

**Determinants of regional distribution of AKP votes: Analysis of post-2002  
parliamentary elections**

Pinar Deniz<sup>\*</sup>, Burhan Can Karahasan<sup>\*\*</sup>, Mehmet Pinar<sup>\*\*\*</sup>

**Abstract**

Electoral politics and regional variation in socioeconomic conditions of individuals receive huge interest in countries with sizable political tension. Even though Turkey has undergone a combination of periods of economic success and a period of economic and political turmoil, it has been governed by a single political party during the last two decades – Adalet ve Kalkınma Partisi (AKP) – Justice and Development Party. This paper examines the determinants of the variation in regional vote shares of AKP between the 2002-2018 parliamentary elections using panel data estimation method - fixed effects - which allows us to account for time invariant region-specific unobserved fixed effects. Our findings demonstrate that inflation, unemployment, per capita GDP growth, provision of healthcare, industrial sector growth rates, change in the ageing of the population and rate of absenteeism (voter turnout) are essential factors in voters' decisions. Our additional results reveal that the effects of socioeconomic factors on the AKP vote shares were distinctly different for the AKP stronghold provinces and the eastern regions that are mostly populated with Kurdish, suggesting that ideological position of the voters also play an essential role in voters' response to the changes in socioeconomic conditions.

Keywords: Regional Distribution, Voting Behaviour, Turkey, AKP

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\* Department of Economics, Marmara University, Istanbul, Turkey. E-mail: [pinar.deniz@marmara.edu.tr](mailto:pinar.deniz@marmara.edu.tr)

\*\* Department of Economics and Finance, Piri Reis University, Istanbul, Turkey. E-mail: [bckarahasan@pirireis.edu.tr](mailto:bckarahasan@pirireis.edu.tr)

\*\*\* Business School, Edge Hill University, Ormskirk, Lancashire, UK. E-mail: [mehmet.pinar@edgehill.ac.uk](mailto:mehmet.pinar@edgehill.ac.uk)

## 1. Introduction

Voting patterns of individuals are motivated by various factors ranging from economic to social and ideological determinants. Inevitably regional distribution of factors that are assumed to influence individual voting patterns is informative to understand the success and failure stories of political parties. Martin (2015) recently highlighted that the political economy of regions is crucial to understand sources of regional differences. Rodriguez-Pose (2018) remarks that declining areas and the forgotten geographies have a significant influence on voting patterns. The idea is familiar with the political economy of regions, as local factors such as industrial development, unemployment, ethnic and cultural isolation, and other potential mediators are crucial elements that influence how individuals change their voting patterns.

Although there is a growing body of work on how the geography of discontent shapes the voting patterns for core countries (i.e., European Union (EU), the United States (US)), there is relatively less empirical work that directly used the setup for developing countries. A remarkable line of research investigates the US example by exploring the county-level determinants of voting behaviour. Among others, Galbraith and Hale (2008), Farley (2019), Galbraith and Choi (2020), and Kahane (2020) examine the link between county-level socioeconomic factors and the political view (Republican vs. Democrat) of locations. Meanwhile, Dijkstra et al. (2020) and McCann (2020) examine the United Kingdom (UK) and EU cases to understand the anti-EU voting. Remarkably, this growing body of literature has not found enough interest in developing and less developed countries with sizable political tension. Motivated from these developments in the literature and to fill this gap, this study aims to examine the regional determinants of the incumbent political party of Turkey (Adalet ve Kalkınma Partisi (AKP) - Justice and Development Party) victories lasting almost two decades in Turkey.

After the economic crisis in 2001, AKP won the elections in 2002 and has been the governing party in Turkey since 2002. During the AKP's ruling period, Turkey has gone through different phases (see Kaya and Whiting, 2019 for a detailed discussion). In the initial phase, the AKP sought the votes of the conservative groups, but then during the late 2000s, AKP started to become the dominant party in the Turkish politics pushing for competitive authoritarianism (Esen and Gumuscu, 2016). In the third phase, after 2009s, the AKP started negotiations with the Peoples' Democratic Party (Halkların Demokratik Partisi – HDP), a political party dominantly receiving votes from the Kurdish minorities to establish a state-party image where Luca and Rodriguez-Pose (2019) found that there has been a reduction in the use of public investment as a tool to punish strategically constituencies voting for the pro-Kurdish party between 2009 and 2014. However, the so-called democratic discussions between the HDP and AKP concluded without any success in 2015, which has deepened the internal divisions between AKP and non-AKP voters (Özpek, 2018). Furthermore, after years of successful economic growth (mainly between 2002 and 2013), there has been increased economic turmoil and uncertainties after 2014. Even though previous studies are dealing with the individual factors that influence the voting behavior during the post-2000 (see e.g., Kalaycıoğlu 2014; Çarkoğlu and Aytaç, 2015 and Fidrmuc and Tunalı, 2015; Marschall et al., 2016; see section 2 for a detailed discussion), to our knowledge, no single study examined how the vote share of AKP varies regionally during its successful period. Besides, while studies examine the impact of distributive politics for local development (Luca, 2016; Luca and Rodriguez-Pose, 2015; 2019), we lack in evidence whether these distributive tools influence regional voting patterns. Henceforth, this paper aims to investigate the role of socioeconomic (e.g., see the set of indicators listed in Becker et al. (2017) and Cinar (2016)) and distributive politics factors (i.e., central governments allocation of investments across regions) in the votes received by the AKP in 2002, 2007, 2011, 2015 and 2018 parliamentary elections in Turkey.

Given the panel data set's availability, we use a panel data estimation method (i.e., fixed effects) to account for the regional heterogeneity and control for unobserved time-invariant region-specific factors (e.g., culture).

Our findings highlight the significance of several socioeconomic variables on voting behavior. Most importantly, this paper demonstrates that the influence of economic factors is relatively weak for specific geographies of the country. We find that the AKP stronghold provinces were the ones that were less responsive to the changes in economic conditions, and eastern and southeastern regions that are persistently less developed and isolated are less sensitive to economic conditions where the improvements in economic conditions resulted in relatively lower AKP vote shares. These regions are predominantly Kurdish populated regions and have been suffering from political and cultural polarization for decades in Turkey.

The paper is organized as follows. Section 2 provides detailed literature on the determinants of voting behavior. Section 3 introduces the data and the model. Section 4 reports empirical findings, and section 5 concludes the paper.

## **2. Literature**

Voting behavior of individuals and societies is subject to discussions from various pillars ranging from ideologies, cultural norms, sociological factors to economic determinants. The early literature on voting behavior primarily builds upon specific theoretical and methodological discussions by using methods developed on aggregate data as well as the individual survey analysis interchangeably (see Campbell et al., 1980, for an exhaustive review of the early literature on the voting behavior). Among others, Goldberg (1966) examines the methodological underpinnings of voting behavior and points out that voting decisions of individuals begin with paternal party identification, continue with a sequence of articulated social experiences, and eventuate with present attitudes towards political parties. Campbell et al. (1980) also emphasize the parental voting behaviors that are developed in early life and

persist long until a set of political, social, and economic variables change or continue these behaviors. From a different perspective, Chapman and Palda (1984) highlight that as voters act as buyers of publicly supplied goods and services, campaign expenditures of political parties are observed to play a significant role in the voting behavior of electorates. Cox et al. (1984) go a step further and argue that re-election seeking candidates allocate resources to maintain their power. Supporting these views, Peltzman (1984) uses a simple principal-agent model to delve into ideology-interest dichotomy and finds that economic variables also play a role in the voting behavior beyond the ideological stances of voters.

Ideologies, party identification, the influence of leadership, and the extent of institutionalization of the political system are all crucial aspects of voting habits (Kaase, 1994 and Liddle and Mujani, 2007). However, recent discussions give rise to the view on the socioeconomic factors' relevance for voting behavior. Lewis-Beck and Stegmaier (2000) concentrate on the economic determinants of electoral outcomes for the US and find that the dissatisfaction with the economic performance mainly increases the probability of voting against the incumbent. This approach forms the background of a broader discussion on the discontent of individuals and geographies. As highlighted in Johnston (2004), voting patterns might follow a geographical pattern where voting behavior is subject to spatial spillovers and clusters. Differently, Johnston et al. (2007) define the so-called distinction between regional and aggregation effects, suggesting that dual voting patterns can originate from the overall aggregation effects. Recently, Dorling (2016) highlights that the EU referendum in the UK resulted in a class-based separation and a clear geographical division where regions' voting patterns are highly divergent. Recent case studies remark that geographical differences substantially influence voting for certain political parties and ideologies in the level of integration and adjustment to the changing nature of domestic and global economic conditions. Besides, geographical patterns of the individual and sociological factors are also useful in

describing the norms and values of society, which then influences the individuals' voting habits.

These discussions allow in discussing the importance of the socioeconomic factors which are linked with rising discontent among developed countries. Building upon the analyses of Rodriguez-Pose (2018), the voting behavior of declining regions is an essential source of the discontent at the geographical level. These theoretical developments motivate empirical studies testing the Brexit referendum, anti-EU voting, and recent rise of populism in the US. For instance, Becker et al. (2017) highlight the importance of economic discontent for the leave votes in the Brexit referendum and find that the areas that were deprived in terms of education, income, and employment were more likely to vote to leave the EU. Meanwhile, Garretsen et al. (2018) add psychological factors in understanding the influence of geography of discontent together with the importance of rising globalization. Considering the UK Brexit case, results suggest that openness plays a significant role in understanding the “leave” vote pattern across UK districts. More recently, Abreu and Öner (2020) demonstrate that cultural differences play a dominant role in understanding the voting habit of individuals with similar personal characteristics. From a different perspective, Kaufmann (2017) highlights that ethnic changes (i.e., falling ethnic minorities) increase the opposition to immigration and support to a right-wing conservative political party (UK Independence Party) in specific geographies. Analyzing the EU elections, Dijkstra et al. (2020) and McCann (2020) also demonstrate that the regions that were left behind socio-economically tend to vote against the status quo parties. Considering the US case, Galbraith and Hale (2008), Farley (2019), Galbraith and Choi (2020), Kahane (2020) demonstrate that not only socioeconomic factors (e.g., education, employment status, inequality, and poverty) are crucial aspects of the voting behavior, but also cultural and ethnic factors (i.e., Black and the Hispanic population, religious beliefs, etc.) can act as a source of discontent at county-level voting in the US.

While discussions on the extent of the discontent and the voting habits cluster around developed core countries, developing and less developed countries are also crucial given the size of political turmoil and tension in these countries. Yet, the findings of the existing literature on voting behavior in developing countries mostly overlap with the developed countries. For instance, economic factors played a crucial role in the elections of the Czech Republic, Hungary, Poland, and Slovakia (Fidrmuc, 2001), Croatia (Henjak, 2007), Ukraine (Bloom and Shulman, 2011). Meanwhile, evidence from developing countries also reminds the importance of non-economic factors (e.g., cultural and ethnic factors) as the ethnic and cultural factors influence the voting patterns in the east European post-communist countries (Roper and Fesnic, 2003), in Kenya (Bratton and Kimenyi, 2008), across African countries (Bratton et al., 2012), post-communist European countries (Tavits and Letki, 2013) and Slovak Republic (Hlavac, 2016).

Another line of research that receives huge interest among scholars is the discussions for populism and populist voting. Moodle (2004) argues that populist discourse is getting central to many western developed core countries where pure people and corrupt elites are clashing. From this fact, Bonikovski (2017) and Kaufmann (2018) highlight that cultural factors and social change stand as important motives for understanding populist voting patterns. Interestingly similar to discussions within the discontent literature (Rodriguez-Pose, 2018), populist voting arguments point out the rise of discontent stemming from the existence of immigrants, continuous social change, and economic insecurity. All these items have negative reflections, which in turn causes populist voting patterns (See Norris and Inglehart (2019), Margalit (2019), among many others). The resulting far-right populist voting and accelerating authoritarian sentiments posit that economic and cultural differences between natives and immigrants influence right-wing populism (Shehaj et al. 2019). As individuals become worse-off in terms of economic and social positions, a somehow discontent emerges that directly

influences their voting patterns. Related with this, De Cleen (2017) remark that populism and nationalism are interrelated. Essletzbicher et al. (2018) underline the rising anti-globalization and anti-EU voting for western countries by referring to US 2016 elections, Brexit Referendum among others. While many economic and non-economic factors are supposed to accelerate populist voting, Pastor and Veronosi (2018) and Jay et al. (2019) underline that rising globalization and economic growth, which generates inequality, is a central source of the populist voting of the forgotten segments of the society. Falling social trust and cohesion is among many other motivators of the populist voting in central-western countries. In a very recent discussion, Rodriguez-Pose (2020) revisits the populism arguments and expresses that certain segments of the society that used to be pre-dominant are now in declining importance. Rising deindustrialization, accelerating unemployment, accelerating place of immigrants within the economy are vital elements of the populist voting. Although populism patterns exhibit similarities with the discontent literature, Rodriguez-Pose (2020) remark that while populism is mostly working on individual characteristics, geography of discontent is mostly related to the forgotten places. It should be kept in mind that individuals can be well-off and can have a position in the middle of the overall income distribution. While these individuals are not good candidates for understanding populist voting behavior (as they should not have an individual discontent), they might be living in declining places, which could be better expressed by using the geography of discontent literature. While we do not aim to compare and contrast these two influential views to understand the discontent (geography of discontent and populism), we find it valuable to highlight the spillovers among these two literature lines.

Given various discussions on the determinants of voting behaviour, the Turkish case is crucial, given the long-lasting nature of political tension and the voting battle at the local level. Moreover, Turkey is a country with pervasive regional disparities, which creates a so-called dual economy (Doğruel and Doğruel, 2003). Given various social-economic separation, ethnic



and cultural issues create a long-lasting conflict among the underdeveloped eastern regions that are mostly Kurdish populated (Bilgel and Karahasan, 2017). Inevitably, investigating the overall impact of socioeconomic factors and cultural, ethnic determinants are crucial aspects of the geographical variation of voting patterns.

The early literature on the dynamics of the voting behavior in Turkey has long been examined but suffers mainly from the constraints on election data. Ozbudun and Tachau (1975) consider the parliamentary elections held in 1973 and find that the improvements in the socioeconomic structure replaced the center-periphery and cultural cleavages by socioeconomic (class) cleavages, which in turn resulted in the rise of economic voting in the urban and industrial parts of the country. Çarkoğlu (1997) assesses the role played by macroeconomic conditions on the level of electoral support for the incumbent parties or coalitions using 21 elections during the 1950-1995 period and finds that governments were significantly rewarded or punished for their economic performance (i.e., unemployment, inflation, and economic growth were the main determinants). Using national-level aggregate time-series data and pooling 21 local and parliamentary elections in Turkey between 1950 and 2004, Akarca and Tansel (2006) find that the increases in the per capita real GDP one year before the elections affected the votes received by the incumbent parties. From an alternative perspective, Esmer (2002) uses a narrow-scoped post-election survey to assess the effects of several socioeconomic factors on voting behavior for the elections held in 1995 and 1999 and finds prominence of the left-right ideology as the most important predictor of voter behavior in Turkey. Akarca and Tansel (2007) use a cross-provincial data on 1995 Turkish parliamentary elections to shed light on the extent to which social, economic, and political conditions are significant for voting behavior of electorates. Being in line with the previous literature, they reach that even though voters are myopic in assessing economic performance, changes in economic conditions (e.g., the growth of per capita real GDP at the provincial level),

significantly affect voting behaviors. Başlevent and Kirmanoğlu (2016) explore the extent to which the perceptions and expectations regarding the Turkish economy influence the likelihood of voters to prefer the ruling AKP and find that both retrospective and prospective economic evaluations significantly determine the party choice, particularly when the electorates hold the ruling party responsible for the recent changes in economic conditions.

There is also a stream of literature that examined the role of alternative factors during the AKP's ruling period. Among others, using binary logistic regression analysis and survey data collected before the 2009 and 2014 local elections, Kalaycıoğlu (2014) finds that party identification arises as to the strongest determinant of the party preferences being followed by religiosity, ethnicity, ideological positions, and economic (dis)satisfaction. Fidrmuc and Tunalı (2015) examine the voting behavior of Turkish voters in the 2002 and 2007 parliamentary elections and find that the support for the AKP falls with increasing education. Also, being in line with the previous studies (e.g., Kalaycıoğlu, 2014), people's positive attitude about religion arises as one of the most significant determinants of voting for the AKP. Interestingly, Meyersson (2014) argues that there is strong feedback between voting for Islamic political parties with religious fundamentals and the ability to integrate women further into the education system. However, conservative sub-groups limit the ability of women to participate and integrate into the labor market (Gulesci and Meyersson, 2013).

Given rising discussions on economic and non-economic factors' influence on voting patterns, another stream of literature highlighted the importance of distributive politics in Turkey. This line of research gains more insight during the AKP's ruling period, which corresponds to the use of not only monetary motivation but also non-monetary social policy-oriented tools to influence voting behavior. For instance, Çarkoğlu and Aytaç (2015) approach to the phenomenon of voting behavior within the demand context by delving into the underlying dynamics of vote-buying (i.e., clientelism). By employing a modified list

experiment technique and using survey data from the 2011 parliamentary elections, they provide evidence for the prevalence of vote-buying efforts where less-educated people and urban electorates are more likely to be targeted for voting-buying efforts. Given that the opposition parties do not have access to public resources, authors argue that the prevalence of vote-buying efforts results in an unfair advantage for the AKP as the ruling party uses public resources to sustain its electoral hegemony and establish itself as a dominant party. In a similar setting, Marschall et al. (2016) use the investments made for social housing (i.e., Turkey's Mass Housing Administration (TOKI) housing project) and show a robust relationship between the TOKI housing projects and the durability of the AKP's success in elections. More recently, Bircan and Saka (2018) validate that the incumbent political party – AKP implements a tactical distribution over state-banks to influence the voting patterns in local electorates. Henceforth, state-business relations and distributive politics assert that voters are influenced by monetary and non-monetary tools that are linked with their economic living conditions.

It has to be kept in mind that we back our arguments by referring to the discussions of geography of discontent literature. At the same time, there are similar sentiments considering the populism discussions. That said, revisiting the recent discussion of Pastor and Veronosi and Rodriguez-Pose (2020), we claim that the rise of the AKP during the early 2000s is peculiar compared to the discussions on populism. Unlike the central discussion on anti-globalization and nationalist discourse (which is central in populist voting), AKP enters Turkey's political life with a relatively more liberal approach. Additionally, one important argument of the early AKP period during the 2000s is more integration with Europe (i.e., reaching the candidacy status during the early 2000s). That said, considering economic insecurity arguments, AKP also represents some sort of discontent as Turkey was suffering from the post effects of the 1994, 2000-2001 economic crises. In economic terms, both populist and geography of discontent arguments are applicable. It has to be noted that there is a rapid change in the attitude

of AKP after 2016 as the incumbent starts to implement more nationalist and conservative policies calling for less integration with the EU. This new period (post-2016) contains various feedbacks that contain the arguments of populism. However, as our central discussion is the 2002-2018 period, we still believe that our empirical approach is better rooted in the discussions of the geography of discontent.

Motivated from developments in the international literature and building on our prior knowledge on voting patterns, we aim to examine the main economic determinants of voting for the incumbent AKP during the last two decades of the Turkish political history. While examining this, we also incorporate the cultural and ethnic differences of the Turkish geography to understand the strength of the economic conditions for the voting behavior. Building on these discussions, our central hypotheses are as follows: (i) As highlighted in discussions on electoral politics and recent debates on the geography of discontent, economic conditions and particularly uncertainties make voters punish the incumbent. Therefore, inflation and unemployment are expected to influence the vote shares of the AKP negatively. (ii) The sectoral composition of employment influences the AKP vote share, where the change in industrial employment share is expected to be associated with votes to the AKP. This mainly stems from the negative association between urbanization and AKP votes of the prior literature. Moreover, declining industrial activities is again a determinant of the discontent. (iii) In line with vote-buying discussions and the extent of state-business relations, public investment and rising regional income signals the possibility of distributive politics and is expected to be positively associated with the AKP vote shares. (v) In terms of social policies, we consider the healthcare system's capacity and hypothesize that the rising capacity of the healthcare system will be associated with rising AKP votes. (vi) Finally, we examine whether the role of the above-mentioned socioeconomic factors varies based on the influence of ethnicity and ideology

by considering the interaction of socioeconomic factors with the historically under-developed eastern regions that are predominantly Kurdish populated and AKP stronghold regions.

### 3. Data and model

Based on the listed set of hypotheses, we use the vote share of AKP in 81 provinces of Turkey in 2002, 2007, 2011, 2015 and 2018 parliamentary elections as our dependent variable (see Appendix Figures A1, A2, A3, A4 and A5 for the AKP vote shares across Turkish provinces in 2002, 2007, 2011, 2015 and 2018, respectively)<sup>1</sup>. There has been a steady increase in the vote shares of the AKP since 2002 where AKP's vote shares reached its maximum in either 2011 and 2015 elections and had seen a steady decrease in their votes after that period (see the changes in vote shares of the AKP between two consecutive parliamentary elections in Figures A5-A8). While the changes in the western and southern coast and the eastern regions show variation across parliamentary elections, the inland and the northern part of Turkey (i.e., AKP strongholds) showed less of a change after 2007 parliamentary elections.

For the set of independent variables based on the hypothesis, for *inflation*, we use annual growth in the national consumer price index (CPI).<sup>2</sup> Taking into account the chronic inflation history of Turkey, we expect a negative sign for the coefficient of inflation. Scholarly literature argues that the change in manufacturing (industrial) employment has been one of the determinants of the populist voting (Rodriguez-Pose, 2018; Becker et al., 2017). However, sectoral employment data is not available before 2009 and can only be obtained at NUTS II disaggregation. Therefore, we use the change in industrial production's share (GDP %) by assuming that the higher the employment, the higher the output will be. *Public investment* is employed in per capita terms and is deflated by national CPI. We expect a positive sign for the

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<sup>1</sup> The elections for 25th Parliament of Republic of Turkey were held on June 7th, 2015. However, the election resulted in a hung parliament and coalition negotiations were not successful. A snap election was called for and date was set as November 1st, 2015. Hence, we employ the November 2015 elections out of the two elections within the same year. Also note that provinces in Turkey correspond to the NUTS III regions.

<sup>2</sup> Note that regional inflation is available starting from 2005. However as regional inflations figures are only available at NUTS II level we handle the empirical analyses by using national CPI.

public investment coefficient since it may contribute to the welfare of the locals of the relevant province and hence increase the vote share of the incumbent party. This variable will also enable us to test whether the public investments made by the central government was rewarded or not since there is a stream of literature that identified the role of distributive politics in Turkey (Luca and Rodriguez-Pose, 2015; Luca, 2017; Luca and Rodriguez-Pose, 2019) but no previous work has examined whether voters rewarded these investments, which we will examine in this paper. *GDP per capita* (2009 prices) measures the standard of living, and we expect a positive and significant sign for this variable. Official unemployment rate statistics by the Turkish Statistics Institute (TURKSTAT) are only available at the NUTS II level. Hence, we use the *growth of the employment applications* made by job-seeking candidates to İŞKUR (Turkish Employment Agency), where this variable is available at the NUTS III level. As an indicator of healthcare, the number of *medical doctors* per 100 thousand people is preferred. More detailed information regarding the dataset is provided in Table 1. Lastly, we use two dummy variables,  $D_{east}$  and  $D_{AKPS}$ , which takes values 1 for eastern provinces<sup>3</sup> and AKP stronghold (AKPS) provinces (i.e., provinces in which AKP obtained more than 50% of the votes), respectively, and zero otherwise, to test for the role of ideology.

<Insert Table 1 approximately here>

Table 2 reports the descriptive statistics. AKP obtained its lowest vote shares in the year 2002 in the eastern provinces. For example, AKP received only 6.5%, 6.7%, and 6.8% of the votes in Iğdır, Tunceli, and Hakkari, which are all located in the eastern part of Turkey, in the 2002 elections, respectively. Similarly, the highest vote share was obtained in the year 2002 in Siirt, which is also located in the eastern part of Turkey. However, it is essential to note that there was re-election in Siirt and that AKP leader, Recep Tayyip Erdoğan, was

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<sup>3</sup> These provinces are: Erzurum, Erzincan, Bayburt, Ağrı, Kars, Iğdır, Ardahan, Malatya, Elazığ, Bingöl, Tunceli, Van, Muş, Bitlis, Hakkari, Gaziantep, Adıyaman, Kilis, Şanlıurfa, Diyarbakır, Mardin, Batman, Şırnak, Siirt.

elected from this province in 2002, so the vote obtained by AKP in this province in 2002 does not reflect the general tendency of votes received by AKP in this province. For instance, AKP vote shares in Siirt dropped to 48% in the 2007 general elections from 84.8% in the 2002 elections. The highest vote share after Siirt belongs to Rize in the year 2015. This province is located in the northeast and is the hometown of AKP's leader Erdoğan. The provinces with the highest and the lowest income per capita levels are İstanbul and Ağrı (a province located in the east), respectively. The province with the highest share in the industry sector is located in the East Thrace, Tekirdağ. The provinces with the highest and lowest unemployment rates are located in the eastern and southeastern Turkey, respectively. In terms of the number of medical doctors in 100 thousand people, provinces located in eastern Turkey have the lowest number in the early periods of the AKP government. In contrast, Ankara, the capital city, has the highest level.

<Insert Table 2 approximately here>

To evaluate the role of socioeconomic determinants of the AKP's vote shares in the last five parliamentary elections, we employ a pooled ordinary least squares (OLS) and fixed effects (FE) estimation methods used by Becker et al. (2017) and Dijkstra et al. (2020) as follows<sup>4</sup>:

$$VS_{i,E} = \alpha + \beta_i X_{i,E} + v_i + \varepsilon_{i,E} \quad (1)$$

where  $i = 1, 2, \dots, 81$ ;  $E = 2002, 2007, 2011, 2015, 2018$ , where  $i$  is the number of provinces and  $E$  is the election periods;  $v_i$  is the regional fixed effects such as culture and religiousness.

$VS_{i,E}$  is the vote share of AKP obtained in province  $i$  using NUTS III classification (81 provinces of Turkey).  $X_{i,E}$  is a vector of potential socioeconomic determinants such as GDP

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<sup>4</sup> Note that we also estimate the random effect variants of the models. These results can be provided by the authors upon request. However, at this stage, given the persistence of time-invariant heterogeneities in Turkey we argue that fixed effect specification is more reliable and suitable for our empirical strategy.

per capita, inflation, public investment, health care provision, increase in the number of employment applications from job-seeking candidates, and growth in the industry sector. The previous year lags or the growth rates between the year before the elections and the year of the election period are used in a similar fashion of Martins and Veiga (2013)<sup>5</sup>.

#### **4. Empirical Findings**

To assess the hypotheses set in section 2, we perform pooled OLS and FE estimation methods, and the baseline results of the regressions are presented in Table 3. In the first and column of Table 3, we use both levels and percentage changes as dependent variables, and the third and fourth columns report the results when only percentage changes are used as independent variables. It is worth noting that the region-specific factors such as culture account for a majority of the variation in voting patterns across Turkish provinces as the R-square increases from roughly 10% to 40% when regional fixed effects are accounted for. When we examine the pooled OLS results, we find that the provinces that are relatively poorer or experience lower economic growth tend to vote more for the AKP. The negative effect of inflation on electoral support for the incumbent party is in line with the previous literature (Çarkoğlu, 1997; Akarca and Tansel, 2006). The growth of job-seeking applicants is also negatively associated with the vote share received by the AKP. The coefficient of the number of medical doctors (or increase of medical doctors) has a positive sign suggesting that the regional improvements in health services led to increased AKP votes during the last five parliamentary election periods. This finding is in line with previous studies. For instance, an earlier study of Ozbudun and Tachau (1975) for the case of Turkey suggests increased support for the major party with the rise in socioeconomic modernization. Akarca (2015) and Başlevent

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<sup>5</sup> For instance, the levels and percentage changes in 2006 is employed for 2007 elections regarding the previous year.



and Kirmanoglu (2016) also highlight increased vote shares of the incumbent party due to the improvements in public services. A recent study of Fisunoğlu and Sert (2019), using the number of hospital beds, also confirms the impact of healthcare service provision on voting behavior in Turkey. On the other hand, the growth of the industrial sector in GDP is positively associated with the AKP vote share, which is in the lines with the discontent literature (e.g., Becker et al., 2017; Rodriguez-Pose, 2018; Dijkstra et al., 2020). In the discontent literature, long-term decline in the industry sector increases the likelihood of anti-establishment vote, but in this setting, higher growth of the industry sector increases the votes of the incumbent party or the ‘content’ with the incumbent party. Finally, public investment (either measured in levels or change) is found to be insignificant in explaining the AKP vote share variation across Turkish provinces suggesting that the central government’s decision to invest more to its strongholds (see e.g., Luca and Rodriguez-Pose, 2015; Luca, 2017; Luca and Rodriguez-Pose, 2019) were not a significant factor for the votes received by the AKP<sup>6</sup>.

The previous literature identified the role of ideology and ethnicity in voting behaviors (see section 2 for a detailed discussion). Moving from this stem of research, we also test whether the effect of the socioeconomic factors varies based on the influence of ethnicity and ideology by considering the interaction of socioeconomic factors with dummy variables that take value one if the province is AKP’s stronghold (i.e., the vote share of AKP is more than 50%), and eastern regions which are predominantly populated with Kurdish minorities. Table 4 provides the results when the interaction of term of socioeconomic variables with the respective dummy variables are used, and FE model is used (results obtained with the pooled OLS is reported in Appendix Table A2). The columns (1)-(5) provides the results when the

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<sup>6</sup> Since Turkey experienced a successful economic growth between 2002 and 2013 and experienced increased economic turmoil and uncertainties after 2014, we obtained the baseline estimation results with the use of sample prior 2014 and after 2014, and the results obtained with the alternative sample period remain to be similar (see Appendix Table A1 for the detailed results).

AKP stronghold dummy is interacted with GDP per capita, inflation, employment application growth, medical doctors, and public investment, respectively. Similarly, columns (6)-(10) provide results when the east region dummy is interacted with the same socioeconomic variables, respectively. Firstly, we find that the variable that is used in the interaction and the interaction term are jointly significant at the 1% level suggesting that the socioeconomic factors' effect on AKP vote share is significantly different in AKP stronghold and eastern provinces compared to the remaining areas.

<Insert Table 4 approximately here>

The effect of the socioeconomic factors in explaining the variation in the AKP vote share is distinctively different in AKP strongholds compared to the non-AKP strongholds<sup>7</sup>. The magnitude of the effect of GDP per capita on the AKP vote share is relatively smaller for AKP strongholds compared to non-strongholds (i.e., -0.151 vs. -0.791). Similarly, the negative effect of the inflation on the AKP vote share is relatively lower in AKP strongholds compared to the non-strongholds (i.e., -2.425 vs. -2.921). The positive effect of employment application growth in AKP strongholds is relatively higher compared to non-strongholds, which may be down to the hope that the incumbent government could favor them proportionally more in job creation. Similar to the GDP per capita, the magnitude of the effect of health provision and public investment is relatively smaller in AKP strongholds compared to the non-stronghold provinces. Overall, the results obtained with the interacting socioeconomic variables with the AKP stronghold dummy suggests that the ideology alleviates the effects of socioeconomic factors on AKP vote shares in AKP strongholds compared to the non-stronghold provinces.

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<sup>7</sup> The effect of socioeconomic variables on AKP vote shares are obtained by the sum of the coefficients of the socioeconomic variable of interest and interaction term for the AKP strongholds, and the coefficient of the socioeconomic variable of interest represents the effect for the non-AKP stronghold provinces. Similarly, one can obtain the socioeconomic variables' effect on AKP vote share for the eastern and non-Eastern provinces, respectively.

When we move to the effects of socioeconomic variables in eastern provinces compared to other provinces, we find that the improvements in the economic conditions of the eastern provinces resulted in relatively lower votes for the AKP. On the other hand, the exclusion of the eastern provinces from the analysis (i.e., when the dummy variable is equal to zero) suggests that relatively more affluent regions tend to vote more for the incumbent party. Similar to the AKP stronghold regions, the magnitude of the negative effect of inflation is relatively smaller, and the employment application growth effect is positive in eastern provinces compared to the non-eastern provinces. Furthermore, exclusion of the eastern regions from the analysis leads to a negative effect of the growth of the employment application on the AKP vote share variation across other regions. When we examined the impact of health provision and the public investment, we find that the public investment and number of medical doctors per 100 thousand people were negatively associated with the AKP vote share, suggesting that relative improvements in these indicators resulted in lower AKP vote shares. Again, the exclusion of the eastern regions from the analysis leads to the case that public investment is positively associated with the AKP vote shares.

Overall, the results obtained with interaction terms by using dummies for provinces that are ideologically close to AKP and populated dominantly by the Kurdish population reveal interesting outcomes. For instance, the magnitude of the effect of most of the socioeconomic variables is relatively smaller for the AKP stronghold regions suggesting that the AKP's vote variation based on the socioeconomic changes has been relatively lower in their stronghold provinces. Whereas, examining the socioeconomic effects for eastern and non-eastern regions also revealed interesting results. For instance, the AKP vote shares were negatively associated with the public investment and GDP per capita, suggesting that the economic improvements in the region resulted in relatively lower AKP votes. Furthermore, exclusion of the eastern region from the analyses also reveal interesting results. The provinces that were relatively richer and

had higher public investment tend to vote AKP more, a result that was not the case with the baseline estimations in Table 3 when the whole sample of provinces is used. Henceforth, the findings of this paper suggest that the role of the socioeconomic factors may vary dramatically based on the inclusion and exclusion of the ideologically and ethnically important provinces from the analysis and that the general tendencies obtained with the full sample may be misleading and should also account for the ideological positions of the regions while examining the effect of socioeconomic outcomes on incumbent vote shares.

To carry out additional robustness analysis, we used an extra set of control variables that were found to be important for explaining the voting behaviour in several studies. In particular, we additionally include the following explanatory variables to the analysis and re-estimate Table 4: (i) population density; (ii) abstentionism; (iii) ageing; (iv) net migration.<sup>8</sup> We use the percentage of the abstention in each election period (i.e., the percentage of the population who did not vote to the total eligible voters), net migration growth levels (measured in percentages), the share of the population aged 65 and over, and the population density of the provinces.<sup>9</sup> The estimation results with these additional control variables are presented in Table A3. Overall, with the inclusion of four control variables, our main results (i.e., interaction terms' sign and significance levels) remain to be similar to the ones presented in Table 4. This suggests that our main results shown in Table 4 remain to be robust to the inclusion of additional control variables. Concerning the control variables, we find that the AKP obtained more votes from the ageing population and the provinces where the percentage of absenteeism

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<sup>8</sup> Among others, migration has been used by Becker et al. (2017) and Halla et al. (2017); population density is used by Rodriguez-Pose (2018) and Dijkstra et al. (2020); age structure is used for voting behaviour by Tilley and Evans (2014) and Abreu and Öner (2020); voter turnout or abstention is used by Bartkowska and Tiemann (2015) Chong et al. (2015).

<sup>9</sup> To be consistent with the use of the previous variables, we use the levels of the variables for the previous year of the election year with the exception of abstention variable. Since we do not have province level data for age structure, we use the country-level share of population aged 65 and over. It should be also noted that the net migration growth only considers across provincial migration data and does not consider any international migration.

was higher as both signs of the coefficients are positive and significant in most of the specifications. On the other hand, both population density and net migration growth were not significant in all specifications after accounting for other variables. As a second robustness analysis, we also re-estimate the results obtained in Table A3 by excluding the three significant provinces from our analysis (i.e., Istanbul, Ankara and Izmir) as voting behaviour in major cities may be different than the rest of the country, and the estimation results are presented in Table A4. The findings suggest that excluding the major provinces from the analysis does not alter the results significantly as the sign and significance of the coefficients of most of the variables remain roughly similar to the ones presented in Table A3.

## **5. Conclusions**

This study investigates the determinants of AKP's vote shares under panel data analysis using parliamentary elections within the 2002-2018 period for 81 provinces with the use of pooled OLS and FE estimation techniques. Firstly, the findings of the paper reveal that a substantial level of the AKP vote variation is found to be region-specific factors as the inclusion of the regional fixed effects increases the explanatory power dramatically. Secondly, we find that the economic conditions are significantly crucial in the over-time variation in the vote shares of the AKP, where the voters tend to reward (penalize) the AKP based on the improvements (deteriorations) in the economic outcomes. This finding highlights the continuum of economic voting as the successive entrance of AKP to the Turkish political history matches with the aftermath of the 2000-2001 financial crises corresponding to a dramatic fall in economic growth and a sharp rise in unemployment. Overall, growth of regional income per capita, inflation, unemployment rates, and changes in medical services were the main determinants of the vote share variation overtime where the improvements (deteriorations) in these socioeconomic outcomes were closely associated with the increased (decreased) vote share of AKP over time. Furthermore, the growth of the industrial sector was

positively associated with the regional variation of the AKP's vote share. International evidence suggests that falling industrial employment creates a discontent that pushes up populist voting. In the Turkish case, rising industrial output and its positive association with the vote share of the incumbent suggest the importance of economic fundamentals in the voting decision of regions. The overall impact of sectoral transformation (i.e., deindustrialization and rising financialization) could be better handled with the availability of additional regional employment figures.

Furthermore, this paper examines whether the effects of socioeconomic factors vary depending on the ideological position of the provinces. We find that the AKP stronghold provinces were relatively less responsive to the socioeconomic factors and that improvements in economic outcomes of the underdeveloped eastern regions resulted in lower AKP votes. Still, the improvements in socioeconomic conditions such as GDP per capita, employment, and allocation of more investment to non-eastern regions have resulted in higher AKP votes.

This paper's findings reveal that the improvements in socioeconomic outcomes in eastern and AKP stronghold provinces were the least effective way of increasing the support in these regions. Our findings on the underdeveloped eastern regions remind the importance of non-economic cultural and ethnic factors in the voting decisions of regions. It should be kept in mind that those isolated eastern regions that are Kurdish populated can be labeled as "the places that do not matter" for decades in Turkey. However, recent evidence highlight that these places are no longer the negligible localities; instead play a significant role in shaping the electorates beyond their administrative boundaries. On the contrary, AKP's strongholds are ideologically clustered to vote for the incumbent once again, leaving less room for economic determinants. Dynamics of the persistence of voting for the AKP is potentially different than the ones that we observe among the underdeveloped eastern regions.

Overall, our findings contribute to our prior knowledge of the roots of AKP's vote distribution by expressing the major determinants at the regional level. Following up on the discussions on economic voting and the ideological clash of certain groups, our findings reveal the importance of local cultural, ethnic, and economic landscapes to understand the voting pattern of regions. As the Turkish economy is shaped by persistent regional disparities, local determinants of voting patterns contain valuable information to assess the importance of flexible and smart policies to influence the local electorates in parliamentary elections. Moreover, based on our additional evidence on the importance of ethnic, cultural, and ideological determinants, findings also shed light on the dominance of non-economic social aspects of diversity in the population. We believe this line is a specific and crucial motivation in understanding the voting patterns in countries with sizable social unrest and conflict, which mostly originates from ethnic and cultural fundamentals.

There are inevitable limitations, mostly stemming from a lack of detailed data on labor market outcomes and industrial development. Besides, we also lack knowledge on the historical origins of the cultural and ethnic clash, which prevents us from making a historical assessment of the long-lasting eastern conflict. Still, we believe the empirical setup of the paper helps in controlling for the possible influence of the ethnic-based conflict on voting behavior. Moreover, there are eventually reverse dynamics between regional socioeconomic conditions and voting behavior, and some other sub-channels can also be crucial in understanding the vote share distribution of the incumbent in Turkey. At this stage, given the empirical setup of our paper that uses aggregate regional data, it is rather difficult to identify a valid strategy to deal with these technical considerations. We believe with the availability of additional regional data sets, and by incorporation of individual level microdata to regional analyses, more robust evidence and more detailed identification strategies would be possible. These lines stand as important future research areas for consideration.

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## **Appendix**

<Insert Figures A1-A9, and Table A1-A2 approximately here>

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## Tables and Appendix

<b>Table 1.</b> Descriptions and sources of regional electoral and socioeconomic variables			
<b>Variable</b>	<b>Description</b>	<b>Source</b>	<b>Availability</b>
AKP vote share	% of votes for the AKP in the parliamentary elections	Turkish Statistical Institute Regional Database	2002, 2007, 2011, 2015, 2018
Inflation	Regional inflation statistics are available after 2005. National inflation is employed since inflation is very similar in regional dimension.	Turkish Statistical Institute	2000-2018
Growth of the industry sector	The value-added share of the industry sector to the GDP (%)	Turkish Statistical Institute Regional Database	2004-2017
Public investment	The natural logarithm of the total amount of public investment per capita for each NUTS III region deflated by CPI	Presidency of Strategy and Budget ( <a href="http://www.sbb.gov.tr">http://www.sbb.gov.tr</a> )	2000-2018
GDP per capita	This variable is the natural logarithm of the GDP per capita (2009 prices).	Turkish Statistical Institute Regional Database	2004-2017
Growth of employment applications	The number of employment applications made to İŞKUR by the job-seeking candidates at the NUTS III level	Turkish Employment Agency	2002-2017
Medical doctors	Number of medical doctor in 100 thousand people at the NUTS III level	Turkish Statistical Institute Regional Database	2000-2017



<b>Table 2. Summary statistics</b>					
Variable	Mean	Std. Dev	Min	Max	Obs
AKP vote share (%)	45.44	15.00	6.50	84.80	405
Log (Income per capita)	9.60	0.59	8.12	11.08	324
Income per capita growth	15.01	4.86	-2.62	36.60	324
Inflation	18.70	17.90	8.57	54.40	405
Employment application growth	15.08	37.37	-50.58	276.37	324
Log (Medical doctors per 100 thousand people)	4.82	0.40	3.07	5.94	405
Growth of medical doctors per 100 thousand people	5.35	15.06	-56.02	132.81	405
Log (Public investment per capita)	3.83	0.74	1.64	6.53	405
Growth of public investment per capita	8.13	45.86	-87.35	379.58	405
Share of industry sector (%)	26.23	11.02	6.15	58.55	324
Growth of share of industry sector	3.98	5.52	-10.14	27.18	324
<i>Notes: Data on the income per capita, inflation, medical doctors per 100 thousand people, public investment per capita and share of industry sector refers to the levels of the previous year of the election period, and the growth figures of respective socioeconomic variables are obtained with the growth between the year before the election and the election year.</i>					

<b>Table 3. Baseline estimations</b>				
	(1)	(2)	(3)	(4)
VARIABLES	Pooled OLS	FE	Pooled OLS	FE
GDP per capita	-4.153***	-0.198		
	(1.582)	(0.978)		
GDP per capita growth			-0.396***	-0.104*
			(0.142)	(0.0560)
Inflation	-1.442*	-3.021***	-1.435*	-2.861***
	(0.801)	(0.289)	(0.759)	(0.265)
Employment app growth	-0.0490*	0.0301***	-0.0656***	0.0147
	(0.0291)	(0.00902)	(0.0252)	(0.00894)
Medical doctors	8.369***	-2.237		
	(3.107)	(2.676)		
Medical doctors growth			0.0939	0.107***
			(0.0603)	(0.0182)
Public investment per capita	0.563	-0.935		
	(1.096)	(0.706)		
Public investment growth			0.00842	-0.0113
			(0.0177)	(0.00687)
Industry sector growth	0.309**	0.0865	0.307**	0.0853*
	(0.150)	(0.0548)	(0.146)	(0.0505)
Observations	324	324	324	324
R-squared	0.099	0.386	0.097	0.447
Number of provinces		81		81

Notes: Values in parenthesis are t-value statistics. \*, \*\*, and \*\*\* denote significance at the 10%, 5% and 1%, respectively. All estimations include constant term but not reported.

<b>Table 4.</b> Interaction of economic factors with AKP strongholds and East region dummy variables										
VARIABLES	Interaction with the AKP stronghold dummy variable					Interaction with the east dummy variable				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	-0.791 (0.934)	-0.392 (0.946)	-0.214 (0.980)	-0.480 (0.926)	-0.385 (0.926)	1.470 (0.926)	-0.360 (0.967)	0.172 (0.959)	-1.071 (0.916)	0.0772 (0.953)
Inflation	-2.567*** (0.288)	-2.921*** (0.280)	-3.020*** (0.289)	-2.562*** (0.286)	-2.577*** (0.286)	-2.766*** (0.267)	-3.393*** (0.317)	-2.808*** (0.288)	-2.811*** (0.270)	-3.112*** (0.282)
Emp. app. growth	0.0239*** (0.00864)	0.0257*** (0.00878)	0.0271** (0.0110)	0.0239*** (0.00861)	0.0236*** (0.00862)	0.0183** (0.00842)	0.0281*** (0.00894)	-0.00429 (0.0130)	0.0222*** (0.00845)	0.0251*** (0.00887)
Medical doctors	-0.989 (2.550)	-1.181 (2.598)	-2.220 (2.681)	-1.567 (2.535)	-1.081 (2.542)	-1.135 (2.451)	-2.288 (2.642)	-2.799 (2.616)	6.629** (2.848)	-2.486 (2.602)
Public investment	-0.704 (0.671)	-0.759 (0.683)	-0.935 (0.707)	-0.714 (0.669)	-1.578** (0.679)	-0.472 (0.649)	-0.514 (0.714)	-0.597 (0.695)	-0.670 (0.655)	0.637 (0.798)
<i>D</i> *GDP per capita	0.640*** (0.123)					-7.178*** (1.039)				
<i>D</i> *Inflation		0.496*** (0.117)					1.354*** (0.505)			
<i>D</i> *Emp. app. growth			0.00734 (0.0150)					0.0556*** (0.0154)		
<i>D</i> *Medical doctors				1.297*** (0.241)					-18.43*** (2.912)	
<i>D</i> *Public investment					1.555*** (0.291)					-4.579*** (1.187)
Joint significance F-statistic	13.66***	67.48***	5.67***	14.82***	15.28***	23.88***	59.69***	12.33***	20.44***	8.37***
Observations	324	324	324	324	324	324	324	324	324	324
R-squared	0.449	0.429	0.386	0.453	0.452	0.489	0.404	0.418	0.475	0.422

Notes: Values in parenthesis are t-value statistics. \*, \*\*, and \*\*\* denote significance at the 10%, 5% and 1%, respectively. All estimations include constant term and industry growth variables but not reported. *D* represents the respective dummy variable where AKP stronghold and eastern region dummy variables are used in the analyses presented in columns (1)-(5) and (6)-(10), respectively. Joint significance reports the F-statistics of the joint significance of the socioeconomic variable with and without the interaction term.

## Appendix A

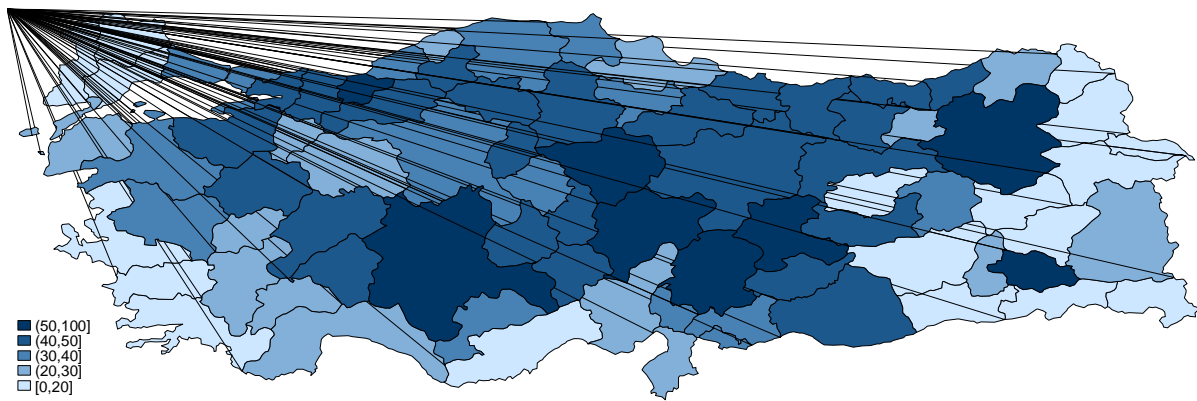


Figure A1. AKP vote share in 2002 (in percentages).

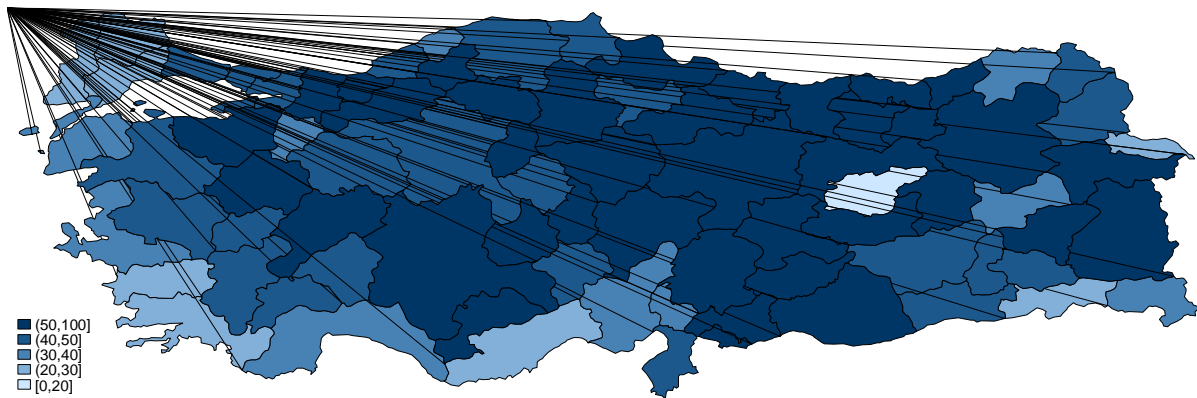


Figure A2. AKP vote share in 2007 (in percentages).

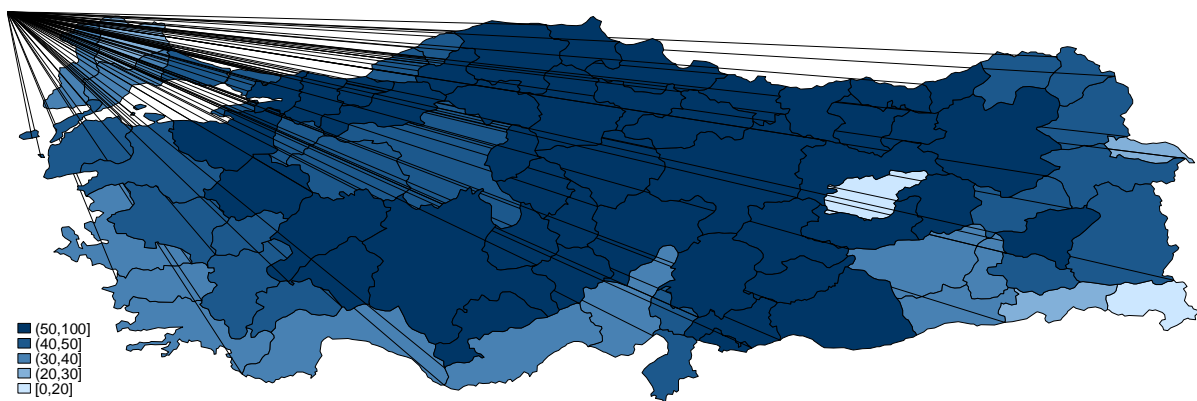


Figure A3. AKP vote share in 2011 (in percentages).

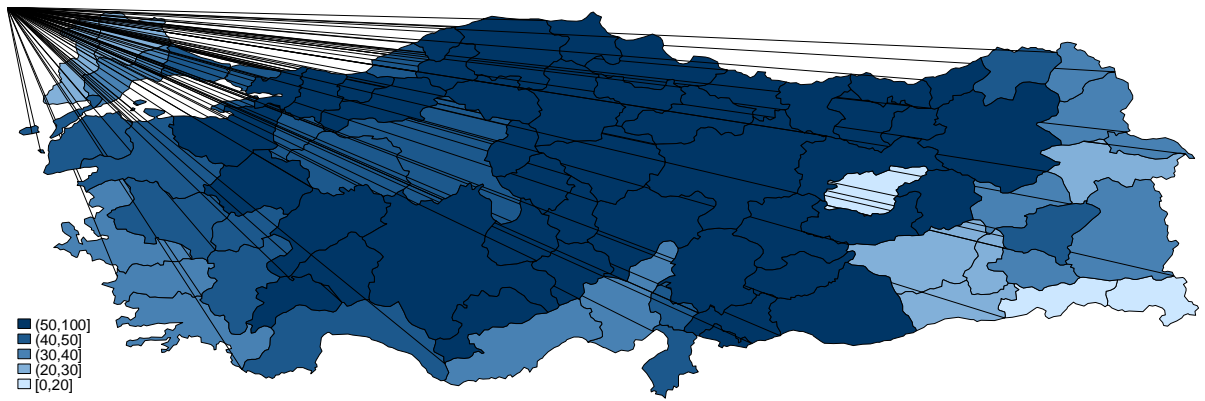


Figure A4. AKP vote share in 2015 (in percentages).

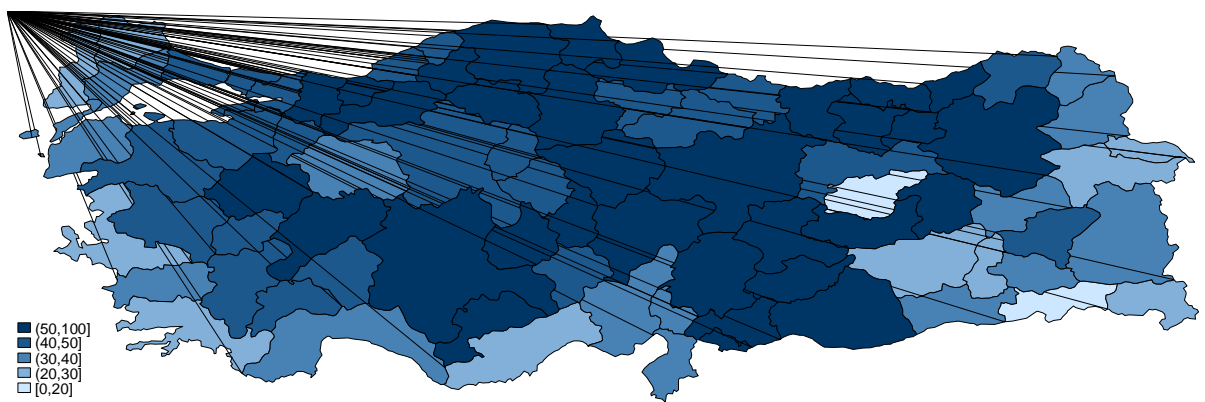


Figure A5. AKP vote share in 2018 (in percentages).



Figure A6. AKP vote share growth between 2002 and 2007 parliamentary elections (in percentages).



Figure A7. AKP vote share growth between 2007 and 2011 parliamentary elections (in percentages).

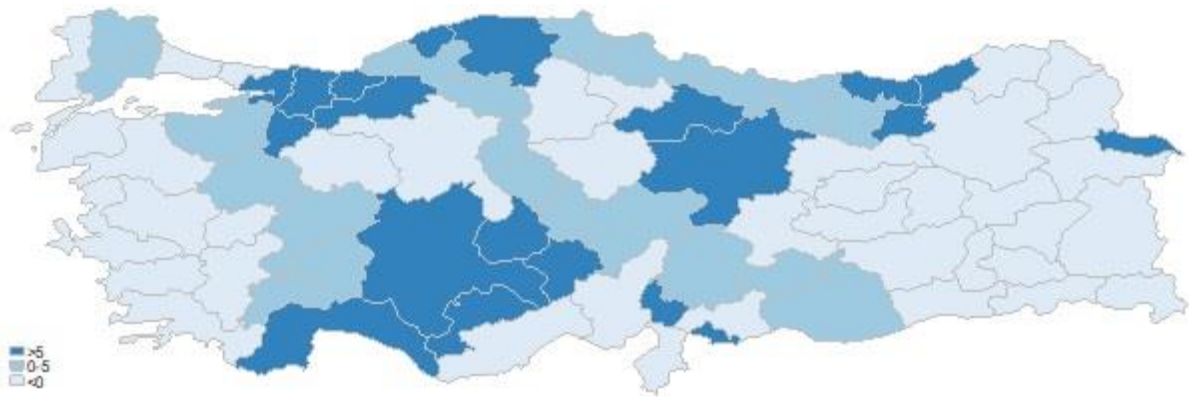


Figure A8. AKP vote share growth between 2011 and 2015 parliamentary elections (in percentages).



Figure A9. AKP vote share growth between 2015 and 2018 parliamentary elections (in percentages).

<b>Table A1. Baseline estimations with the use of different time periods</b>								
	Pre-2013 (2007-2011 elections)				After 2013 (2015-2018 elections)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	Pooled OLS	FE	Pooled OLS	FE	Pooled OLS	FE	Pooled OLS	FE
GDP per capita	-12.44*** (3.048)	-4.340 (8.550)			-1.603 (3.320)	1.871 (11.34)		
GDP per capita growth			-0.470*** (0.177)	-0.129 (0.0883)			-0.411 (0.313)	0.0879 (0.136)
Inflation	-1.910 (1.226)	-3.536** (1.583)	-1.158 (1.142)	-1.799*** (0.362)	-3.350** (1.303)	-3.682** (1.816)	-3.767** (1.448)	-3.695*** (0.614)
Employment application growth	-0.0703** (0.0324)	0.0152 (0.0108)	-0.0586* (0.0311)	0.00650 (0.0105)	-0.0194 (0.0628)	0.00839 (0.0277)	-0.0370 (0.0625)	0.0217 (0.0258)
Medical doctor	7.679** (3.564)	-6.671 (4.742)			11.33** (4.918)	7.082 (8.423)		
Medical doctor growth			0.0453 (0.0637)	0.0766*** (0.0228)			0.666*** (0.198)	0.0644 (0.0759)
Public investment	1.249 (1.210)	-0.657 (1.109)			-0.847 (2.095)	-1.602 (1.698)		
Public investment growth			0.0252 (0.0180)	0.00304 (0.00915)			-0.0138 (0.0362)	-0.0304** (0.0147)
Industry sector growth	0.0745 (0.196)	0.0373 (0.0901)	0.104 (0.203)	0.0712 (0.0837)	0.539** (0.230)	-0.0457 (0.0810)	0.559** (0.221)	-0.0875 (0.0807)
Observations	162	162	162	162	162	162	162	162
R-squared	0.129	0.300	0.093	0.376	0.138	0.639	0.183	0.656
Number of provinces		81		81		81		81

<b>Table A2.</b> Re-estimation of Table 4 with pooled OLS model										
	Interaction with the AKP stronghold dummy variable					Interaction with the East dummy variable				
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	-1.782*	-0.572	-3.852**	-0.713	-0.993	-5.957***	-5.948***	-4.722***	-5.916***	-6.078***
	(1.027)	(1.021)	(1.492)	(1.009)	(1.006)	(1.700)	(1.716)	(1.627)	(1.717)	(1.691)
Inflation	-0.935*	-2.064***	-1.577**	-0.957**	-1.040**	-1.416*	-1.278	-1.714**	-1.424*	-1.478*
	(0.477)	(0.475)	(0.714)	(0.476)	(0.479)	(0.796)	(0.804)	(0.787)	(0.798)	(0.793)
Emp. app. Growth	-0.0244	-0.0232	-0.128***	-0.0245	-0.0192	-0.0396	-0.0387	-0.00653	-0.0406	-0.0392
	(0.0187)	(0.0176)	(0.0251)	(0.0188)	(0.0189)	(0.0289)	(0.0292)	(0.0284)	(0.0290)	(0.0288)
Medical doctors	4.165**	4.016**	7.487**	2.163	4.281**	7.612**	7.662**	8.234***	8.015**	7.429**
	(1.865)	(1.882)	(3.029)	(1.898)	(1.856)	(3.084)	(3.088)	(3.129)	(3.122)	(3.078)
Public investment	-0.379	-0.389	0.863	-0.362	-2.617***	1.582	1.401	0.423	1.455	1.993*
	(0.697)	(0.700)	(1.072)	(0.695)	(0.838)	(1.114)	(1.110)	(1.104)	(1.105)	(1.122)
<i>D</i> *GDP per capita	2.223***					-0.648***				
	(0.0891)					(0.211)				
<i>D</i> *Inflation		2.151***					-0.571***			
		(0.0881)					(0.194)			
<i>D</i> *Emp. app. Growth			0.201***					-0.0665		
			(0.0284)					(0.0427)		
<i>D</i> *Medical doctors				4.352***					-1.136***	
				(0.174)					(0.409)	
<i>D</i> *Public investment					5.338***					-1.586***
					(0.221)					(0.483)
Joint significance (F-stat)	316.72***	303.80***	25.55***	315.87***	309.78***	8.20***	6.28***	1.65	6.76***	6.27***
Observations	324	324	324	324	324	324	324	324	324	324
R-squared	0.687	0.674	0.182	0.688	0.691	0.131	0.126	0.107	0.125	0.136

Notes: Values in parenthesis are t-value statistics. \*, \*\*, and \*\*\* denote significance at the 10%, 5% and 1%, respectively. All estimations include constant term and industry growth variables but not reported. *D* represents the respective dummy variable where AKP stronghold and eastern region dummy variables are used in the analyses presented in columns (1)-(5) and (6)-(10), respectively. Joint significance reports the F-statistics of the joint significance of the socioeconomic variable with and without the interaction term.



<b>Table A3.</b> Re-estimation of Table 4 with the inclusion of additional control variables										
VARIABLES	Interaction with the AKP stronghold dummy variable					Interaction with the East dummy variable				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	-6.646*	-6.314	-7.710*	-6.182	-6.409	-2.395	-8.016*	-7.945*	-5.469	-6.723
	(3.967)	(4.044)	(4.175)	(3.960)	(3.956)	(3.997)	(4.133)	(4.058)	(3.961)	(4.144)
Inflation	-3.322***	-3.665***	-3.895***	-3.315***	-3.342***	-3.317***	-4.190***	-3.721***	-3.430***	-3.856***
	(0.433)	(0.429)	(0.441)	(0.432)	(0.430)	(0.423)	(0.455)	(0.431)	(0.425)	(0.435)
Emp. app. growth	0.0233***	0.0250***	0.0265**	0.0233***	0.0230***	0.0194**	0.0273***	-0.00474	0.0225***	0.0258***
	(0.00836)	(0.00848)	(0.0106)	(0.00833)	(0.00834)	(0.00830)	(0.00868)	(0.0125)	(0.00833)	(0.00872)
Medical doctors	1.602	1.485	0.758	0.964	1.543	0.392	0.610	0.297	7.317**	0.0333
	(2.619)	(2.664)	(2.754)	(2.606)	(2.609)	(2.569)	(2.727)	(2.680)	(2.875)	(2.735)
Public investment	-0.496	-0.538	-0.720	-0.513	-1.321**	-0.386	-0.410	-0.398	-0.550	0.248
	(0.655)	(0.666)	(0.688)	(0.652)	(0.661)	(0.644)	(0.696)	(0.675)	(0.650)	(0.789)
Population above 65 +	5.407*	5.486*	6.802**	5.278*	5.539*	3.566	6.903**	7.270**	4.191	6.053*
	(3.200)	(3.259)	(3.361)	(3.192)	(3.187)	(3.181)	(3.325)	(3.267)	(3.208)	(3.334)
Percentage of absenteeism	0.589***	0.610***	0.606***	0.589***	0.589***	0.449***	0.558***	0.582***	0.466***	0.484***
	(0.147)	(0.149)	(0.155)	(0.146)	(0.146)	(0.147)	(0.155)	(0.150)	(0.148)	(0.161)
Population density	0.00715	0.00617	0.00566	0.00648	0.00663	-0.000910	0.00586	0.00625	0.00446	0.00349
	(0.0103)	(0.0105)	(0.0109)	(0.0103)	(0.0103)	(0.0102)	(0.0108)	(0.0106)	(0.0103)	(0.0108)
Net migration growth	0.246	0.238	0.260	0.266	0.243	0.194	0.260	0.247	0.239	0.242
	(0.223)	(0.227)	(0.236)	(0.222)	(0.222)	(0.220)	(0.233)	(0.229)	(0.222)	(0.232)
<i>D</i> *GDP per capita	0.601***					-6.276***				
	(0.119)					(1.064)				
<i>D</i> *Inflation		0.469***					1.071**			
		(0.114)					(0.493)			
<i>D</i> *Emp. app. growth			0.00581					0.0543***		
			(0.0145)					(0.0148)		
<i>D</i> *Medical doctors				1.219***					-15.79***	
				(0.234)					(2.952)	
<i>D</i> *Public investment					1.468***					-2.995**
					(0.281)					(1.237)
Joint significance (F-statistic)	14.74***	50.77***	5.56***	13.64***	14.29***	19.38***	42.53***	12.48***	14.34***	3.50**
Observations	324	324	324	324	324	324	324	324	324	324
R-squared	0.499	0.481	0.444	0.502	0.502	0.516	0.454	0.474	0.504	0.457

Notes: Values in parenthesis are t-value statistics. \*, \*\*, and \*\*\* denote significance at the 10%, 5% and 1%, respectively. All estimations include constant term and industry growth variables but not reported. *D* represents the respective dummy variable where AKP stronghold and eastern region dummy variables are used in the analyses presented in columns (1)-(5) and (6)-(10), respectively. Joint significance reports the F-statistics of the joint significance of the socioeconomic variable with and without the interaction term.

<b>Table A4. Re-estimation of Table A3 with exclusion of three major cities from the analysis</b>										
VARIABLES	Interaction with the AKP stronghold dummy variable					Interaction with the east dummy variable				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	-6.788*	-6.524	-7.967*	-6.331	-6.517	-2.510	-8.395**	-8.255**	-5.559	-7.027*
	(4.077)	(4.156)	(4.290)	(4.070)	(4.068)	(4.102)	(4.245)	(4.167)	(4.075)	(4.250)
Inflation	-3.333***	-3.705***	-3.953***	-3.329***	-3.357***	-3.360***	-4.287***	-3.791***	-3.456***	-3.926***
	(0.457)	(0.451)	(0.463)	(0.455)	(0.454)	(0.443)	(0.481)	(0.452)	(0.447)	(0.457)
Emp. app. growth	0.0231***	0.0250***	0.0268**	0.0231***	0.0230***	0.0195**	0.0273***	-0.00522	0.0228***	0.0257***
	(0.00861)	(0.00873)	(0.0109)	(0.00857)	(0.00858)	(0.00852)	(0.00892)	(0.0129)	(0.00856)	(0.00897)
Medical doctors	1.440	1.248	0.468	0.753	1.417	-0.159	0.236	-0.166	7.234**	-0.506
	(2.739)	(2.785)	(2.878)	(2.723)	(2.730)	(2.682)	(2.849)	(2.802)	(3.012)	(2.866)
Public investment	-0.430	-0.497	-0.693	-0.445	-1.284*	-0.324	-0.369	-0.350	-0.537	0.366
	(0.683)	(0.694)	(0.717)	(0.680)	(0.688)	(0.671)	(0.725)	(0.703)	(0.677)	(0.828)
Population above 65 +	5.487*	5.680*	7.080**	5.385	5.620*	3.856	7.264**	7.600**	4.292	6.388*
	(3.303)	(3.362)	(3.466)	(3.294)	(3.290)	(3.272)	(3.426)	(3.367)	(3.314)	(3.430)
Percentage of absenteeism	0.596***	0.611***	0.603***	0.594***	0.594***	0.437***	0.551***	0.576***	0.469***	0.472***
	(0.151)	(0.154)	(0.159)	(0.151)	(0.151)	(0.151)	(0.159)	(0.155)	(0.153)	(0.166)
Population density	0.0167	0.0119	0.00817	0.0152	0.0122	-0.00255	0.0119	0.0128	0.00489	0.0107
	(0.0324)	(0.0330)	(0.0341)	(0.0323)	(0.0323)	(0.0318)	(0.0338)	(0.0332)	(0.0322)	(0.0337)
Net migration growth	0.260	0.253	0.273	0.278	0.251	0.179	0.291	0.271	0.244	0.261
	(0.241)	(0.245)	(0.255)	(0.240)	(0.240)	(0.237)	(0.251)	(0.247)	(0.240)	(0.250)
<i>D</i> *GDP per capita	0.602***					-6.365***				
	(0.121)					(1.088)				
<i>D</i> *Inflation		0.467***					1.113**			
		(0.116)					(0.506)			
<i>D</i> *Emp. app. growth			0.00563					0.0550***		
			(0.0148)					(0.0152)		
<i>D</i> *Medical doctors				1.221***					-15.75***	
				(0.239)					(3.016)	
<i>D</i> *Public investment					1.464***					-3.139**
					(0.287)					(1.274)
Joint significance (F-statistic)	14.24***	47.52***	5.33***	13.10***	13.58***	19.15***	39.90***	12.13***	13.64***	3.52**
Observations	312	312	312	312	312	312	312	312	312	312
R-squared	0.493	0.476	0.438	0.497	0.496	0.512	0.449	0.469	0.499	0.452

Notes: Values in parenthesis are t-value statistics. \*, \*\*, and \*\*\* denote significance at the 10%, 5% and 1%, respectively. All estimations include constant term and industry growth variables but not reported. *D* represents the respective dummy variable where AKP stronghold and eastern region dummy variables are used in the analyses presented in columns (1)-(5) and (6)-(10), respectively. Joint significance reports the F-statistics of the joint significance of the socioeconomic variable with and without the interaction term.