from multiple perspectives. Initial studies concentrated on economic voting, but the global economic crisis led to a shift toward investigating alternative variables for understanding voter behavior. Our study employs the system Generalized Least Squares (GLS) approach to scrutinize electoral dynamics from 2007 to 2018 across Turkey's 81 provinces. We offer significant contributions to existing literature. We examine regional disparities within primary voter choice theories and delve into voting dynamics for the JDP, RPP, NMP, and PDP parties individually. Additionally, we incorporate the transformative 2015 June and November elections, illuminating a critical juncture in Turkish democratic history.

The configuration of electorates within the political party system is inherently linked to prevailing ideological frameworks, with the JDP occupying a central-right position, the RPP assuming a central-left stance, the NMP representing the far-right nationalist segment, and the Kurdish-far left People's Democratic Party (PDP) catering to ethnically rooted considerations. Nevertheless, empirical findings reveal a nuanced panorama wherein the delineation of political preferences extends beyond traditional boundaries. This is particularly evident through the convergence of far-left sentiments within the western regions of the nation and the manifestation of ethno-centric voting patterns prevalent in the eastern provinces. This intricate confluence can be attributed to a coalition dynamic encompassing minor far-left factions and Kurdish nationalist elements, which collectively shape this multifaceted electoral landscape.

While economic growth rate is a key determinant for the JDP (positive), NMP (negative), and PDP (negative), it does not significantly affect RPP's vote share. Instead, RPP's vote share is more influenced by GDP per capita, indicating a focus on economic development rather than growth. The share of agriculture in GDP has varying effects on the parties. It positively impacts NMP's vote share in all panels (with June and November elections), but exhibits a negative trend for JDP, while it is not a significant factor for RPP or PDP. Voters' propensity to factor in the notable economic achievements of the JDP-led administrations over the past decade, which have culminated in substantial economic growth rates, underscores the resonance of the party's growth-oriented rhetoric. The correlation between heightened voter support for the JDP and periods of robust economic expansion not only reflects the electorate's acknowledgment of the party's economic stewardship but also indicates the potency of the growth narrative propagated by the party. This alignment between the JDP's articulated commitment to economic advancement and the electorate's voting behavior underscores the effectiveness of the party's growth rhetoric as a pivotal element in shaping electoral outcomes.

Within the extant scholarly discourse, the NMP is frequently discussed as bearing a notable semblance to the JDP in various analytical dimensions. These two political entities demonstrate similar voting patterns under specific circumstances, particularly influenced by

one key scenario: the introduction of a dichotomous variable indicating the presence of a Kurdish demographic, revealing a tendency away from right-leaning parties for this specific segment. Noteworthy, however, are the divergent attributes evident within the remaining variables, indicative of distinct voter profiles for each party. For instance, the parameter “old population rate or dependency ratio” appears to hold significance for the JDP’s electoral support, contrasting with the NMP where a non-robust effect is evident. The coefficients attached to variables such as “share of agriculture” (positively related) and “regional growth rate” (negatively related) prompt a discerning interpretation. These coefficients imply that the NMP garners favor from conservative constituencies with relatively modest socio-economic standings, predominantly located in rural locales, as a close substitute of the JDP. Such nuanced discrepancies and parallels in the voting behaviors and preferences of the two parties underscore the multifaceted nature of their respective voter bases, bearing relevance for understanding their appeal within the broader political landscape.

PDP, formed as a coalition between Kurdish nationalists and western leftists, exhibits distinctive characteristics. In the context of the PDP, female illiteracy positively contributes to its vote share, while an increase in the old population rate leads to a decrease in votes. Similarly, a higher number of hospital beds per 1,000 persons and a decrease in net migration also correspond to a decrease in the PDP’s vote share. In terms of the main effects, terrorism has a positive impact on the vote share of the PDP, whereas it negatively affects the JDP and the NMP. This signals that voters tend to associate right-wing parties with responsibility for terrorism.

The comprehensive analysis presented in this study sheds light on critical dimensions of voting behavior in Turkey, particularly within the context of the dominant parties over the past two decades. These findings hold important implications for policymakers and political strategists seeking to navigate Turkey’s dynamic political landscape. One key policy consideration arises from the observed impact of economic growth rates on voting behavior. The correlation between robust economic expansion and increased voter support for the JDP underscores the significance of continued economic development efforts. Policymakers may consider prioritizing policies that foster sustainable economic growth and address socio-economic disparities across regions. This could entail targeted investments in sectors with potential for growth and job creation, as well as initiatives to enhance education and skills development. Moreover, the study highlights the nuanced influence of demographic factors, particularly in relation to ethnic cleavages. The absence of official demographic data poses a limitation, suggesting the need for improved data collection and dissemination at both regional and provincial levels. Policymakers should prioritize initiatives that facilitate comprehensive and accurate demographic profiling, enabling a more nuanced understanding of voting behavior and facilitating tailored policy responses. Furthermore, the study underscores the relevance of understanding voter preferences within the broader context of ideological and demographic shifts. Policymakers should remain attuned to evolving voter sentiment and preferences, recognizing the potential for coalition dynamics to reshape political landscapes. This necessitates ongoing dialog and engagement with diverse segments of the electorate.

One of the limitations of the study is the absence of data availability that impacted or influenced the interpretation of especially ethnic cleavage. Stemming from the absence of the official demographic data, we use a dummy variable regarding the density of the Kurdish population. Offering a data set for ethnic cleavage to make a well-established empirical set-up instead of using dummy variables for the Eastern region would be more enlightening. In addition to this, the lack of the official data at the province-level for Turkey, for example unemployment, or data related to labor market structure which did not date back, creates another limitation particularly to test of economic voting from a historical perspective. This study also reveals important findings related to effects of socioeconomic structure of voting behavior, rivetingly about the role of domestic migration signaling a refrain from voting for incumbent party and the main opposition part in Turkey. We suggest that possible future

research should focus on how domestic migration or other socioeconomic variables can influence voting behavior in Turkey by incorporation of individual level microdata and the associated with the local elections as well.

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Appendix

The supplementary material for this article can be found online.

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