POLITICAL BUSINESS CYCLES, INSTITUTIONAL STRUCTURE AND BUDGET DEFICITS IN TURKEY*

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Abstract

This study tests the existence of political business cycles and effects of various instituitonal factors on budget deficits in Turkey. For this purpose, the annual (for 1960-1996), quarterly (for 1983:QI-1997:Q2) and the monthly data (for 1990:01-1997:6) are used. Results with annual data show that as the number of parties in a coalition government and the number of fiscal outhorities increase, the budget deficits also increase while elections do not significantly affect the budget deficits. However, the coalitions, the military coups, petroleum shocks, the Cyprus war and terrorism have significant and negative effects on budget deficits. Quarterly data shows that elections, number of parties in a coalition government and the number of fiscal authorities have some effects on sub items of the budget though they do not affect the budget deficit significantly. On the other hand, monthly data show that especially elections have significant and negative effects on the budget deficit and on all of the sub items of the budget except the investments. However, monthly data do not indicate any significance for the effects of number of fiscal authorities and number of parties in the coalition governments. The analysis with monthly data of budget subtotals clearly indicate the existence of political business cycles for the period 1990-1996. Therefore, while the analyses with the annual data disguise the effects of elections, the analyses with quarterly and monthly data reveal the existence of political business cycles. Moreover, quarterly data indicate that the political power dispersion increases the transfer expenditures. We stress some policy implications of these analyses. The emphasis is on the unification of fiscal authorities, and reducing off-budget expenditures.

Introduction

In developing countries, in particular, not only are the governments the largest employers but also the government budgets constitute the most important resource allocation mechanism. In these countries, on average, 30 percent of the gross domestic product (GDP) is allocated by government budgets. The governments control a major part of the money circulation by means of appropriation, salaries, and taxes, and by controlling the prices of the products of state owned enterprises. At the same time budget deficits are seen as one of the major reasons of inflation. Therefore, budgets contain very important policy tools as well as being a serious problem for the policy makers.

The purpose of this paper is to investigate the government budgets in relation to a number of political events and institutional factors in Turkey for the period 1960-1996. In this regard, we will consider as political events elections, coalition governments, military-backed governments, the Cyprus intervention and terrorism. The institutional factors that will be considered include organizational fragmentation of the budgetary institutions. Examining the effects of elections on budget deficits might give an indication of the existence of political business cycles in Turkey[1].

In addition, an attempt will be made to find out which components of the government expenditures are most sensitive to political considerations. This will be helpful in understanding the target constituencies that will benefit from that component of the budget. It will also indicate the level of sensitivity of the politicians to those constituencies. Analyses in this paper will contribute to an understanding of why budget deficits arise in Turkey. This will shed light on the necessary fiscal reforms and fiscal policies required to reduce budget deficits.

The budget deficits are not the only variable that may be affected by the elections. The number of public sector employees and the prices of goods and services produced by the public sector may also exhibit a pattern concurrent with the elections. The effects of these variables on current budget deficits may not be important in the short run but their long lasting effects may be serious. These issues are important and should be dealt with separately. These are left for future research.

This paper is organized as follows. Section II reviews the literature and the methodologies used. The historical background of main economic events in Turkey and the data used in this paper are explained in Section III. Empirical results are provided in Section IV. Policy implications are discussed in Section V. Section VI gives the conclusions.

II. Methodology

The topic of how political and institutional considerations affect the national fiscal policy formation attracted the attention of many researchers recently. Roubini and Sachs (1989 a, b) developed a model of political and economic determinants of budget deficits. They constructed a political power dispersion index whose value increases as the number of parties in a coalition increases. Their estimation results for the OECD countries showed highly significant effect of the political power dispersion index when economic determinants of budget deficits are taken into account. Public debt increases as the number of parties in a coalition government increases. As suggested by the game theory, coalition governments with large number of parties find it difficult to cooperate. This is referred to as Prisoner's Dilemma. Since coalition partners have different constituencies, each party will veto spending cuts that interfere with the interests of their respective constituencies.

Although researchers, agree that political factors in determining the budget deficits should be taken into account there is no consensus on how to measure the effect of these factors. Edin and Ohlsson (1991) rightly object to the way the political power dispersion index is constructed by Roubini and Sachs. Roubini and Sachs index[2] implicitly assumes that the increase of public debt under a minority

[1]As Schuknecht (1996, p.158) states, in order to analyze the political business cycles in developing countries, fiscal variables are more appropriate than monetary variables because in these countries the economy is not monetarized that much. Since we think that this is also applicable to Turkey, we will only deal with fiscal variables. Moreover, the money in circulation is also directly linked with budget deficits. Therefore, this will not cast a deficiency in our analyses.

[2]Roubini and Sachs test the proposition that multi-party coalition governments have a bias towards larger budget deficits by creating an index, P_t. This index measures political structure (e.g. degree of cohesion) of the national government. P_t is defined as follows:

government is three times as large as that under a two-party majority coalition. Using separate dummy variables for each category of the political power dispersion index, Edin and Ohlsson find that the estimated significant political effect which is interpreted by Roubini and Sachs as the coalition effect is in fact, entirely due to the effect of the minority governments. De Haan and Sturm (1994, 1997) introduce a corrected version of the power dispersion index of Roubini and Sachs and use a larger set of countries. They find no support for either the Roubini-Sachs results or the Edin-Ohlsson results and call for a reappraisal of such analysis. However, their corrected power dispersion index still suffers from the same deficiency as does the Roubini-Sach index. It implicitly assumes three times larger effect for a minority government than for a two or three-party coalition. De Haan, Sturm and Beekhuis (1999) estimated the effect of Roubini-Sachs dispersion index with a broad sample of OECD countries and could not find a supporting evidence for the association of growth of government debt with the power dispersion index or the type of government. However, they found that the number of parties in government has a significant positive effect on the debt/GDP ratio.

In addition to the effects of coalitions, several researchers examined the effects of elections on budget deficits. Models developed for this purpose show that politicians are inclined to run budget deficits before the elections and follow contractionary budget policies after the elections. However, the contraction after the elections is usually postponed and the expected austerity never happens. These models are called political business cycle models. Schuknecht (1996) examines political business cycles for a set of developing countries. He finds that governments of developing countries engage in expansionary fiscal policies before the elections in order to enhance their re-election prospects and contractionary policies after the elections.

This study examines the effects of both the coalition governments and the elections on budget deficits in Turkey for the period 1960-1996. We feel that these two effects should be tested together because election dates are as important as the periods of coalitions whose effects are also a political issue. Thus, the novelty in our approach is the joint examination of the elections and coalition governments. Further, we introduced a new power dispersion index which is suitable for the conditions of Turkey. In Turkey, since 1983, there are two separate organizations responsible for the preparation and implementation of the budget. They are the treasury and the ministry of finance. We claim that the power division between these two organizations exacerbate the political power dispersion of coalitions. In order to test this claim, we introduced an index that takes the interaction between these organizations and the number of parties in the coalitions into account.

III. Economic Background and the Data

In this study we analyzed the period 1960-1996. This period covers a number of important political and economic events. The period 1960-1980 was characterized by import substitution policies. On January 24, 1980, the Structural Adjustment and Stabilization program was implemented, , which marks the beginning of a period during which major policy switches occurred. Some of these changes are as follows. In July 1980, interest rate ceilings were abolished. In May 1981, the exchange rate began to float. In 1983, the foreign trade regime was liberalized and export led growth policies were adopted. The undersecretariat of the treasury was separated from the ministry of the finance. Eventually, treasury became a powerful government body managing the debt and cash flow policies. The treasury included the undersecretariat of Foreign Trade until 1994 at which time it was separated from the Treasury. This increased the number of fiscal authorities responsible for the economic and fiscal policies. The so called, institutional fragmentation occurred during this period (i.e. in 1983). In addition to the Ministry of Finance, Treasury and the Undersecretariat of Foreign Trade, the State Planning Organization (SPO) was also involved in economic decisions. SPO continued to draft five-year plans and annual investment programs. Treasury

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$$Pt = \begin{cases} 0 & n = 1 \\ 1 & \text{if} \quad n = 2 \\ 2 & n \geq 3 \\ 3 & \text{minority government} \end{cases}$$

where n is the number of the parties in the government . Roubini and Sachs also use the variable $(P_t \,.\, D_t)$, where D_t is a dummy variable which is equal to zero for high growth periods and equal to one for adverse economic circumstances. The variable $(P_t \,.\, D_t)$ gives more significant results than P_t itself. On the other hand, Roubini (1991) uses frequency of government change- including both regular and irregular changes as a proxy for the degree of political instability. He finds that the greater the frequency of government changes the larger will be the budget deficits. This verifies the proposition of Alesina and Tabellini (1990) who assert that alternative governments after elections strategically influence the choice of their successors. Roubini also concludes that military regimes are more successful than democratic ones in stabilization.

began to implement the internal debt policy in 1986. Interest earnings from government bonds were exempt from income taxes.

There have been a number of important political events during the 1960-1996 period. The early 1960s, 1970s and also the 1980s witnessed military backed governments while the late 1970s and the 1990s were characterized by coalition governments. The Cyprus war took place in 1974, petroleum shocks occurred in 1974 and 1979 and. ethnic terrorism started in 1987.

In this study we propose to examine the effects of these economic and political events such as the effects of power dispersion among the political and fiscal authorities on the budget deficit. Thus, the dependent variable is the ratio of budget deficit to GNP. The explanatory variables are GNP growth rate and a number of dummy variables representing the economic and political events referred to above. Our basic model follows the Roubini and Sachs model except that we cannot include the interest on debt and the unemployment rate among our explanatory variables since no reliable series exist on these for Turkey for the whole period under consideration.

Table 1 shows the average deficit to GNP ratio overtime for Turkey. We first observe that this ratio was lower for the 1962-1980 period than for the 1984-1996 period. Second, during the military or military backed governments (1960-61, 1971-1973 and 1981-1983), the budget deficits were greater for the 1962-1980 period but smaller than for the 1984-1996 period. These facts presumably indicate two testable hypothesis: One is that the export led growth strategy has built-in tendencies for budget deficits and the other is that the military coups are not as successful as we think they are in fiscal terms.

Figure 1 shows that the deficit/GNP ratio was always negative after 1976. which was the beginning of a high inflationary period. The ratio increased continuously after 1984.

Table 1 together with Figure 1 shows that there might be a correlation between the type of the government and structural policy switches and budget deficits. In fact many authors have asserted the same type of arguments previously. For example, Önis and Riedel (1993, p.2) assert that the state and politicians have always done the allocation of most of the resources in Turkey. The burden of this allocation depends on the high growth performance and the 'soft budget constraint' of the state (Önis and Riedel, p.91-104). In other words, in order to satisfy the majority of the voters, regardless of the cost of the resources, the governments should provide a positive growth rate[3] and, at the same time, should increase the budget transfers. Atiyas (1996) makes a similar argument. He observes that economic disequilibria mostly stems from the sensitivity of the uncooperative and competitive politicians to the demands of their constituencies. Atiyas and Sayin (1997) propose a principal-agent model in order to understand the budgetary allocation issue in Turkey. They say that voters are the principals during the elections but, after the elections, the politicians become the principals and bureaucrats become the agents. It is a very difficult task for principals to manage the agents because of the loose and discretionary legislation. This increases the mismanagement of public resources. They assert that party structures in Turkey are not sufficient to reduce the principal agent problem and to convert the voters' interests into cooperative and collective macroeconomic equilibrium (Atiyas and Sayin, 1997, p.34). However, Atiyas and Sayin do not test their observations.

Thus, most researchers claim that there is a negative relationship between politics and the economy in Turkey. Therefore, the next section will analyze quantitatively the existence of political business cycles for Turkey within the framework discussed above.

IV. Empirical Results

The political business cycle models assume that the incumbents follow expansionary policies just before the elections and reverse the trend after the elections in order to smooth the negative effects of pre-election budget deficits. In such models the elections are assumed to be exogenous and the deficits are endogenous. However, the election time can be endogenous rather than the other way around. Incumbents can prefer to set elections when the social and economic conditions are in their own favor[4]. In order to test whether opportunistic election time hypothesis is valid for Turkey, we also performed a Hausman-Wu test and

[3]Gazioglu (1986) found that if growth rate in Turkey falls, then the size of the sustainable budget deficit is reduced thereby increasing the inflation.

[4]Heckelman and Berument(1998) investigated such an issue. By using Hausman procedure with instrumental variable technique, they found some evidence for endogenous elections in Japan but not in England.

found that there is no problem of endogeneity of the election time for Turkey[5]. In this section we will present the analysis with the annual, quarterly and the monthly data separately.

Annual Data (1960–1996)

Following the developments in the time series analysis, we first tested the annual variables by the Augmented-Dickey Fuller test for stationarity. All annual variables including ratio of deficit to GNP (D/GNP) are difference stationary variables. The dependent variable is consolidated budget deficit over gross national product (D/GNP). The budget expenditures and deficits cover that of the consolidated budget which includes the central and annexed (universities, and state water affairs directorate, state highways directorate, state rural affairs directorate, etc.) budgets and excludes the budgets of state economic enterprises and municipalities. In fact some authors use either debt/GNP or the quantity of money/GNP as the dependent variable. We couldn't use the debt/GNP because we have problems in unification of external and internal debt as well as their interest rates. Moreover, not only the quantity of debt but also the maturity of it matters. On the other hand, since the financial deepening was not completed during the most of the data period, we also did not use quantity of money/GNP as a dependent variable. The explanatory variables are lagged values of the dependent variable, growth rate of GNP, real interest rate and some electoral and political dummies[6]. The definition of the dummy variables are as follows.

[5]In order to apply the Hausman-Wu test, we have estimated a predicted value of elections with the following equation: Elections = f (Deficit/GNP $_t$, Deficit/GNP$_{t-1}$, real budget expenditures, real supplementary budgets), then we used the predicted values of 'elections' and its original data series in the following equation: Deficit/GNP= f (wars-terrorism, number of parties * number of fiscal authorities, elections, predicted elections) and found residual sum of squares (RSS$_0$) and standard error of regression (SER). We also estimated : Deficit/GNP= f (wars-terrorism, number of parties * number of fiscal authorities, elections) and found RSS$_1$. Then, we find $X^2(E)$ = (RSS$_0$- RSS$_1$)/SER where critical value of $X^2(E)$ is approximately F(1,37)=4.10. If the $X^2(E)$ is less than F value, then it means there is no endogeneity problem and OLS gives consistent estimates. Since we found that $X^2(E)$=0.0035, there is no endogeneity problem of elections for the period 1960-1996. See Stewart (1991, p.144-145) and Heckelman and Berument(1998) for more details of the Hausman-Wu test in this context.

[6]See Appendix for the data source.

Coalition

This dummy variable takes a value of zero for single-party governments and 1 for coalition governments.

Extraordinary Government

Dummy variable for extraordinary governments. Extraordinary governments were in office three times: First, in the period of 30 May 1960 to 28 October 1961 due to a military coup; second, in the period of 26 March 1971 to 16 December 1973 due to a military warning; third, in the period of 12 September 1980 to 24 November 1983, again due to a military coup. This variable takes the value of 1 during the extraordinary years, zero otherwise. Then, we multiplied these by the number of the months in which extraordinary governments are in office. If the number of the days in any months exceeded fifteen we rounded this month to one.

Election

Dummy variable for elections. Created by using the Schuknecht(1996)'s definition as follows. We expect economic expansion in t-1 if the election is held within the 1st to 4th months of the year t; and the contraction in the same year if the election is held in 1-2 months, and contraction in the next year if it is held in 3-12 months. We use the values of 1, -1, 0 for next, previous and current years, respectively, for the election dummy. We took both the nationwide local (L) and the general central (C) elections into account. We did not include the regional local elections. In the analysis with quarterly and monthly data, we followed the same idea with slight changes.

Election 1

This dummy is equal to Election Dummy only without the assumption of contraction after the elections. That is, there is no –1 value in the Election1 Dummy. In the analysis with quarterly and monthly data, we followed the same idea.

Number of Authorities

Number of fiscal authorities. There were two organizations during the period 1960-1983 because budgets were prepared by MOF (Ministry of Finance) and SPO (State Planning Organization); number of fiscal authorities was threeafter 1983 because the Undersecretariat of Treasury (T) (and Foreign Trade until 1994)

was separated from the MOF and began to implement the foreign trade, foreign credit, debt-financing and transfer policies of the budget. Therefore, fiscal policies have been dispersed among these three authorities after 1983. However, we will take this number as two because usually the Treasury and the SPO are governed by the same ministry.

Number of Parties

Number of ruling parties. That is, the number of parties in the government. If the number of parties (P) is greater than or equal to two, then it means a coalition. However, in order to find No. of parties, we multiplied P by duration of a cabinet in force. In other words, we took the number of months into account. Therefore, we used 1 as a dummy of whole year while we use the number of months as a dummy if a governance is less than a year. In the analysis with quarterly and monthly data, we followed the same idea.

*Number of Parties * Number of Authorities*

This is our new power dispersion index. Compared to that of Roubini and Sachs (1989), this dummy combines both the powers of coalition parties and fiscal authorities. To get this variable, we multiplied the number of parties by the number of authorities. This variable gets bigger, the greater the degree of possibility for coalition partners to have constituencies among the MOF, SPO and T. For example, if the number of parties is 2 and number of authorities is 3 then it means that there are 8 (2 to the power of 3) ways to share the organizations between the parties. However, we exclude the cases in which all the organizations are given to one coalition partner because coalition parties usually share these financial organizations. Therefore, we exclude two extreme cases in which one of the coalition parties governs all of three organizations. Then, number of parties * number of fiscal authorities reduces to (8-2=) 6 possibilities of sharing.

War

This dummy variable shows the Cyprus war. It is 1 for 1974 and zero otherwise.

Terrorism

This dummy assumes the value of 1 for the terrorism after 1987 and zero otherwise.

Structural Change

It takes the value of 1 for those years (1980-1983) in which structural policy changes occurred and zero otherwise.

Roubini-Sachs Index

This index is the political dispersion index constructed in an identical way to that of Roubini and Sachs (1989).

Class 1, Class 2 and Class 3

These are political dummy variables used by Edin and Ohlsson (1991). Class1 assumes a value of 1 for two-party coalitions and zero otherwise. Class2 assumes a value of 1 for three or more party coalitions and zero otherwise. Class3 assumes a value of 1 for minority governments and zero otherwise.

We expect that increases in the number of parties in the coalitions, war, terrorism, and elections increase the budget deficits thereby having negative coefficients. On the other hand, we expect that the extraordinary governments decrease the budget deficits. The estimation results with annual data are in Table 2 which gives the effects of various political factors on budget deficits as a proportion of GNP (D/GNP).

We estimated several models in order to find the best fitting one for the budget deficit/GNP. We used Akaike Information Criterion (AIC) in order to determine the number of the lags of the dependent variable. In all of the models, the adjusted R-squares are greater than 0.60, which show that explanatory variables can explain more than half of the variation in the dependent variable. F-statistics show that the coefficients in equations are jointly significant. AR(2) and AR(1) statistic show the Breusch-Godfrey auto-correlation test values of order 2 and 1, respectively. Autocorrelation is rejected in all models. The results of the ARCH test show that the models do not have any ARCH problems. Also, the Jarque-Bera normality test indicates that the data has a normal F distribution. Ramsey's reset test indicates that Models 4 and 5 do not have any functional misspecification problems.

The war dummy and the dependent variable used as an explanatory variable up to the third, lag in all five models. The lagged dependent variables allow slow adjustment of budget deficits and also account for inertial influences (see

Schuknecht, 1996, and De Haan and Sturm, 1997). In estimating the models, two points have been taken into account. First, we specifically made regressions to figure out which one of the election dummies (i.e. 'election' or 'election1') has more explanatory power, other things being equal. The estimation results show that 'election1' has more explanatory power in four of the five models. For this reason, we did not report the models inclusive of the 'election'. Therefore, we can conclude that there have not been any contractions after the elections in Turkey contrary to what has been projected by the political business cycle models. Except in Model 5, all election dummies have the expected negative sign but they are not significantly different from zero. Therefore, annual data does not show the existence of political business cycles in Turkey between 1960-1996.

The second point investigated in the models was on the effects of the power dispersion of the political and fiscal authorities. For our purposes we used new dummies constructed first according to the Roubini and Sachs (1989) and Edin and Ohlsson (1991). We then constructed our own power dispersion index to show the combined effect of political and fiscal authorities. Our research is based on a dispersion index that differs from that of Roubini and Sachs in three respects: First, the 'No. of parties' assumes a value of real number of the parties in force while Roubini and Sachs assign values from 0 to 3 ranging from majority government to minority government. De Haan and Sturm (1997, p.745) point out that there is no reason to assign a value of 3 to a minority government while assigning 1 to two-to-three party majority coalitions. In order to avoid this arbitrariness, we used only the number of coalition partners, even for minority governments. Secondly, we used monthly fractions for the 'No. of parties' and the interaction term 'No. of parties * No. of authorities' in order to measure the duration of the power dispersion in any given year. Thirdly, Roubini and Sachs, and De Haan and Sturm used gross or net debt/GNP ratio as a dependent variable while we used consolidated budget deficit/GNP ratio[7]. We also tested the Class1, Class2 and Class3 variables, which were used by Edin and Ohlsson (1991) in order to see the effects of each class of coalitions. However, since these variables were not significant, we did not report the results.

The results in Table 2 show that coalition dummy and the number of parties are not significantly different from zero when taken individually. However, the number of parties is significant if the number of fiscal authorities exists in the same equation (see Model 5). They are different from zero at 5 percent significance level. As we observe from Model 1, the interaction term for parties and fiscal authorities (number of parties * number of authorities) is significant at 10 percent level, with the expected negative signs. The results clearly indicate that not only the dispersion of power among the coalition partners, but also the fiscal authorities should be taken into account in order to find the effects of power dispersion as a whole.

In summary, these results are consistent with the findings of Roubini and Sachs' (1989) prisoner's dilemma case. Since the coalition partners have different constituencies, each partner will try to cut down the other partner's expenditures. If the number of authorities involved with the preparation and implementation of the budget increases (as was the case in Turkey after 1983) the effects of the coalitions increase because coalition partners may share these organizations and create different constituencies among the bureaucrats.

During the first coalition after 1990, both the Ministry of Finance and the Treasury were controlled by the True Path Party. But during the coalition that began in March 1996 these organizations were shared amongst the coalition partners. A theoretical game approach can address the problems of bureaucrats of those fragmented fiscal administrations as well as the coalition parties. In other words, for the sake of stability, during the preparation and implementation of the budget, the Treasury, State Planning Organization and the Ministry of Finance would like to cut down the appropriation that is under the domain of the other organizations, but for the sake of their own benefit not their own appropriation. The reason for this is that a positive response to the politicians' demands can promise and provide more utility and prestige to any of the bureaucrats of these organizations. In fact, the separation of the Ministry of Finance and the Treasury might be the reason to create a soft budget constraint in order to satisfy constituencies by managing the state economic enterprises and off-budget funds without the intervention of the orthodox Ministry of Finance.

[7]As Roubini and Sachs, and De Haan and Sturm did, we also run various regressions for ratio of Public Sector Borrowing Requirements to GNP(PSBR/GNP). The PSBR includes the debt requirement of consolidated budget, State Economic Enterprises(SEEs), local administrations, social security institutions, funds, revolving funds, and SEEs under privatization administration. In the estimation results, neither of the indices were significantly different from zero.

Furthermore, if there is no incentive to cut spending and if the authorities do not want to be seen as a scapegoat for economic contraction, spending will increase more than the normal trend. It is also possible that coalition partners cannot provide a consensus on spending cuts. In such cases the coalition either becomes unpopular or ceases. Both cases are the solutions to the prisoner's dilemma: either the highest deficits occur or no more game[8]. Even though the coalition partners know that this is not a one-shot game, but will be repeated a fixed number of times, standard logic of the game does not change and coalition partners tend to defect (Varian, 1992, p.270). In fact, this is the reason for the short-tenured governments in Turkey in the 1990's. As Phlips (1988, p.160) points out, a dilemma is a dilemma, and cannot have a solution. However, in real life, collusive agreements have solutions. One of these solutions for firms in oligopoly markets is the pooling of revenues in order to deter cheating. Since, politics is more complicated than industrial relations, it is very difficult to pool political utility for coalition governments. Such issues are not addressed in this paper.

As the results in Table 2 indicate, the Cyprus war, petroleum shocks and terrorism have negative effects on budget deficits, though their coefficients are not significantly different from zero. Contrary to what is expected, the effect of military governments on budget deficits are negative. This may be explained with the fact that the coups in Turkey were not directly related to fiscal deficits. Even though, Ceyhun (1992) conjectured that all three coups (1960, 1971 and 1980) were related to the debt crises, which stemmed from Turkey's industrialization policies, the military governments did not enact reforms for budgetary discipline or any kind of restraining measures. In the literature, the effects of restraining debts on budgets are inconclusive. For example, Hagen (1991) when examining 49 states in the U.S., found that fiscal restraints did not prevent excessive borrowing but it led in some states for records to be hidden. Nonetheless, in Turkey new concepts were introduced during the military backed governments. For instance in 1961, central planning became a must for the public sector. As Önis and Reidel (1993) pointed out, the lack of any development plan before 1960 was a major indictment against the overthrown government. The coup of September 1980 adhered to the economic strategy of the stabilization program of the former government. Finally, the 1982 Constitution required that proposed appropriations in supplementary budgets were to be financed by predetermined resources. However, this does not work in real life because proposed revenues in supplementary budgets need not be realized by law and supplementary expenditures may be financed with debt. Therefore, the budgetary processes during the military backed governments were no different than those of the others.

The power dispersion index in Model 1,Table 2, which shows the interaction among the parties and fiscal authorities, has a significant effect on the ratio of budget deficits to GNP. Model 5 supports this result: The higher the number of parties or fiscal authorities, or both, in force, the greater the budget deficits. However, elections have negative effects on budget deficits, but its coefficients are not significantly different from zero.

The next section will show our analyses using the quarterly data.

Quarterly Data

In order to analyze the effects of political power dispersion and business cycles, we also used the quarterly data. By doing so we will be able to see the sensitivity of the sub-totals of the budget deficits to the elections and political power dispersion. Since a military government was in office during 1980-1982, we excluded the period before 1983. Our quarterly data covers the period 1983:QI-1997:QII, except other current and personnel expenditures. For these two variables, the analysis will cover the period 1986:QI-1997:QII because data for other currents and personnel expenditures are not published by the Ministry of Finance for the years 1983, 1984 and 1985.

The variables for quarterly data have the same meanings as do in the annual data. However, we made slight modifications in the data of the 'election', 'election1' and power dispersion index[9]. As in the previous analysis, the power dispersion index assumes a value of zero for non-coalition governments and 1 for two-party

[8]This can not be the compulsory spending item. But, for flexible cases such as transfers to the State Economic Enterprises, incentives from budgetary funds to the agricultural sectors, etc., increase in salaries are good examples for the prisoner's dilemma case.

[9]The election assumed '1' for two quarters before the elections and zero after the elections. If the time interval left after an election is less than 45 days within a quarter, then we assign the value of 1 for the whole quarter in which an election is held. Otherwise we assign the value of zero to that quarter because we assume that political expenditures in that quarter cannot be a dominant driving force for the budget deficit.

coalitions as in Roubini and Sachs (1989a). Our political power dispersion index is defined as follows:

(Number of Parties*Number of fiscal authorities) = Pt * Number of fiscal authorities where Pt stands for the number of parties in the coalition.

Therefore, our index assumes a value of one for the year 1983 and two for the 1984:QI-1993:QII, and four for the period 1993:QIII-1997:QII because from 1984 to 1997 the number of the fiscal authorities was two (i.e. the Ministry of Finance and the Treasury[10]) and the governments were consisted of two parties only in 1993:QIII and after. Whereas, for the period 1983:QI-1993:QII the R-S index assumes 0; and after then, one.

For this reason the coefficients of our dispersion index (not shown) came out as half of the Roubini and Sachs index in all of our equations in Table 3 while all other coefficients accept the constants remain the same. Moreover, all dependent variables are level stationary according to the ADF test results that are not shown in this study.

Models in Table 3 pass all the diagnostics tests. We used a semi-log equation only in Model 5. The number of the lags has been determined according to the diagnostic tests and Akaike's information criterion (AIC). According to Model 1 in Table 3, the coefficients of the 'election and political power dispersion index' are not significant. This means that quarterly data shows that there is no political business cycle and power dispersion in 1983-1997 in determining the quarterly budget deficit. However, in the subtotals of the budget expenditures, elections and power dispersion have significant coefficients. For example, the variable 'election' has significant positive effects on other current expenditures and investments as expected but negative effects on transfer expenditures contrary to what is expected. In fact, we expect transfer expenditures to increase before the elections, they however seem to decrease.. Therefore, obviously investments and other current expenditures increase significantly before the elections but they do not decrease after the election because the coefficients of the 'election1' were not significant, which are not shown here.

[10]Since The State Planning Organisation is administered under the same state ministry like the Treasury, we tend to accept the number of fiscal authority as 2 more than accepting it as 3, as we explained in the previous analysis.

Models 2 and 5 show that Roubini and Sachs index affect other current and transfer expenditures significantly with the expected signs. It seems that other current expenditures and transfers increase when the political power is dispersed. Since most of the transfer expenditures in the budget are a discretionary kind of item, such as social security salaries, agricultural, industrial incentives and duty losses, the result is very much appropriate to our claims.

The other interesting result is that, the personnel expenditures in Model 3 is affected by neither elections nor political power dispersion. It seems that they were changed according to the backward indexation method because the current personnel expenditure is very much sensitive to its lagged values, both negatively and positively, which means that periodical salary adjustments are made in a staggering style. In other words, the ratio of government salaries to GNP was increased pro-rata periodically in quarterly or bi-annual fashion while level of employment was almost constant. In addition to this, increases in real interest rates have decreased the level of personnel expenditures. This means that as interest payments increased, the governments gave up increasing the portion of the salary payments of the public sector in the GNP. There may be some counter arguments as to why the personnel expenditures are not sensitive to the political factors and elections. The first one is that quarterly data might not be covering the sensitivity of the personnel expenditures with respect to the elections. Secondly, since dates of elections are determined in an unforeseen fashion, the increases in personnel expenditures are determined before a fiscal year within the budget law. As we have shown with the Hausmann-Wu test previously, the second argument is more likely. The investments increase significantly before the elections but decreases as political power dispersion increases, though its coefficient is insignificant. Overall, the results show that investments are sensitive to the elections; while transfers show sensitivity to the political power dispersion, with the expected signs. However, total quarterly budget deficit and personnel expenditures are not affected significantly by any of these political variables.

Monthly Data

In order to see the effects of the elections and coalitions on budget expenditures and deficits, we used also monthly data for the period 1990:1-1997:6. This period is very interesting in terms of measuring the effects of elections and coalitions because in this period there have been three nation wide elections, two for

members of the parliament (in October 1991 and December 1995) and one for local administrations (in March 1994). Since the beginning of December 1991, only coalition governments have been in office. There were four coalitions between December 1991 and June 1997. The tenures of these four governments are 18, 27, 3 and 12 months, respectively. The average tenure was 15 months. In order to see the performance of these coalitions the mean and standard deviation of the real budget deficits or surplus (RBD) and inflation(Wholesale Price Index-WPI) of the coalition governments are given in Table 4.

The correlation matrix in Table 5 (derived from the data of Table 4) clearly shows that longer tenures are associated with lower rates of inflation, and smaller budget deficits. However, since the number of observations is five, only the correlation coefficient of the real budget deficit with tenure is significant at a 95 percent confidence level.

We tested for the presence of unit roots in the monthly variables with the Augmented Dickey Fuller (ADF) test. The analyses show that real budget expenditures, real budget deficits, other real current expenditures and real transfer expenditures are level stationary variables where all variables are seasonally adjusted[11].

We believe that monthly data will show the effects of elections and coalitions very well because the fiscal authorities can cushion the effects of elections within annual or quarterly data while it is impossible to hide them for components of total expenditure, immediately within a month. For this reason, we have regressed these monthly expenditures on 'election' or 'election1', 'coalitions', and 'number of parties * number of authorities'. The definitions of the dummy variables have the same meanings as for the quarterly data[12].

[11]Seasonal Adjusted variables are computed with the 'difference from moving average(additive)' method. It proceeds in the following way: First, centered moving averages of the series are computed; the moving average covers a whole year centered around the current observation. Second, the difference from the moving average is computed. Third, the ratio is averaged over all the years in the sample, for each month or quarter separately. These averages are the seasonal effects. Fourth, it computes the seasonally adjusted series by subtracting it from the seasonal factors.

[12]For monthly data, the 'election' dummy assumes '1' for six months before and during an election, and '-1' two months after the election; zero otherwise. 'election1' dummy has '1's for four months before and during the elections; zero otherwise.

The diagnostics tests in Table 6 show that Models 1, 2 and 6 have misspecification problems; and Models 2,3 and 6 have normality problems. In order to overwhelm these problems we have tested also log-linear models but only the investment model has been improved. Therefore, only models 4 and 5 pass all the diagnostic tests.

Our primary focus in the monthly data is also the election dummy and the political power dispersion index (i.e. 'number of parties* number of fiscal authorities'). According to Table 6, all models except Model 5 show that the coefficient of 'election' are significantly different from zero with the expected signs. Even though its coefficient is not significant, expectedly, investments increase 4.9 percent before the elections. We have also tested the variable 'election1[13]' but 'election' had a better fit. Accordingly, we can claim that the budget expenditures and thus deficits increase before the elections and tend to contract after them. Therefore, the monthly data shows that there is a political business cycle in Turkey but the annual and quarterly data do not show this effect. In other words, elections affect the timing of the expenditures only in a year but not over the years. The monthly data analyses show that the coefficients of the 'number of parties * number of fiscal authorities' are not significantly different from zero. Nevertheless, they have expected signs, as in the annual data analyses.

In the Model 5, the effect of the political power dispersion index on investments is negative as expected. Big projects require a decision of the Higher Planning Council, which consists of various representatives from coalition parties. It is possible that during this period, the decision taking process might have been decelerated by the Council. Moreover, investments might not be attractive for politicians just before the elections because big investment projects can be fruitful only in the long-run.

Among the components of budget expenditures, only investments and transfers are significantly effected by real interest rates. Investments are effected negatively while transfers are effected positively, as expected. Especially after 1990, the investment expenditures became a residual item among other expenditures. In other words, governments could not avoid serving the debt and interest payments. They are accounted for in transfer expenditures, or personnel salaries, but

[13]Not reported in the article.

projected investments are avoided in one way or another. To put it differently, the flexibility of government expenditures has been decreased drastically and this puts pressure on investments. Budget figures show that the share of investments in the budget decreased from 15.6 percent in 1987 to 6 percent in 1996. This proves that investment is treated as a residual item compared to the other budgetary expenditures.

Table 6 shows that all budget sub totals are effected by elections unlike the results of the analysis with the annual and the quarterly data. This is what we expect, because before the elections either personnel payments, employment level and transfers, such as pension payments (i.e. retirees bonuses and salaries[14]) and agricultural and industrial incentives, are boosted. Furthermore, during coalition governments, partners negotiate the flexible and populist spending items and it is highly likely that if one partner increases, for example the salaries, the other one favors the transfer increases[15]. By doing so, they are also able to fix their constituencies. Because of this after 1995, it has been a political tradition for the coalition partners to share the Treasury and the Ministry of Finance and their related sub-bodies. The Treasury is responsible for public cash flow, foreign loans, policies of state economic enterprises, state banks, drafting bills on agricultural support and incentive premium transfers, while the Ministry of Finance is responsible for drafting level of wages and salaries and pension payments. Thus, separation of these authorities has created a relief for granting more constituencies compared to a situation where there was one single fiscal authority.

V. Policy Implications

The analyses with annual data showed that a power dispersion index should combine the interaction between the fiscal authorities and political parties, if the fiscal authorities are dispersed under coalition governments. This analysis also shows that separation of the Treasury from the Ministry of Finance (i.e. fragmentation of fiscal authorities) has obvious negative effects on budget performances. Therefore, the power dispersion index of Roubini and Sachs, and De Haan and Sturm should be modified accordingly. One of the possible modifications can be made according to Edin and Ohlsson (1991). Another one suitable for the conditions in Turkey is explained in this study.

The analysis with quarterly data shows that the ratio of budget deficit to GNP is not affected by the elections and political power dispersion index significantly while some budget items such as transfers, investments and other current expenditures are. Obviously, political power dispersion increases the transfer expenditures significantly.

On the other hand, the analyses with monthly data indicate that elections increase budget deficits and expenditures significantly. This shows that quarterly and monthly data are more appropriate than annual data in order to observe the political business cycles because elections usually do not affect the longer run budget deficit. In other words, appropriation can be easily reallocated within a year among the periods and sub items for political purposes. This means that populism takes priority rather than efficiency in public expenditures. Politicians and researchers usually deal with budgets on a macro level disregarding its micro efficiency. Thus, these analyses draw our attention to two main points: One is the dispersion of the political and administrative power and the other is inefficiency that might stem from political business cycles. In order to reduce the discretion and increase the budget performance a restructuring of the budgetary cycle is needed[16].

These show that measures should be taken for budget performance. Campos and Pradhan (1996) propose some budgetary principles for fiscal performance. The common ones are transparency, and accountability. For example, in New Zealand after enacting the Fiscal Responsibility Act in 1993, the ministers and public officials were held responsible for projected outputs. This increased the fiscal performance (Campos and Pradhan, 1996, p.14-19.)

[14]In Turkish budget practice, the budget deficits of social security institution are financed through transfer items of the Ministry of Finance and the Treasury.

[15]Though this is difficult to quantify, the obvious example for this is the incentives and the retirees' salaries. For example, during Wealth Party (RP) and True Path Party (DYP) coalition (see Table 4), RP increased pension funds enormously, while DYP increased agricultural supports and incentives for medium scale enterprises from the Supporting and Price Stability Fund and the Incentive Fund, respectively. For this reason, these two items deviated enormously from what have been projected in Fiscal Year 1995 and 1996.

[16]In fact, an integrated World Bank project was initiated in 1994 for restructuring the budget but important parts of the project have been abolished and the rest has been decelerated.

The other important implication of the analyses is the unification of the MOF, Treasury and the SPO. This may also allow the existence of a powerful and single fiscal authority that can resist dispersion and pressures more easily. This unification is also crucial for the coordination of the separate public bodies. Atiyas and Sayin (1997) recommend cooperation of the MOF and the Treasury. However, as we said previously, repeated games in the prisoner's dilemma case tend to defect. Therefore, combining them for better cash management and debt policy might be more helpful because debt is closely related to the flows of revenues and expenditures that are in the domain of the MOF.

In order to avoid political business cycles, the discretion of the governments should be reduced. This can be reduced, first, by reducing the contingent appropriation items such as personnel contingencies. The second condition for reducing discretion is that extra spending should be as difficult as imposing an extra tax. In this respect, currently there is an asymmetry in Turkey. Taxes can be imposed only by a new act while most of the transfers (such as duty losses[17] of state economic enterprises and all kinds of incentives) can be increased by a cabinet decree.

VI. Conclusion

The existence of political business cycles in Turkey was tested using annual data (1960-1996), quarterly data (1983:QI-1997:QII) and monthly data (1990:1-1997:6). The regression equations using annual data did not indicate any political business cycles but some of the regression equations with quarterly and monthly data of sub items of the budget (i.e. personnel, transfers, other currents and investment appropriation) clearly indicated the existence of political business cycles. This means that elections do not cause increases in the annual ceilings of consolidated budgets but they possibly cause misallocation and inefficiencies in seasonal expenditures and contingent appropriations.

Estimation results with annual data showed that a power dispersion index should cover the interaction between coalition parties and fiscal organizations that are authorized to prepare and implement the budget as well as the Ministry of Finance. The analyses show, that at treasury separate from the ministry of finance and the state planning organization, under the existence of coalition governments, adversely affected the consolidated budget deficits in Turkey. Since coalition parties in recent years, usually share the fiscal authorities and like to control the different areas of government expenditures, the results also indicate that the prisoner's dilemma case might exist in budget expenditures. This verifies the assertion that the higher the number of fiscal authorities and number of parties in coalition governments, the larger will be the budget deficits. However, the analyses with quarterly data show that only some sub-items of budget such as transfer expenditures are affected by the political power dispersion significantly while the total budget deficit is not.

The Cyprus intervention had significant negative effects on budget deficits. The effects of coups were negative but coefficient estimates were insignificant. The average ratio of budget deficits during military regimes was one percent higher than those of elected governments for the period 1960-1983 but lower than that of the period 1984-1996. This result shows that military regimes were not successful in reducing budget deficits. The analyses also show that the shorter the tenure of coalition governments, the greater the deficit and the higher the inflation rate. This means that gradual worsening in the budget balances is a political issue as well as an economic one.

Sound fiscal policies should begin with canceling all off-budget expenditures and unification of treasury with the ministry of finance in order to decrease effects of political power dispersion (i.e. a case of the prisoner's dilemma).

Future research should consider inefficiencies that can stem from elections . Moreover, the effects of elections on prices of public goods and public sector employment should also be researched for complete coverage of political business cycles.

[17]If a government assigns a duty to any SEEs such as government banks, to intervene with goods and credit markets in order to favor a sector, then losses accrued from this duty is called duty loss.

Appendix

Data Sources

Dates Of The Governments And Coalitions: 1) DARÝCÝ, Haldun, ''Türkiye Büyük Millet Meclisinin Olusumundan (23 Nisan 1920) bu yana Kurulan Hükümetler, Unpublished Manuscript, Ministry of Finance, General Directorate of Budget and Fiscal Control, 1997. 2)Grand Assembly Almanacs (TBMM Yilliklari).

Composition of The Coalitions: SANAL, Türker (1995), Türkiye Cumhuriyeti 50 Hükümeti (Turkish Republic's 50 Cabinets), Ankara. Governments of Turkey can also be found at the web site of the Turkish Ministry of Foreign Affairs (www.mfa.gov.tr).

Projected and Actual Appropriations and Revenues: 1)BÜMKO (Haziran 1995), Bütçe Gider ve Gelir Gerçekleºmeleri (1924-1995),2nd Edition, Maliye Bakanligi, Bütçe ve Mali Kontrol Genel Müdürlügü, Sayi:1995/5, Ankara. 2)BÜMKO(Subat 1993), Aylar Itibariyle Konsolide, Bütçe Gider ve Gelir Gerçekleºmeleri (1957-1993), Maliye Bakanligi, Bütçe ve Mali Kontrol Genel Müdürlügü, Sayi:1993/11, Ankara. The quarterly data is produced from these sources.

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Figure 1:The Ratio of the Deficit to GNP (D/GNP) during the Period 1960-1996, Turkey

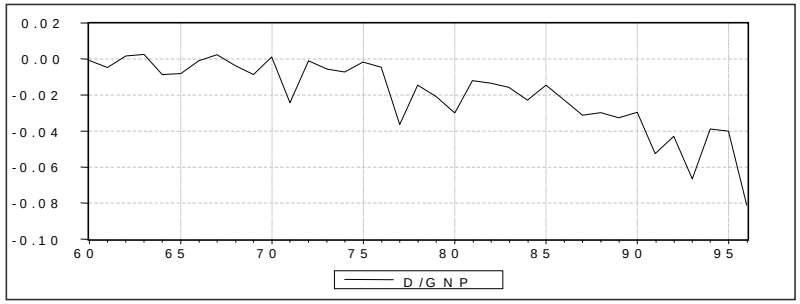

Table 1: The Average D/GNP during the Period 1960-1996 in Turkey.

	D/GNP
Extraordinary Gov. (1960-61;1971-73;1981-83)	-0,010
Elect Government (1962-1980)	-0,009
Elect Government (1984-1996)	-0,036
Elect Government (1960-1996)	-0,022

Note: Data for this table and other ones can be provided upon request.

Table 2: OLS Estimation: The Effects of Various Political Factors on Budget Deficit/GNP: 1960-1996, Turkey

No. of the Model Dependent Variable	Model 1 D/GNP		Model 2 D/GNP		Model 3 D/GNP		Model 4 D/GNP		Model 5 D/GNP	
Constant	0.004	(0.76)	-0.002	(0.46)	0.002	(0.38)	0.002	(0.187)	0.022*	(2.13)
DEPVAR(-1)	-0.014	(0.07)	0.098	(0.47)	0.060	(1.45)	0.002	(0.011)	-0.087	(0.428)
DEPVAR(-2)	0.216	(1.17)	0.269	(1.39)	0.520*	(2.29)	0.608*	(2.45)	0.164	(0.90)
DEPVAR(-3)	0.502*	(2.32)	0.484	(2.11)	-0.006	(0.51)	0.104	(0.39)	0.532	(0.90)
Election1	-0.00003	(0.007)	-0.0004	(0.08)	-0.0005	(0.11)	-	-	0.001	(0.26)
Election	-	-	-	-	-	-	-0.0005	(0.187)	-	-
Military Backed Gov.	-0.009	(0.82)	-0.004	(0.38)	-0.006	(0.51)	-	-	-0.013	(1.15)
Wars-Terrorism	-0.009	(1.31)	-0.009	(1.18)	-0.010	(1.37)	-0.001	(0.15)	-0.004	(0.61)
No. of Authorities	-	-	-	-	-	-	-0.006	(0.74)	-0.016*	(2.23)
No. of Parties	-	-	-	-	-0.003	(1.25)	-	-	0.0049*	(2.11)
Coalitions	-	-	-0.003	(0.65)	-	-	-	-	-	-
No. of Parties* No. of Auth	-0.004**	(1.96)	-	-	-	-	-	-	-	-
Structural Chg (1980-83)	-	-	-	-	-	-	0.008	(0.92)	-	-
R^2	0.74	-	0.70	-	0.72	-	0.72	-	0.76	-
Adjusted R^2	0.67	-	0.62	-	0.64	-	0.63	-	0.69	-
Durbin Watson	2.17	-	2.05	-	2.12	-	1.95	-	2.14	-
F-Statistics	10.42	-	8.79	-	9.33	-	7.73	-	10.04	-
AR(2)	1.11	(0.34)	0.55	(0.59)	0.92	(0.41)	0.66	(0.52)	1.32	(0.28)
AR(1)	2.09	(0.16)	0.80	(0.38)	1.46	(0.24)	0.12	(0.73)	2.15	(0.15)
ARCH(2)	2.05	(0.15)	0.26	(0.77)	0.89	(0.42)	0.47	(0.63)	1.12	(0.33)
ARCH(1)	2.72	(0.11)	0.23	(0.63)	0.98	(0.33)	0.67	(0.42)	1.10	(0.30)
Normality (Jarque-Bera)	0.466	(0.79)	1.52	(0.47)	1.02	(0.60)	2.45	(0.29)	1.89	(0.38)
Ramsey's Reset (1)(F-form)	0.008	(0.99)***	0.04	(0.96)***	0.01	(0.99)***	0.13	(0.72)	0.65	(0.52)

Note: The numbers in parentheses are absolute value of t statistics. * and ** show the significant coefficients at 5% and 10% significance level, respectively. The number in parentheses nearby the tests show the probability of not rejecting the null hypotheses of the corresponding tests. Ramsey Reset test shows that the models with *** have misspecification problems which we couldn't get rid of with existing data and the model.

Table 3: The Effects of Various Political Factors on Budget Expenditures with Quarterly Data, 1983: QI-1997: QII, Turkey

Dependent Variable	Model 1 Budget Deficit/GNP		Model 2 Other Current /GNP		Model 3 Personnel Expenditures/GNP		Model 4 Investments /GNP		Model 5 Log (Transfers) /GNP	
Constant	-0.014	(-0.82)	-0.0005	(-0.16)	0.000	(2.56)**	0.011	(2.72)*	-1.517	(-1.81)***
DEPVAR(-1)	-0.128	(-1.08)	-0.010	(-0.11)	0.396	(3.08)*	0.360	(2.75)*	0.064	(0.486)
DEPVAR(-2)	0.030	(0.22)	-0.08	(-1.32)	-0.247	(-2.02)***	-	-	-0.019	(-0.157)
DEPVAR(-3)	-0.016	(-0.12)	-	-	0.073	(0.63)	-	-	-0.099	(-0.907)
DEPVAR(-4)	0.220	(1.75)***	0.67	(3.60)*	0.476	(4.12)*	0.715	(6.82)*	0.057	(0.467)
DEPVAR(-5)	-	-	-	-	-	-	-0.439	(-3.92)*	-	-
DEPVAR(-6)	-	-	-	-	0.000	(0.020)	-	-	-	-
DEPVAR(-8)	0.337	(2.44)**	0.31	(1.77)***	-0.001	(-2.87)*	0.032	(0.33)	0.456	(3.44)*
Real Interest Rate(-3)	-	-	-		-	-	-0.027	(-1.62)	-	
Real Interest Rate(-4)	0.284	(1.49)	0.06	(1.71)***	-0.0002	(-2.42)**	0.0006	(0.03)	-2.469	(-2.31)**
Real Interest Rate(-6)	-0.069	(-0.55)	-	-	-	-	-	-	-	-
Real Interest Rate(-7)	-	-	-	-	-	-	-	-	3.19	(2.89)*
Real Interest Rate(-8)	-	-	-	-	-	-	-	-	-1.910	(-1.79)***
Growth Rate (-4)	-	-	0.008	(0.71)	0.0001	(2.24)**	-0.001	(-0.08)	-0.146	(-0.15)
Growth Rate (-5)	0.046	(0.38)	0.014	(1.28)	-	-	-	-	-	-
Growth Rate (-7)	-0.249	(-2.05)**	-	-	-	-	-	-	3.131	(2.97)*
Growth Rate (-8)	-	-	-0.015	(-1.22)	-	-	-0.004	(-0.20)	-	-
Real Interest Rate Cubed(-4)	-0.893	(-0.08)	-1.20	(-0.78)	-	-	-	-	-	-
Real Interest Rate Cubed(-7)	-36.53	(-4.81)*	-	-	-	-	-	-	-	-
Election1	-	-	-	-	-0.000001	(-0.32)	-	-	-	-
Election	0.010	(1.49)	0.001	(0.10)***	-	-	0.002	(2.43)**	-0.106	(-1.83)***
Roubini-Sachs Index	0.002	(0.12)	0.060	(0.10)***	0.000001	(0.49)	-0.003	(-1.30)	0.496	(2.89)*
R^2	0.66	-	0.94	-	0.80	-	0.86	-	0.76	-
Adjusted R^2	0.54	-	0.91	-	0.73	-	0.83	-	-	0.68

Table 3: contd.

Dependent Variable	Model 1 Budget Deficit /GNP		Model 2 Other Current /GNP		Model 3 Personnel Expenditures /GNP		Model 4 Investments /GNP		Model 5 Log (Transfers) /GNP	
F-Statistics	5.75	-	34.70	-	10.9	-	26.4	-	9.81	-
Durbin-Watson	1.66	-	1.91	-	2.13	-	2.09	-	2.08	-
AR(1)	1.87	(0.18)	0.00	(0.99)	0.49	(0.49)	0.30	(0.58)	0.24	(0.62)
AR(2)	0.97	(0.39)	1.02	(0.38)	1.10	(0.35)	1.64	(0.21)	0.82	(0.75)
ARCH(1)	0.04	(0.84)	1.03	(0.32)	0.14	(0.71)	1.65	(0.25)	2.33	(0.13)
ARCH(2)	0.49	(0.62)	0.57	(0.57)	0.07	(0.93)	1.42	(0.25)	1.71	(0.19)
Normality (Jarque-Bera)	1.70	(0.43)	3.60	(0.17)	0.87	(0.65)	0.62	(0.73)	1.43	(0.49)
Ramsey's Reset Test (3)	2.07	(0.12)	1.93	(0.15)	0.92	(0.45)	1.83	(0.16)	1.32	(0.29)

Note: Numbers in parentheses are t statistics.*, ** and *** show the significant coefficients at the 1%, 5% and 10% critical levels, respectively. For both tests, numbers in parentheses near the F, AR, ARCH, Normality and Reset tests show the probability of not rejecting null hypotheses. For example, for Ramsey reset test, * and ** show misspecification problem at 1% and 5% significance level, respectively Growth is de-seasonalized. For other current and personnel expenditures, we used data of the period 1986:QI-1997:QII because the data for 1983-1995 haven't been produced by the Ministry of Finance.

Table 4: Government Tenure versus Inflation and Deficits: 1989-1997, Turkey

Parties in the Government	Period Covered	Length of Service (months)	Real Budget Deficit		Inflation (WPI)	
			Mean	Standard Deviation	Mean	Standard Deviation
ANAP	89/11-91/11	25	-282.7	253.1	3.7	1.4
DYP+SHP	91/12-93/5	18	-490.4	387.4	3.3	1.9
DYP+SHP/CHP	93/6-95/9	27	-378.6	586.6	5.2	6.0
ANAP+DYP	96/3-96/5	3	-806.0	1,722.3	6.4	2.1
RP+DYP	96/7-97/6	12	-841.0	1,155.5	4.8	1.2

Table 5: The Correlation Matrix of Government Tenure, Inflation and Deficit: 1989-1997, Turkey

	Tenure	Mean Inflation	Mean Deficit
Tenure	1	-0.6	0.9
Mean Inflation	-0.6	1	-0.6
Mean Deficit	0.9	-0.6	1

Table 6: The Effects of Various Political Factors on Budget Expenditures with Monthly Data, 1989:11-1997:06, Turkey

Dependent Variable	Model 1 Budget Deficit	Model 2 Total Expenditures	Model 3 Other Current	Model 4 Personnel Expenditures	Model 5 Log (Investments)	Model 6 Transfers
Constant	374.9	514.7	38.96	96.02***	1.350**	18.48
	(0.73)	(1.10)	(1.35)	(1.98)	(2.28)	(0.06)
DEPVAR(-1)	0.211***	0.228**	0.109	0.742*)	0.530*	0.171***
	(1.69)	(1.98)	(0.83)	(8.62	(5.03)	(1.71)
DEPVAR(-2)	-	-	0.221***	-	-	-
		-	(1.67)	-	-	-
DEPVAR(-3)	-	-	-	-	0.271**	-
	-	-	-	-	(2.61)	-
DEPVAR(-6)	0.182	0.459*	0.174	0.272*	-	0.385*
	(1.53)	(3.19)	(1.32)	(3.07)	-	(3.46)
DEPVAR(-9)	-	-	-	-0.158	-	-
	-	-	-	(1.56)	-	-
DEPVAR(-12)	-0.266***	-0.380**	0.195**	-0.037	0.232**	-0.445*
	(1.78)	(2.52)	(2.13)	(0.31)	(2.00)	(2.88)
DEPVAR(-13)	0.663*	0.540*	-	0.019	-0.264**	0.633*
	(4.44)	(3.36)	-	(0.16)	(2.12)	(4.47)
DEPVAR(-14)	-0.324***	-0.260	-	-	-	-
	(1.93)	(1.63)	-	-	-	-
Real Int. Rate (-1)	-	-	-	-	-	5274.8*
	-	-	-	-	-	(2.74)
Real Int. Rate(-9)	-1079.6	-	-	-	2.045***	3363.5***
	(0.613)	-	-		(1.93)	(1.80)
Real Int. Rate (-14)	-	4038.7***	-	-	-	-
	-	(1.98)	-	-	-	-
Real Domestic Debt	-0.049	-	-	-	-	-
	(1.22)	-	-	-	-	-

Table 6: contd.

Dependent Variable	Model 1 Budget Deficit	Model 2 Total Expenditures	Model 3 Other Current	Model 4 Personnel Expenditures	Model 5 Log (Investments)	Model 6 Transfers
Election	-148.9***	222.4**	10.64***	22.41***	0.049	187.5**
	(1.68)	(2.16)	(1.74)	(1.74)	(0.91)	(2.05)
No. of parties, *No. of fiscal authorities	-40.77	134.5	2.91	6.92	-0.054	49.50
	(0.24)	(0.54)	(0.54)	(0.28)	(0.57)	(0.27)
R^2	0.35	0.42	0.25	0.78	0.63	0.49
Adjusted R^2	0.26	0.34	0.18	0.75	0.59	0.42
F-Statistics	3.66	4.95	3.70	32.34	15.5	7.3
	(0.001)	(0.000)	(0.003)	(0.00)	(0.000)	(0.000)
Durbin-Watson	1.93	1.68	1.79	2.20	2.03	1.79
AR(18)	0.63	0.78	0.69	1.38	0.55	0.86
	(0.85)	(0.71)	(0.80)	(0.19)	(0.92)	(0.62)
AR(12)	0.81	0.73	0.79	1.36	0.62	0.75
	(0.64)	(0.72)	(0.65)	(0.14)	(0.83)	(0.70)
ARCH(18)	1.32	0.40	0.16	0.49	0.64	0.84
	(0.23)	(0.97)	(0.99)	(0.95)	(0.84)	(0.64)
ARCH(12)	1.70	0.55	0.18	0.50	0.73	0.87
	(0.10)	(0.97)	(0.99)	(0.90)	(0.71)	(0.59)
Normality	0.71	34.8	139.9	0.38	0.11	39.3
(Jarque-Bera)	(0.70)	(0.000)	(0.00)	(0.83)	(0.94)	(0.00)
Ramsey's Reset Test	15.7	6.22	1.19	0.01	0.44	11.57
(F-Form)	(0.000)*	(0.02)**	(0.67)	(0.92)	(0.51)	(0.001)*

Note: Numbers in parentheses are absolute value of t statistics.*, ** and *** show the significant coefficients at the 1%, 5% and 10% critical levels, respectively. For both tests, numbers in parentheses near the F, AR, ARCH, Normality and Reset tests show the probability of not rejecting null hypotheses. For example, for Ramsey reset test, * and ** show misspecification problem at 1% and 5% significance level, respectively. All data are deseasonalized.