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ON FISCAL DEFICITS IN TURKEY**

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**Abstract:**

Recent theoretical and empirical research has considered how differences in political arrangements affecting national policy formation might explain variation in fiscal policies pursued (Volkerink and de Haan, 2001). The experience of high government deficits of developed nations in the 1980s led researchers to analyze the reasons for this and among other factors they have argued that political variables could also explain budget deficits (Sutter, 2003).

This study aims to investigate the effects of the political parties for fiscal deficits in Turkey for 1976-2004 period. Our results show that the most important variable in explaining the budget deficit to GDP ratio in Turkey is its lagged value. The political dispersion index variable, which measures the effect of the number of parties in the government in power, has proven to have a minor effect. Only the coalition governments with two or more parties are found to have higher budget deficit to GDP ratios. Ideology of the governments in power is important for the budget deficit to GDP ratio when it is considered with the number of parties in the government in power. In general, it can be said that polarization, fragmentation and ideology of the governments do not play an important role in explaining the budget deficit to GDP ratio.

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## 1. INTRODUCTION

The experience of high budget deficits of industrialized countries and the resulting increase in their public debt stock led researchers to investigate the underlying reasons and for driving forces for the budget deficits. One major outcome of this investigation was that deficits and debt could partly be explained by macroeconomic variables such as the business cycles. The other important part of the research argued that political variables like polarization between alternative governments or the institutions governing the budgetary process may be crucial in understanding cross-country differences in deficits and debt (Sutter, 2003: 313).

The explanation of how differences in political arrangements and institutions affecting national policy formation might explain variation in fiscal policies pursued is made by models which focus on the disagreement among agents in the decision-making process. As the conflicts among such agents increase, the difficulty of reducing budget deficits also increases. These kinds of policy conflicts become more important in countries with coalition governments. When a single party is in the power of government, costs might be easily shifted to outsiders. Multi-party governments will certainly also try to do the same thing, but policies that distribute adjustment cost equally and neutrally among governing parties will be more difficult to devise. When the number of parties in a coalition government increases, i.e. when the coalition government becomes more fragmented and polarized, it is harder to come with neutral adjustment plans. In addition, there will be uncertainty between the coalition parties about the toleration of the rising deficits and the resulting debt and about the timing of the stabilization plans, which might have in distributional implications that they dislike. All of these uncertainties lead polarized and fragmented governments to delay stabilization longer than would unified governments (Franseze, 2000)

The model of conflict presented above can also be explained by the help of the game theory, which shows that cooperation is more difficult when the number of players is large (Tutar and Tansel, 2000). Applying this to coalition governments means that they will find it difficult to decrease and hopefully close budget deficits after adverse shocks, since parties in the coalition will reject spending cuts or tax increases that are against the interests of their respective constituencies (de Haan and Sturm, 1997).

The effects of fragmentation and polarization of governments on budget deficits have been analyzed by researchers mostly by creating a political power dispersion index. The studies by Roubini and Sachs (1989a, b) constitute a touchstone on this issue. Their model of political and economic determinants of budget deficits identifies the type of government in power (majority or minority) by the index of political power dispersion. Their results in a sample of 14 OECD countries indicate that fiscal debt increases as the number of parties in a coalition government increases. Roubini and Sachs (1989b) also argue that coalition governments will be biased towards higher levels of government spending relative to majority party governments. The reason for this is that the parties in government will make logrolling agreements so as to ensure higher outlays benefiting their individual constituencies.

The studies by Roubini and Sachs have been criticized by Edin and Ohlsson (1991), in the sense that the political dispersion index of Roubini and Sachs (1989a, b) captures the effects of minority governments rather than majority coalition governments. In the same line, de Haan and Sturm (1994) could not find support for neither the Roubini and Sachs (1989) hypothesis nor the position expressed by Edin and Ohlsson (1991) for the EU member

countries. de Haan and Sturm (1997), in a later paper, examine whether cross-country differences in debt-accumulation and level of government spending can be explained using the “corrected” power dispersion index of Roubini and Sachs (1989) for 21 OECD countries for 1982-1992 period. However, their findings point that the growth of government debt and government spending are not related to the political power dispersion index.

Volkerink and de Haan (2001) extend previous literature on the effects of fragmented government on fiscal policy outcomes in various directions using a panel data of 22 OECD countries over 1971-1996 period. Their focus is on the central government instead of general government contrary to all of previous studies on this issue. They investigate not only the effect of fragmentation of government but also government’s position vis-à-vis parliament. They find that political fragmentation does not affect government’s budget deficit.

Huber, Kocher and Sutter (2003) use the Banzhaf index of voting power, respectively the standard deviation of Banzhaf indices of coalition parties to measure the government strength and power dispersion. The results of the empirical analysis using this index indicates that a higher dispersion of voting power of government coalition members leads to less debt accumulation in OECD countries from 1970 to 1990. Equally strong coalition partners are biased towards blocking any cooperative outcome by using their veto power. Coalition governments composed of parties, which differ considerably in their voting power, are better in achieving a successful stabilization of their debt level. All of this evidence supports the models insisting on the importance of the distribution of power within coalition governments.

Political economists have also argued that left-wing parties and right-wing parties differ in their fiscal policy priorities. Specifically, left governments favor larger public economies, greater redistribution, and more Keynesian expansion and so they are expected to run greater deficits than rightist governments (Fransese, 2000). Among others, Midtbo (1999) uses a pooled vector AR model and finds that public sector growth remains higher during left-wing rule.

Another group of research on this issue is the political business cycle models, which in addition to other political variables take the effects of elections into account. According to these, politicians are inclined to run budget deficits before the elections and follow contractionary budget policies after the elections. The contraction after the elections is usually postponed and the expected austerity almost never happens. Tutar and Tansel (2000) examine the effects of both the coalition governments and the elections on budget deficits in Turkey for 1960-1996. They argue that these two effects should be tested together because election dates are as important as the periods of coalition whose effects are also political issues. They find that annual deficits increase when both the number of fiscal authorities and the number of coalition parties increase, while quarterly budget deficits to GNP is unaffected by the elections and the power dispersion index and monthly deficits increase by elections.

This study aims to investigate the importance of properties of political parties for fiscal deficits in Turkey. Specifically, political fragmentation will be proxied by constructing two political dispersion indexes, one which takes single and coalition parties including the number of parties in the coalition into consideration, the other indicating whether the party or parties in power are leftists or rightist. With the help of these indexes, the effects of fragmentation and ideology on budget deficits will be tested.

In the rest of the paper, the second section describes the econometric model used and the data and, the third section presents the results while conclusion and policy implications are given in the final and fourth section.

## 2. DATA AND THE ECONOMETRIC MODEL

In order to test the effects of political fragmentation and political ideology on the budget deficits, this paper will use the standard model used in the literature. This standard model has its roots from Roubini and Sachs (1989a) and is consistent with optimization approaches to budget deficits and also with the traditional Keynesian models of fiscal deficits (de Haan and Sturm: 1997: 743).

The econometric model to be estimated in this paper can be written as follows:

$$DEF = \alpha_0 + \alpha_1 DEFL + \alpha_2 GROWTH + \alpha_3 DRB + \alpha_4 COL + \alpha_5 IDE + \varepsilon \quad (1)$$

where DEF is the budget deficit to GDP ratio, DEFL the lagged budget deficit to GDP ratio, GROWTH the rate of GDP growth, DRB is the change in debt-servicing costs, COL is the political dispersion index which measures the majority or coalition parties, and finally, IDE is the political dispersion index which measures the ideology of the parties in power.

DRB variable is calculated as follows:

$$DRB = d(i - p - n)B.Y_{t-1} \quad (2)$$

where  $i$ = interest payments on government debt to debt ratio,  $p$ = inflation rate,  $n$ = growth rate  $B.Y_{t-1}$  = lagged debt to GDP ratio

The first political dispersion index variable COL ranges from 0 to 3 and described as;<sup>1</sup>

- 0 one party majority governments;
- 1 the coalition governments with two or three parties;
- 2 the coalition governments with four or more parties;
- 3 minority governments.

The other political dispersion variable IDE takes the values 0, 1 or 2; 0 if it is a neutral government<sup>2</sup>, 1 if it is a rightist party and 2 if it is a leftist party.

However, as Edin and Ohlson (1991) have pointed out, the construction of COL places a very restrictive form on its possible effects. Therefore, we also estimated equation 1 with dummy variables for each “political class” and for each “ideology class” as suggested by Edin and Ohlson. Description of the COL dummies is as follows:

<sup>1</sup> As the periods in which governments were in power are in disorder, the data for governments in power are formed as follows: For every year, the government which has been in power for the longest period in 12 months has been considered as the government in power for that year.

<sup>2</sup> Here, the ideology dummy is constructed for 3 classes because after 1980, the ideology of the military government who has stayed in power for 3 years is considered as “neutral”.

- COL1 = 1 if coalition government with two or three parties  
= 0 if otherwise
- COL2 = 1 if coalition governments with four or more parties  
= 0 if otherwise
- COL3 = 1 if minority governments  
= 0 if otherwise

And, the descriptions of the IDE dummies are;

- IDE1 = 1 if it's a rightist party  
= 0 if otherwise
- IDE2 = 1 if it's a leftists party  
= 0 if otherwise

Table 1 reports the constructed political dispersion indexes of Turkey for the period of 1976-2004.

**Table 1.** COL and IDE Indexes for Turkey (1976-2004)

Year	Government	Majority, Minority or Coalition	Ideology of the major party	COL	IDE
1976	4. Demirel	coalition with 4 parties	rightist	2	1
1977	4. Demirel	coalition with 4 parties	rightist	2	1
1978	3. Ecevit	one party majority	leftist	0	2
1979	3. Ecevit	one party majority	leftist	0	2
1980	6. Demirel	one party minority	rightist	3	1
1981	Ulus	military	-	3	0
1982	Ulus	military	-	3	0
1983	Ulus	military	-	3	0
1984	1. Özal	one party majority	rightist	0	1
1985	1. Özal	one party majority	rightist	0	1
1986	1. Özal	one party majority	rightist	0	1
1987	1. Özal	one party majority	rightist	0	1
1988	2. Özal	one party majority	rightist	0	1
1989	2. Özal	one party majority	rightist	0	1
1990	Akbulut	one party majority	rightist	0	1
1991	Akbulut	one party majority	rightist	0	1
1992	7. Demirel	coalition with 2 parties	rightist	1	1
1993	7. Demirel	coalition with 2 parties	rightist	1	1
1994	1. Çiller	coalition with 2 parties	rightist	1	1
1995	1. Çiller	coalition with 2 parties	rightist	1	1
1996	Erbakan	coalition with 2 parties	rightist	1	1
1997	3. Yılmaz	coalition with 4 parties, minority	rightist	3	1
1998	3. Yılmaz	coalition with 4 parties, minority	rightist	3	1
1999	5. Ecevit	coalition with 2 parties	leftist	1	2
2000	5. Ecevit	coalition with 2 parties	leftist	1	2
2001	5. Ecevit	coalition with 2 parties	leftist	1	2
2002	5. Ecevit	coalition with 2 parties	leftist	1	2
2003	Erdoğan	one party majority	rightist	0	1
2004	Erdoğan	one party majority	rightist	0	1

The data for the COL and IDE index variables are constructed by the data from the Election Publications of State Statistical Institute of Turkey. The data on all of the other

variables are obtained from either the State Statistical Institute or State Planning Organization of Turkey. Our data is annual and covers the period 1976-2004. The government budget deficits (DEF), debt servicing costs (DRB) and growth rates (GROWTH) are plotted in Figure 1 below.

### 3. EMPIRICAL RESULTS

In order to test the effect of political fragmentation on government budget deficits, many versions of the empirical model given in equation (1) are estimated. The best versions in terms of significance are given in Table 2. It can be seen that Table 2 presents nine models, where DEFL, GROWTH, and DRB exist in all models, but the political dispersion index variables, COL and IDE, have been used interchangeably.

In all models, DEFL is clearly seen to be significant with a positive coefficient. The coefficient reaches the highest value of 0.85 when none or only one of the political dispersion indexes is used in the equation. As the COL and IDE dummies are added, the coefficient of DEFL remains statistically significant but falls to 0.69 at the least. This means that the lagged budget deficit to GDP ratio has a very important place in explaining the current budget deficits to GDP ratio.

The rate of GDP growth (GROWTH) is the second variable used in the empirical model. It proves to affect the budget deficit to GDP ratio negatively and significantly in the first four regressions. In these regressions, the models contain either COL or COL1, COL2 and COL3 or IDE, in addition to DEFL and DRB. In the other models, GROWTH loses its significance and the value of the coefficient also falls from -0.21 to -0.11. It can be said that an increase in the rate of GDP growth decreases the budget deficit/GDP ratio but this effect lessens when the political dispersion indexes are also used in the equation.

As for the debt-servicing costs (DRB), the variable is barely significant in most of the models and the size of the coefficient is small, around -0.06. An increase in debt servicing costs can be said to have a negative effect on the budget deficit to GDP ratio, although this effect does not have a strong statistical significance.

All of the political dispersion index dummy variables, COL, COL1, COL2, COL3, IDE, IDE1, IDE2 and IDE3, are found to have positive effects on the budget deficit/GDP ratio. However, they are very rarely statistically significant.

The first political dispersion index COL has a very small effect (0.05) on DEF when it is the only political dispersion variable used in the model. Its effect increases to 0.49 and 0.53 when IDE and; IDE1 and IDE2 are also in the equation respectively (models 6 and 8). However, none of these are statistically significant. Among COL1, COL2 and COL3, only the positive effect of COL1 is statistically significant in all models where it is used. This means that governments in power which are coalitions with two or three parties have higher budget deficit to GDP ratios. Minority governments and coalition government with four or more parties do not seem to have a significant effect on budget deficit to GDP ratio.

The other political dispersion index dummy IDE measures the effect of the ideology of the government in power on the budget deficits. We see that IDE is significant only when it is used with COL in the equation (model 6). Ideology matters when it is considered with the number of parties in the government in power. IDE1, which measures the effect of parties on budget deficits is found to have a positive effect but it is not significant. On the other hand,

IDE2, which measures the effect of leftist parties on budget deficits, is statistically significant in regression 8 when COL and IDE1 are also in the equation. Its positive effect is quite large as 4.18.

#### 4. CONCLUSION

One of the most important research questions for economic analysis is the reason for high government budget deficits in many countries, including developed and developing ones. An important part of research on this issue has focused on the possible effects of political and ideological structure of the governments in power to budget deficits (Franseze, 2000).

It has been argued by many researchers that differences in political arrangements and institutions may have crucial effects on the decision-making process of the budget deficits. For example, in a single party government, it may be easier to shift to costs to outsiders, whereas in multi-party governments, policies that distribute adjustment costs equally and neutrally among governing parties may be more difficult to come up with. In summary as the number of parties in coalition government increases, which means an increase in fragmentation and polarization, it is probably harder to come with neutral adjustment plans. In addition, the ideology of the government in power is proposed to have a role in explaining the budget deficits in a country (Midtbo, 1999). Leftist governments are expected to run greater deficits than rightist governments (Franseze, 2000).

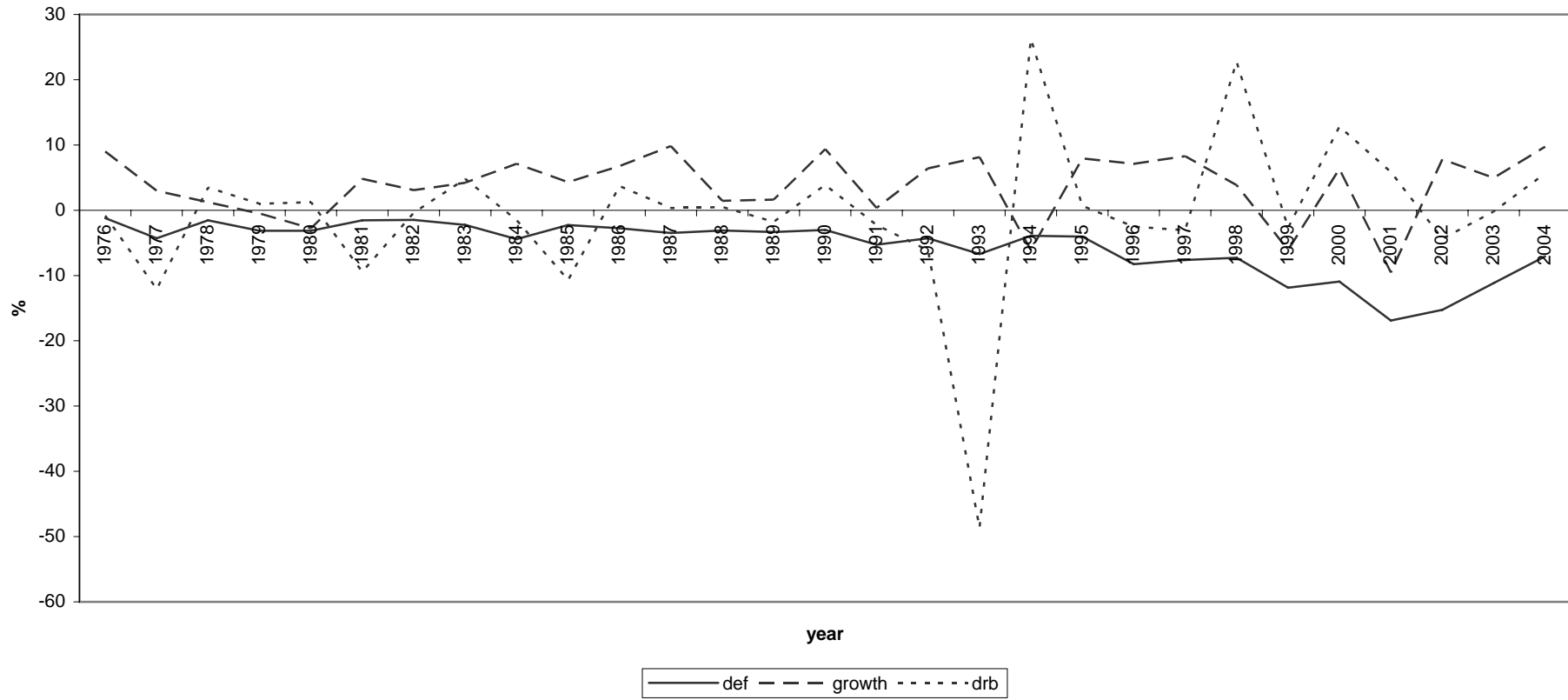
In this study, we aim to investigate the effects of the political parties for fiscal deficits in Turkey for 1976-2004 period, in two ways. First of all, we analyze the effect of fragmentation and polarization by taking account the number of parties in the government in power into account by constructing a political dispersion index dummy variable (COL). Secondly, the effect of the ideology of the government in power on the budget deficits is considered by a different index dummy variable (IDE).

Our results show that the most important variable in explaining the budget deficit to GDP ratio in Turkey is its lagged value. The rate of growth in GDP and debt servicing follow this variable in importance in explaining the budget deficit to GDP ratio in Turkey.

The political dispersion index variable COL which measures the effect of the number of parties in the government in power has proven to have a minor effect. Only the coalition governments with two or more parties are found to have higher budget deficit to GDP ratios. Ideology of the governments in power is important for the budget deficit to GDP ratio when it is considered with the number of parties in the government in power. Leftist parties have a significant and positive effect on budget deficits. In general, it can be said that polarization, fragmentation and ideology of the governments do not play an important role in explaining the budget deficit to GDP ratio in Turkey.



**Figure 1.** Government deficit, debt servicing costs and growth rates in Turkey (1976-2004)



**Table 2.** Estimation results of Equation 1.

	<b>Constant</b>	<b>DEFL</b>	<b>GROWTH</b>	<b>DRB</b>	<b>COL</b>	<b>COL1</b>	<b>COL2</b>	<b>COL3</b>	<b>IDE</b>	<b>IDE1</b>	<b>IDE2</b>	<b>Adj R<sup>2</sup></b>
<b>Model 1</b>	1.79 (2.41)**	0.85 (8.45)***	-0.21 (-2.49)**	-0.07 (-1.85)*								0.73
<b>Model 2</b>	1.72 (1.96)*	0.85 (8.26)***	-0.21 (-2.42)**	-0.07 (-1.82)*	0.05 (0.15)							0.72
<b>Model 3</b>	1.37 (1.60)	0.76 (6.97)***	-0.16 (-1.86)*	-0.04 (-1.15)		2.04 (1.99)*	2.00 (0.90)	0.004 (0.004)				0.75
<b>Model 4</b>	0.60 (0.57)	0.76 (6.76)***	-0.16 (-1.82)*	-0.06 (-1.77)*					1.35 (1.56)			0.74
<b>Model 5</b>	0.73 (0.57)	0.76 (6.55)***	-0.16 (-1.65)	-0.06 (-1.73)*						1.15 (0.84)	2.65 (1.49)	0.73
<b>Model 6</b>	-0.58 (-0.43)	0.73 (6.38)***	-0.13 (-1.40)	-0.06 (-1.78)*	0.49 (1.19)				1.99 (1.96)*			0.75
<b>Model 7</b>	-0.20 (-0.149)	0.69 (5.82)***	-0.11 (-1.22)	-0.04 (-1.22)		1.97 (1.96)*	2.06 (0.94)	0.98 (0.78)	1.43 (1.35)			0.76
<b>Model 8</b>	-0.90 (-0.48)	0.73 (6.25)***	-0.14 (-1.39)	-0.06 (-1.75)*	0.53 (1.18)					2.37 (1.39)	4.18 (1.91)*	0.74
<b>Model 9</b>	-0.31 (-0.16)	0.69 (5.67)***	-0.11 (-1.18)	-0.04 (-1.19)		1.98 (1.90)*	2.04 (0.91)	1.03 (0.73)		1.55 (0.86)	2.93 (1.27)	0.74

Note: t-statistics are given in parentheses. \*\*\*, \*\* and \* denote the significance at 1%, 5% and 10% levels respectively.

## BIBLIOGRAPHY

de Haan, J. and J. Strum (1997), "Political and Economic determinants of OECD budget deficits and government expenditures: A reinvestigation", *European Journal of Political Economy*, vol. 13, pp.739-750.

Franseze Jr., R. J. , (2000), "Electoral and Partisan Manipulation of Public Debt in Developed Democracies, 1956-1990", (in: R. Strauch, J. Von Hagen-Ed. *Institutions, Politics and Fiscal Policy* ), Kluwer Academic Press, pp. 61-83.

Freitag, M. and P. Sciarini (2001), "The Political Economy of Budget Deficits in the European Union", *European Union Politics*, vol. 2. no. 2, pp.163:189.

Huber, G., Kocher, M. and M. Sutter, (2003), "Government Strength, power dispersion in governments and budget deficits in OECD countries: A Voting power approach", *Public Choice*, vol. 116, no. 3, pp.333-350.

Khenami, S. (2002), "Federal Politics and Budget Deficits: Evidence from the States of India", *World Bank Policy Research Working Paper*, no: 2915.

Lockwood, B., A. Philippopoulos, and A. Tzavalis, (2001), "Fiscal policy and politics: theory and evidence from Greece 1960-1997", *Economic Modelling*, vol.18, pp. 253-268.

Midtbo, T. (1999), "The impact of parties, economic growth and public sector expansion: A comparison of long term dynamics in the Scandinavian and Anglo-American democracies, *European Journal of Political Research*, vol. 35, pp. 199-223.

Roubini, N. and J. D. Sachs, (1989a), "Political and Economic Determinants of Budget Deficits in the Industrial Democracies", *European Economic Review*, vol.33, pp. 903-938.

\_\_\_\_\_, (1989b), "Government Spending and budget Deficits in the Industrial Countries", *Economic Policy*, vol. 8, pp.99-132.

Sutter, M. (2003), "The political economy of fiscal policy: an experimental study on the strategic use of deficits", *Public Choice*, vol. 116, no. 3, pp. 313-332.

Tutar, İ. And A. Tansel, (2000), "Political Business Cycles, Institutional Structure and Budget Deficits in Turkey", *METU ERC Working Paper*, no: 00/16.

Volkerink, B. and J. de Haan, (2001), "Fragmented Government Effects on Fiscal Policy: New Evidence", *Public Choice*, vol. 109, no. 3-4, pp. 221-242.