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IMPACT OF THE 1999 EARTHQUAKES AND  
THE 2001 ECONOMIC CRISIS ON THE  
OUTCOME OF THE 2002 PARLIAMENTARY  
ELECTION IN TURKEY

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# **Impact of the 1999 Earthquakes and the 2001 Economic Crisis on the Outcome of the 2002 Parliamentary Election in Turkey**

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## Abstract

The two major earthquakes which struck northwestern Turkey in 1999, not only caused enormous amounts of death, destruction and suffering, but also exposed rampant government corruption involving construction and zoning code violations. The incompetence shown by the government in providing relief, the corruption allegations in regards to those efforts, and government's failure to prosecute corrupt officials and businessmen, further angered the public. How voters responded to these in the 2002 parliamentary election is investigated, using cross-provincial data, and controlling for other social, political and economic factors. Our results show that voters held accountable all of the political parties which participated in governments during the last decade or so, and not just the incumbents in 2002. The party in charge of the ministry responsible for earthquake relief, and parties that served longest and controlled more of the city administrations in the quake zone were blamed more. The newly formed Justice and Development Party (AKP) was the beneficiary of the votes lost by these parties. The sensitivity shown by the electorate to real and perceived corruption implies that corruption problem could be tractable in Turkey, and can be reduced through increased transparency and democratization.

إن الزلزالين اللذين ضربا شمال غرب تركيا عام 1999 لم يتسببا في الموت والخراب والمعاناة فحسب بل أديا أيضاً إلى كشف استئراء الفساد الحكومي في قطاع البناء وانتهاكات القوانين المنظمة لمناطق البناء. أدى عدم كفاءة الحكومة في توفير الإغاثة وما صاحب تلك الجهود من ادعاءات بوجود فساد بتخللها، وكذا فشل الحكومة في مقاضاة الموظفين ورجال الأعمال الفاسدين إلى إثارة مزيد من غضب المواطنين. ونبحث في هذه الورقة مدى استجابة المواطنين لهذه الأمور أثناء الانتخابات البرلمانية عام 2002، مستخدمين بيانات مستقاة من مختلف أنحاء تركيا آخذين في اعتبارنا العديد من العوامل الاجتماعية والسياسية والاقتصادية المؤثرة. والنتائج التي توصلنا إليها تشير إلى أن الناخبين حملوا جميع الأحزاب التي شاركت في حكومات العقد الماضي أو نحوها مسؤولية ما يحدث فلم يقصروها على المشاركين الحاليين في عام 2002. وقد انصب اللوم بشكل أكبر على الحزب الذي تبعته الوزارة المسؤولة عن عمليات الإنقاذ بعد الزلزال، كذا نالت الأحزاب التي حكمت أطول فترات وأدارت خلالها الإدارات المحلية نصيباً أكبر من اللوم. وقد استفاد حزب العدالة والتنمية الذي كان وقتئذ حديث التكوين من الأصوات التي فقدتها تلك الأحزاب. وتدل الحساسية التي أبدتها الناخب التركي، تجاه الفساد الحقيقي والمدرك على أن مشكلة الفساد في تركيا لن تستعصي على العلاج بل يمكن الحد منها من خلال زيادة الشفافية والديموقراطية

## 1. Introduction

On 17 August 1999 and 12 November 1999, two major earthquakes, measuring 7.4 and 7.2 on the Richter scale, struck the densely populated and heavily industrialized northwestern section of Turkey. These not only caused tens of thousands of deaths and billions of dollars of destruction, but also exposed rampant government corruption involving violation of construction and zoning codes. While a lot of the old buildings remained standing after the quakes, many of the recently constructed ones folded in on themselves due to their unsafe locations, inappropriate design and substandard practices employed in their construction such as use of concrete prepared with sea sand, insufficient amount of cement and steel bars. What angered the public even more was the government's poor performance in coming to the help of the earthquake survivors, and its failure to prosecute, except for a few scapegoats, the corrupt contractors and government inspectors. Corruption related news reports of granting construction contracts of new houses for the quake survivors and other relief related activities further intensified the public outrage.

Green (2005) explains, in detail, how corruption magnified the above disasters in Turkey. Escalares, Anbarci and Register (2007), studying 344 major quakes in 42 countries during the 1975-2003 period, show that public sector corruption is positively related to earthquake fatalities in other countries as well.

Our purpose in this paper is to study the response of voters in the 2002 general election, the first one following the 1999 earthquakes, to the above events. First, we would like assess whether the Turkish voters have exhibited any sensitivity to government corruption and incompetence. If they have, we would like gauge how appropriately they have allocated the responsibility for these, among various political parties. In particular, we would like to determine whether the voters held previous governments, which were in power when the shoddy buildings were constructed, responsible as well, and whether they distinguished between parties which controlled municipal administrations in the earthquake zone and those that did not. In Turkey, municipalities issue the permits for constructions and inspect them but they are overseen by the central government. The latter, by granting frequent amnesties for improperly and illegally constructed buildings, and also by providing utilities and other services to encourage their spread.

Answers to the above questions will yield useful insights as to how tractable the issue of corruption is in Turkey, and what approaches are likely to be effective in fighting it. Mishra (2005) shows that when corruption is pervasive, it is also likely to be persistent. He points out that when the public condones corruption, expected cost of being corrupt (including probability of apprehension and social sanction associated) would be less, leading to more people being corrupt. Then corrupt behavior becomes the equilibrium or the norm. This in turn, would hamper the economic progress of the country. Meon and Sekkat (2005), Pellegrini and Gerlagh (2004), Mo (2001), and Mauro (1995) find that corruption lowers investment. Countries with high levels of public sector corruption are found to receive less foreign aid, by Alesina and Weder (2002), and less foreign direct investment, by Habib and Zurawicki (2002). Tanzi and Davoodi (1997) and Mauro (1997) find that corruption shifts public expenditures from growth-promoting to low-productivity projects. Murphy, Shleifer and Vishny (1991, 1993) show that public corruption would drive potential entrepreneurs to rent-seeking activities, or even to becoming corrupt officials themselves, instead of organizing and improving worthwhile production activities. Therefore, we can say that corruption leads to diminished and misallocated resources and thus to low growth.

A secondary aim of our study is to shed some more light on the outcome of the 2002 parliamentary election in Turkey. In that election, the aggregate vote share of the three

incumbent parties dropped to 14.7 percent, from 53.4 percent in 1999. In Akarca and Tansel (2006), we were able to show that the outcome of the 2002 election was an outlier, compared to 24 other elections held in Turkey between 1950 and 2004. In that study, we estimated that 24.6 of the 38.7 percentage point drop in the vote share of the incumbent parties cannot be explained by the incumbency and economic conditions prevailing at that time. Although quite a number of studies cited government's inability, and reluctance to move against corruption in general, as a major contributing factor in the outcome of the 2002 election, the role played by the 1999 quakes in galvanizing the public anger is mostly overlooked. To our knowledge, only one study, Özel (2003), mentions the earthquake factor, but does not measure it. We hope to show statistically the relevance of this factor. Also, almost all of the studies on the 2002 election, for example Sayarı (2007), Önis (2006), Özel (2003) and Çarkoğlu (2002) argue, without any statistical estimation, that the 2001 economic crisis was one of the major causes for the spectacular vote loss by the incumbent parties in 2002. This contradicts our findings in Akarca and Tansel (2007), studying the outcome of the 1995 Turkish parliamentary election, using cross-provincial data, and in Akarca and Tansel (2006) studying the outcomes of twenty-five local and parliamentary elections held in Turkey between 1950 and 2004, using time-series data. In these studies we have found that economic conditions prevailing for more than one year before an election does not affect its outcome. The evidence from other countries, which are surveyed in our two articles mentioned, is in agreement with this conclusion as well. We will examine the impact of 2001 growth rate on the outcome of the 2002 election, to test one more time the validity of our assertion regarding voter myopia. Voter myopia provides the politicians with incentives to stimulate the economy prior to an election, and deal with its adverse long-run effects after the election, giving rise to political business cycles. Our findings, therefore, will also shed some light on the question of why governments in Turkey often resort to populist policies before an election.

## **2. Background, Method and Data**

No data exists on the government's response time to the earthquake disasters, on the number of buildings damaged due to substandard construction, or on when these were constructed. Since the statutory deadline to charge the corrupt officials and contractors was allowed to pass after only a few token prosecutions, there is no information on how many guilty individuals were let go. Consequently, it is not possible to directly measure the impact of government corruption and ineptitude related to the 1999 earthquakes. However, whether voters showed any sensitivity to the abovementioned variables can be determined indirectly, if one is willing to make some reasonable assumptions. It can be presumed that, while the whole country followed the news on government corruption and incompetence and factored these in casting their ballots, the people living in the provinces affected by the earthquakes in question were more sensitive to and better informed about the degree of government corruption and incompetence involved and the parties responsible for these. Furthermore, it would be logical to assume that the greater the number of residences and businesses which suffered heavy damage in a province per 100 people (henceforth, referred to as Q), the greater is the information each voter in that province is exposed to on the level of corruption involved and on the quality of the relief provided by the government. Under these assumptions, and controlling for other factors, the effect of Q on each party's vote share in 2002 election can be viewed as the incremental response of the voters who are more informed and affected by the government corruption and incompetence. Thus the estimated effect of this variable on a party's vote share can give us some clue as to which parties, if any, were held responsible by the voters and to what extent.

The nine provinces which suffered heavy property damage in the 1999 earthquakes are listed in Table 1. As can be observed from that table, the intensity of the damage varied considerably between the affected provinces. This, and the fact that there are many provinces at hand with zero quake damage, provides us with a good dataset to measure the effect of Q on the vote shares of major political parties which participated in the 2002 election

Tables 2, 3 and 4, contain the date when political parties came to power, the time they spent in government (at the helm or as a minor partner), and the proportion of municipal administrations they controlled in the earthquake region. The data exhibits a great variation among parties in the decade preceding the 1999 quakes. This will enable us not only to measure but also to interpret the coefficients of Q in equations relating this variable to the vote shares.

The Democratic Left Party (DSP), the major incumbent party in 2002, came to power for the first time in June 1997 but got the premiership only seven months before the August 1999 earthquake. The party had only a negligible number of mayors in the quake affected areas, none in the cities which suffered major damage, and none in the provincial centers where the population was concentrated. Thus, any adverse impact of Q on this party's vote share should be considered as a reaction of the voters in the affected areas to the government's inefficiency in providing relief and its inability or unwillingness to prosecute corrupt officials and their private sector benefactors, but not to the corruption at the local level, and not to the construction of shoddy buildings.

The second largest incumbent party in 2002, the Nationalist Action Party (MHP), came to power less than three months before the first earthquake in 1999 and after being out of power for two decades. This party controlled almost none of the municipalities in the areas affected by the earthquakes. However, the minister of Public Works and Settlement, which supervises the General Directorate of Disaster Affairs, was from the Nationalist Action Party (MHP). He was accused of nepotism, cronyism and receiving kickbacks from contracts his ministry granted, in regards to construction of new housing for earthquake survivors and other relief efforts. Although he was found not guilty in 2007 by the Supreme Court, it is not clear if he is vindicated in the public opinion, and of course the verdict was not known at the time of the 2002 election. In fact he was seen as a liability for his party and was forced to resign his post in 2001 by the leader of his party. Therefore, any significant negative impact of Q on MHP's 2002 vote share should be interpreted as punishment by the quake victims for government incompetence in coming to their aid and for corruption related to the relief efforts, but not for the pre-earthquake corruption.

The third incumbent party, the Motherland Party (ANAP), held the premiership of the country in single-party governments between December 1983 and November 1991, and in coalition governments, during the March 1996 – June 1996, and June 1997 –January 1999 periods. The party was a minor partner in the coalition ruling at the time of the 1999 earthquakes. It controlled substantial number of local administrations in the quake region since 1984. Thus an adverse earthquake effect on this party's vote could be due to the performance of its mayors and/or its cabinet members.

The opposition True Path and Republican People's parties (DYP and CHP), were in power as partners during the 1991-1996 period and both had large number of mayors in the provinces affected by the two earthquakes during the decade preceding the quakes. In saying this, we are treating the Republican People's Party (CHP) and the Social Democratic Populist Party (SHP) as one party. Initially the latter was in the coalition with the True Path Party (DYP) but after its merger with the former, the coalition continued as DYP-CHP government. If the vote shares of these parties are found to be inversely related to Q, it must be taken as an

indication of voters holding parties, which controlled central and local administrations during the time the shoddy buildings were built, responsible.

If the voters are rational, the Young Party (GP) should either not be affected by the earthquake related events, or benefit from them. This party was formed a few months before the 2002 election by a business tycoon who had no political experience until that time.

The Justice and Development Party (AKP) is one of two parties formed in the second half of 2001 by the members of the Virtue Party (FP) after the dissolution of the latter by the Constitutional Court on grounds that it advocated a religion-based regime in violation of the constitution. The Virtue Party (FP) itself was formed by the leaders of the Welfare Party (RP) which was closed by the Constitutional Court on the same grounds used against the Virtue Party. While Welfare Party (RP) held power only for a year from mid 1996 to mid 1997, many of the mayors in the provinces affected by the 1999 quakes were members of this party since 1994. The Justice and Development Party (AKP) disavowed the anti-Western and pro-Islamist positions of the Virtue Party and rejected being a continuation of the Virtue or Welfare parties (FP or RP). The Felicity Party (SP), the other party that emerged from the ashes of the Virtue Party, followed the old party line and received very few votes in 2002. Whether the Justice and Development Party (AKP) is a continuation of the Virtue and Welfare parties (FP and RP), is a contentious issue in Turkey. If this party turns out to have benefited from the government's handling of the earthquake related issues, that would imply that either it was not perceived as a continuation of the Welfare and Virtue parties (RP and FP) or that the mayors of the latter which joined the Justice and Development Party (AKP) are viewed by the public as not being corrupt. On the other hand, a negative coefficient for Q, for this party, would mean that it is being punished for the sins of the Welfare and Virtue parties at the local level.

The Motherland party (ANAP) served in the central government longer than the True Path Party (DYP), and the True Path Party (DYP) served longer than the Republican People's Party / Social Democratic Populist Party (CHP/SHP). On the other hand, as can be seen from Table 4, the Republican People's Party / Social Democratic Populist Party (CHP/SHP) had more mayors, during 1989-1994, in the population centers which suffered major earthquake damage, than the other two parties mentioned, and about the same number as them in the 1994-1999 period. The True Path Party (DYP) appears to have controlled slightly more mayors in these cities, in both periods in question, than the Motherland Party. Thus the size of the coefficient of the Q variable can yield valuable information on whether the electorate blamed the parties controlling the local governments. For example if the Republican People's Party is found to be affected more than the other two parties, despite serving a shorter time in central government, it can be attributed to its performance at the local level.

To measure the impact of Q on vote shares of various parties, we estimated vote equations for each of the major political parties which participated in the 2002 parliamentary election. These equations included independent variables other than Q, to control for the effects of other factors. We fitted these equations to cross-provincial data, utilizing the Seemingly Unrelated Regressions procedure of Zellner (1962). This procedure estimates the parameters more efficiently by taking advantage of the correlation between the residuals of different vote equations. We dropped from our sample, provinces in which the Kurdish nationalist Democratic People's Party (DEHAP) had received more than 10 percent of the vote. This eliminated 17 of the 81 provinces, all from eastern and south eastern sections of the country. The behavior of voters in these provinces is considerably different from the rest of the country. It is largely ethnic based and is affected a lot by the terrorist activities in this region and the government's response to them. Akarca (2008) contrasts the voting patterns in this

region with the pattern in the remaining 64 provinces. It should be noted that only 9.1 percent of the registered voters in 2002 resided in the eliminated provinces.

One of the important factors that needed to be controlled for, in measuring the impact of  $Q$ , was the unprecedented amount of inter-party vote shifts that had occurred across the country between 1999 and 2002. During that period, the three incumbent parties, the Democratic Left Party (DSP), the Nationalist Action Party (MHP) and the Motherland Party (ANAP), experienced a 38.7 percentage point drop in their aggregate vote share. In addition, the opposition True Path Party (DYP) lost 2.5 percentage points of its vote share. Furthermore, after the closing of the main opposition Virtue Party (FP), 15.4 percent of the electorate which voted for it in 1999 had to choose another party in 2002. In short, more than half of the voters switched parties between the 1999 and 2002 elections. The old parties were able to retain only a fraction of their 1999 votes. Consequently in each party's vote equation, the 1999 vote shares of other parties were included beside its own. However, inclusion of 1999 vote shares of all parties in each equation would lead to multi-collinearity, and render estimation impossible. Fortunately, it was not necessary to include all of the lagged vote shares in each equation. Akarca (2008), who studied the vote movements between the 1999 and 2002 elections, showed that the vote transfers which took place were essentially from the Virtue, Nationalist Action, Motherland and True Path parties (FP, MHP, ANAP and DYP) to the Justice and Development Party (AKP), from the Democratic Left Party (DSP) to the Republican People's and Young parties (CHP and GP), and from the Democratic Left, Nationalist Action and Motherland parties (DSP, MHP and ANAP) to the True Path Party (DYP). Thus only these shifts needed to be considered.

As shown in Akarca (2008) and Akarca and Tansel (2007), the vote shares of parties in a province also depended on the socioeconomic characteristics of the population living in that province. For that reason we included mean years of schooling for population above age of 6, the urbanization rate, and the proportion of women in non-agricultural employment, as well as independent variables in each vote equation.

In 2001 the Turkish economy experienced its severest contraction until that date since 1945, with a 7.5 percent drop in real GDP. In many studies, for example in Sayarı (2007), Önis (2006), Özel (2003) and Çarkoğlu (2002), the 2001 economic crisis is cited as the major determinant of the 2002 election outcome. To check and control for this, 2001 provincial growth rate in per capita real GDP is included in vote equations as well. If our findings in Akarca and Tansel (2006, 2007) and bulk of the literature on economic voting are any guide, the coefficients of this variable should not be significantly different from zero. It would be beneficial if we could include the 2002 provincial growth rate in our equations, but unfortunately the State Institute of Statistics of Turkey has stopped producing GDP figures at the provincial level after 2001.

Finally, dummy variables are considered for the following provinces, as is done in Akarca (2008): Bayburt, Kilis, Malatya, Osmaniye, Rize, Sakarya, Bartın, and Yalova. In the first two of these, independent candidates received considerable amount of votes. In the third one, the votes which went to an independent candidate in 1999 returned to one of the political parties. Osmaniye, Rize and Sakarya are the home provinces of the leaders of the Nationalist Action Party (MHP), the Motherland Party (ANAP) and the Young Party (GP), respectively. Their favorite son candidacies in these provinces brought to their parties extra votes. Other party leaders do not have such a strong identification with any particular province. The dummy variables for Bartın and Yalova are included because these observations constitute outliers. Even though the Nationalist Action party lost votes between 1999 and 2002 elections, in every other province, its vote share in Bartın and Yalova increased. For

parsimony, in each party's equation, only those dummy variables found significant in Akarca (2008) is entered.

The 2002 vote shares of the considered political parties sum up to 88.2 percent of the votes cast in the provinces included in our sample and 85.2 percent of the votes cast nationwide. Thus there was no need to restrict the sum of dependent variables to 100 percent.

### **3. Empirical Results**

Regressions relating 2002 vote shares of major political parties to the variables mentioned in the previous section are presented in Table 5. We will comment here only on the results pertaining to the 1999 earthquakes and 2001 economic crisis. Other inferences that can be drawn are already discussed in Akarca (2008) and are outside the scope of the present paper.

In Table 5, the 2002 vote shares of Justice and Development Party (AKP), Republican People's Party (CHP), Young Party (GP), Democratic Left Party (DSP), Nationalist Action Party (MHP), the Motherland Party (ANAP), and the True Path Party (DYP) are represented by the symbols: AKP02, CHP02, GP02, DSP02, MHP02, ANAP02 and DYP02, respectively. The 1999 vote shares of Virtue Party (FP), Republican People's Party (CHP), Democratic Left Party (DSP), Nationalist Action Party (MHP), Motherland Party (ANAP) and True Path Party (DYP) are represented by the symbols: FP99, CHP99, DSP99, MHP99, ANAP99 and DYP99, respectively. The symbols S, U, and W are used to represent mean years of schooling, urbanization rate, and proportion of women in non-agricultural employment, respectively. G01 stands for the growth rate in per capita real GDP in 2001. Q stands for the number of residences and businesses which suffered heavy damage in the 1999 earthquakes, per hundred people. Province names are used to represent the dummy variables, which take the value of one for the named province and zero for all others.

The estimated coefficients reported in the table show that there was a general shift in votes, from the extreme right Nationalist Action Party (MHP) and the center right Motherland and True Path parties (ANAP and DYP) towards the Justice and Development Party (AKP). This was even more pronounced in provinces which suffered heavy damage. In the latter provinces there was a shift in votes towards the Justice and Development Party (AKP) also from the center left Republican People's and Democratic Left parties (CHP and DSP). It appears that the Justice and Development Party was either not seen by voters as the continuation of the Welfare and Virtue parties (RP and FP), or that the mayors of the latter were not seen as corrupt. All three of the incumbent parties suffered vote losses in the quake zone that varied with the level of per capita damage encountered. Nationalist Action Party (MHP) paid the highest price. The Democratic Left Party (DSP) – the party of the prime minister – was also affected, but only slightly. It appears that voters held the party in charge of the ministry responsible for earthquake relief especially accountable for the aftermath of the earthquakes, including the corruption involving relief efforts. The fact that the Motherland Party (ANAP) was affected more than the Democratic Left Party (DSP), despite being a minor partner in the ruling coalition, indicates that voters blamed the parties which participated in the central and local administrations in the past as well. This conclusion is reinforced by the fact that the adverse impacts of the variable Q on the opposition Republican People's and the True Path parties (CHP and DYP) were much larger than that on the incumbent Democratic Left and Motherland parties (DSP and ANAP). The fact that the adverse impact on the Republican People's Party (CHP) was almost twice as much of that on the True Path Party (DYP) which served in the previous central governments longer, shows that control of city administrations mattered as well. As we had mentioned above, the former party had substantially more mayors than the latter in the region where the quakes occurred, especially in the heavily populated provincial centers. Because there are no parties which

controlled local governments but had not served in central government, we are unable to assess relative blame placed by voters on the central and local governments. However a survey conducted by Adaman and Çarkoğlu (2001) shows that, in general, urban dwellers in Turkey, perceive both the central and local governments to be corrupt but the central government to be more corrupt. Our results here do not contradict that.

For the three incumbent parties, the Democratic Left Party (DSP), the Nationalist Action Party (MHP) and the Motherland Party (ANAP), the estimated coefficients of their own lagged vote variables imply that in a typical province they have lost almost all, two-thirds, and four-fifths, of their 1999 votes, respectively, controlling for other factors. These are far more than the usual amounts of erosion that can be expected in the vote shares of incumbent parties due to controversial decisions they make while in office and due to voters' efforts to create checks and balances against their power. These losses no doubt reflect partially the disappointment of their supporters all over the country with the way they have responded to the earthquakes and with their failure to end or prosecute the people involved in earthquake related corruption. These parties were tainted by some non-earthquake related corruption as well. Some of their leaders and cabinet members were prosecuted for personal involvement in a number of corruption cases. The prime minister's old age, his refusal to relinquish his power, even temporarily, despite his severe illness, and his self-publicized rift with the president, shattered public confidence in his government and also contributed to the vote loss of incumbent parties. The coefficients of the Q variable should be interpreted as an addition to the coefficients in the provinces affected by the earthquakes directly.

The estimated coefficients of the G01 variable are all almost zero and highly insignificant, except in the case of the Young Party (GP). This party appears to have attracted some people adversely affected by the 2001 economic crisis. However the impact measured, while statistically significant, is very inconsequential.

#### **4. Conclusions**

Our findings suggest that, in casting their ballots in 2002, the Turkish voters appear to have taken into account the performance of all governments that contributed to the magnification of the earthquake disasters. Not just the incumbent parties at the time of the earthquakes but others, which were in power when the substandard buildings were actually built, were also held accountable. Each and every party which ruled during the 1983 -1999 period was adversely affected by the earthquake damage. The votes lost by these parties went to the Justice and Development Party (AKP). The Turkish voters appear to have allocated the blame rationally, taking into consideration the division of labor in the central government, and the relative influence the parties had on local administrations. When they are made aware of public corruption, Turkish voters seem to be willing to use their electoral powers to vote out the politicians who participated in it or allowed it to happen. This implies that corruption does not have to be a persistent problem in Turkey and can be reduced through increased transparency and democracy.

The Turkish electorate was not found to look back beyond one year in assessing government's economic performance, confirming our earlier findings in Akarca and Tansel (2006 and 2007). Although this kind of voter behavior is not different than what was found in other democratic countries, it is discouraging nevertheless, as it gives incentives to governments to create political business cycles.

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**Table 1: Number of Residences and Businesses which Suffered Heavy Damage in the 1999 Earthquakes <sup>a</sup>**

<b>Provinces</b>	<b>Quantity</b>	<b>Quantity per 100 people</b>
Bolu	2750	1.0161
Bursa	128	0.0060
Düzce	15134	4.8157
Eskişehir	111	0.0157
İstanbul	3306	0.0330
Kocaeli	41041	3.4028
Sakarya	29701	3.9278
Yalova	14473	8.5846
Zonguldak	114	0.0185

Table 1 notes:

a/ In 1999 the administrative division of the country was slightly different. The table is based on the structure prevailing in 2002.

Source:

Figures on the first column are provided by the General Directorate of Disaster Affairs (Ministry of Public Works and Settlement, the Republic of Turkey) and reflects the most recent revision dated 22 April 2003. The second column is obtained by dividing the figures in the first column by the province's 2000 population given by the State Institute of Statistics (Prime Ministry, the Republic of Turkey).

**Table 2: Political Parties Ruling between 1983 and 2002**

<b>Political Parties <sup>a</sup></b>	<b>Periods</b>	<b>Prime Minister</b>	<b>Coalition Gov.</b>
Motherland Party (ANAP)	Dec. 1983 – Nov. 1991	YES	NO
	Mar. 1996 – June 1996	YES	YES
	June 1997 – Jan. 1999	YES	YES
	May 1999 – Nov. 2002	NO	YES
True Path Party (DYP)	Nov. 1991 – Mar. 1996	YES	YES
	Mar. 1996 – June 1997	NO	YES
Republican People's Party (CHP) / Social Democratic Populist Party (SHP) <sup>b</sup>	Nov. 1991 – Mar. 1996	NO	YES
Welfare Party (RP)	June 1996 – June 1997	YES	YES
Democratic Left Party (DSP)	June 1997 – Jan. 1999	NO	YES
	Jan. 1999 – Nov. 2002	YES	YES
Nationalist Action Party (MHP)	May 1999 – Nov. 2002	NO	YES

Table 2 notes:

a/ In parenthesis are the Turkish acronyms of political parties.

b/ Between November 1991 and February 1995 the Social Democratic Populist Party (SHP) was in power. This party joined the Republican People's Party (CHP) in February 1995. The coalition government continued until March 1996 with the latter party as the official partner.

Source:

Turkish Grand National Assembly web site: ([www.tbmm.gov.tr/kutuphane/hukumetler.html](http://www.tbmm.gov.tr/kutuphane/hukumetler.html)).

**Table 3: Party Affiliations of Mayors of Provincial and District Centers Where Some Residences Suffered Heavy Damage in the 1999 Earthquakes <sup>a</sup>**

Political Parties <sup>b</sup>	1989-1994		1994-1999	
	Provincial Centers	District Centers	Provincial Centers	District Centers
Motherland Party (ANAP)	0	21	2	41
True Path Party (DYP)	2	24	2	18
Republican People's Party (CHP) / Social Democratic Populist Party (SHP) <sup>c</sup>	7	50	1	18
Welfare Party (RP)	0	1	4	27
Democratic Left Party (DSP)	0	0	0	2
Nationalist Action Party (MHP)	0	0	0	3
<b>TOTAL</b>	<b>9</b>	<b>96</b>	<b>9</b>	<b>109</b>

Table 3 notes:

<sup>a</sup>/ The provinces in question are the following: Bolu, Bursa, Düzce, Eskişehir, İstanbul, Kocaeli, Sakarya, Zonguldak and Yalova. Between 1999 and 2002 the administrative division of the country changed. The table is based on the structure prevailing in 2002. Party affiliations of some mayors changed between two elections. The table reflects the Prevalent distributions immediately after the elections in 1984 and 1989.

<sup>b</sup>/ In parenthesis are the Turkish acronyms of political parties.

<sup>c</sup>/ The Republican People's Party was closed between 1983 and 1993. This party and the Social Democratic Party entered the 1994 local elections separately but merged in 1995.

Source:

Compiled by authors, using the data provided by the State Institute of Statistics (Prime Ministry, the Republic of Turkey) on the results of the 1999 and 2002 elections, and by the General Directorate of Disaster Affairs (Ministry of Public Works and Settlement, the Republic of Turkey) on the property damage caused by the 1999 earthquakes.

**Table 4: Party Affiliations of Mayors of Provincial and District Centers Where More Than 10% of Residences Suffered Heavy Damage in the 1999 Earthquakes<sup>a</sup>**

Political Parties <sup>b</sup>	1989-1994		1994-1999	
	Provincial Centers	District Centers	Provincial Centers	District Centers
Motherland Party (ANAP)	0	2	0	2
True Path Party (DYP)	1	4	1	3
Republican People's Party (CHP) / Social Democratic Populist Party (SHP) <sup>c</sup>	4	6	1	1
Welfare Party (RP)	0	1	3	7
Democratic Left Party (DSP)	0	0	0	0
Nationalist Action Party (MHP)	0	0	0	0
<b>TOTAL</b>	<b>5</b>	<b>13</b>	<b>5</b>	<b>13</b>

Table 4 notes:

<sup>a</sup>/ The provinces in question are the following: Bolu, Düzce, Kocaeli, Sakarya, and Yalova. Centers with more than 10 percent heavy damage are the following: Bolu, Düzce, Gölyaka, Kaynaşlı, İzmit, Gölcük, Karamürsel, Körfez, Adapazarı, Akyazı, Yalova, Altınova, and Çiftlikköy. Between 1999 and 2002 the administrative division of the country changed.

The table is based on the structure prevailing in 2002. Party affiliations of some mayors changed between two elections. The table reflects the distributions immediately after the elections in 1984 and 1989.

<sup>b</sup>/ In parenthesis are the Turkish acronyms of political parties.

<sup>c</sup>/ The Republican People's Party was closed between 1983 and 1993. This party and the Social Democratic Party entered the 1994 local elections separately but merged in 1995.

Source:

Compiled by authors, using the data provided by the State Institute of Statistics (Prime Ministry, the Republic of Turkey) on the results of the 1999 and 2002 elections, and by the General Directorate of Disaster Affairs (Ministry of Public Works and Settlement, the Republic of Turkey) on the property damage caused by the 1999 earthquakes.

**Table 5: Coefficient Estimates and Summary Statistics**

Independent Variables	Equations <sup>a</sup>						
	AKP02	CHP02	GP02	DSP02	MHP02	ANAP02	DYP02
Constant	13.63 (1.56)	-13.36 <sup>b</sup> (4.85)	-0.83 (0.34)	1.67 <sup>b</sup> (3.14)	-0.37 (0.10)	6.69 <sup>b</sup> (2.89)	-11.14 <sup>b</sup> (2.48)
FP99	1.13 <sup>b</sup> (10.95)						
CHP99		1.23 <sup>b</sup> (21.16)					
DSP99		0.29 <sup>b</sup> (8.46)	0.32 <sup>b</sup> (10.99)	0.07 <sup>b</sup> (10.09)			0.25 <sup>b</sup> (4.88)
MHP99	0.48 <sup>b</sup> (4.92)				0.32 <sup>b</sup> (6.62)		0.14 <sup>c</sup> (2.25)
ANAP99	0.67 <sup>b</sup> (3.98)					0.19 <sup>b</sup> (3.21)	0.20 <sup>b</sup> (2.98)
DYP99	0.41 <sup>b</sup> (2.86)						0.80 <sup>b</sup> (9.97)
S	-4.62 <sup>b</sup> (2.72)	3.17 <sup>b</sup> (4.77)	-0.29 (0.49)	-0.10 (0.82)	0.76 (0.90)	-0.08 (0.15)	1.19 (1.37)
U	0.21 <sup>b</sup> (3.27)	-0.07 <sup>b</sup> (3.09)	0.03 (1.49)	-0.01 (2.92)	-0.04 (1.22)	-0.08 <sup>b</sup> (4.17)	-0.10 <sup>b</sup> (3.06)
W	-0.38 (1.63)	0.21 <sup>c</sup> (2.14)	-0.01 (0.11)	-0.03 <sup>c</sup> (1.72)	0.09 (0.90)	0.12 <sup>c</sup> (1.73)	-0.01 (0.10)
G01	0.04 (0.40)	0.03 (0.88)	-0.07 <sup>c</sup> (2.01)	0.00 (0.26)	-0.01 (0.12)	0.00 (0.11)	-0.07 (1.37)
Q	2.12 <sup>b</sup> (2.79)	-1.08 <sup>b</sup> (3.98)	-0.00 (0.02)	-0.06 <sup>c</sup> (1.69)	-1.12 <sup>b</sup> (3.24)	-0.27 <sup>c</sup> (1.71)	-0.59 <sup>c</sup> (2.33)
BAYBURT	-33.80 <sup>b</sup> (7.86)					-6.10 <sup>b</sup> (3.68)	
KILIS	-11.25 <sup>b</sup> (2.64)	-4.25 <sup>c</sup> (2.16)	-5.23 <sup>b</sup> (3.13)	-1.04 <sup>b</sup> (2.63)			
MALATYA							8.46 <sup>b</sup> (3.58)
OSMANIYE	-11.08 <sup>b</sup> (2.70)				13.37 <sup>b</sup> (5.57)		
RIZE	-16.99 <sup>b</sup> (2.71)					16.80 <sup>b</sup> (7.16)	
SAKARYA	-13.12 <sup>b</sup> (2.86)		18.25 <sup>b</sup> (11.39)				-4.21 <sup>c</sup> (1.65)
BARTIN		-3.29 <sup>c</sup> (1.72)	-4.57 <sup>b</sup> (2.71)	2.62 <sup>b</sup> (6.69)	8.11 <sup>b</sup> (3.46)		-4.11 <sup>c</sup> (1.70)
YALOVA	-18.00 <sup>b</sup> (2.50)	8.68 <sup>b</sup> (3.01)			17.77 <sup>b</sup> (4.85)		

Table 5 notes:

a/ For the definitions of variables, see Section 3. The numbers in parentheses are the t-values in absolute value. The equations are estimated as a “Seemingly Unrelated Regression System” using the procedure of Zellner (1962). The system weighted R-square is 0.89.

b/ Significant at 1 percent level (one-tail test) .

c/ Significant at 5 percent level (one-tail test).

#### Source

Regressions are computed by the authors. The vote shares of political parties, S, U, W and G01 variables are calculated by the authors utilizing the data provided by the State Institute of Statistics (Prime Ministry, the Republic of Turkey). Q is obtained by dividing the figures on residences and businesses with heavy damage, provided by the General Directorate of Disaster Affairs (Ministry of Public Works and Settlement, the Republic of Turkey), by the 2000 provincial population figures reported by the State Institute of Statistics (Prime Ministry, the Republic of Turkey).