EFFECTS OF GOVERNMENT FRACTIONALIZATION ON
ECONOMY: TURKISH EXPERIENCE

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Abstract

This study analyzes the effects of different types of government structures on various fiscal, monetary&macro variables in Turkey during the 1985:01-2001:11 period. The empirical evidence presented here suggests that when Turkey is governed by minority governments, expenditures increase as expected but there is no significant effect on monetary variables, inflation and output. On the other hand, as the number of parties in a coalition government increase; government spending, other expenditure items and monetary aggregates increase and taxes decrease.

Key words: Minority Government, Coalition Government and Turkey.

Jel codes: H11, H50 and H60.

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1. Introduction:

Our research has been focused on how different government structures affect various fiscal&monetary variables, inflation and ouput in Turkey during the 1985:01-2001:11 period. There are three possible structures concerning the common notion of political intervention in economic policy. The first one is the Partisan Political-Business Cycle (Partisan PBC) initiated by Hibbs (1977), which examines how the ideological preferences of governments affect their economic policies. However, Sayan and Berument (1997) did not find significant evidence of Partisan PBCs in Turkey. Secondly, The Electoral Political-Business Cycle (Electoral PBC) hypothesis, initiated by Nordhaus (1975) and Lindbeck (1976), argues that a government would like to apply expansionary economic policies in order to influence voters and maximize its chance of reelection before election. Ergun (2000) found statistically significant evidence of Electoral PBCs for various policy instruments and economic performance in Turkey. The third one analyzes the effects of the fractionalized governments (coalition or minority governments versus majority governments) on their economic policies. Roubini and Sachs (1989) present evidence, which suggest that the higher budget deficits are characterized by a short-term coalition or minority governments. Similarly, Andrabi (1997) shows that fractionalization and political divisions tend to raise government expenditure and lower taxes. All of these studies argue that this result holds due to veto power on specific projects, spending cuts that interfere with the interests of their respective constituencies, and the instability of coalition governments. The resources can be used for buying off key voter or satisfying influential constituencies and special interests. This motive is stronger when policymaking is uncoordinated and common pool problems arise over public resources (Alesina and Perroti, 1999). More fractionalized and more polarized polities (differences in ideological preferences) face greater difficulties in coordinating action over fiscal policy (Roubini and Sachs, 1989). This causes an overexploitation of fiscal resources, especially in the form of public debt that falls on the shoulders of future generations (Velasco, 1999).

Turkey has been governed by minority or coalition governments since 1991. Hence, number of authorities involved with the preparation and implementation has increased and this causes an increase in the effects of the coalitions because coalition parties share the fiscal authorities and like to control the different areas of government expenditures in recent years.

Therefore, analysing the effects of government structures will contribute to an understanding of why budget deficits and inflation arise in Turkey.

Our research differs from previous studies on two counts. Firstly, although there exists some empirical literature testing the effects of government structures on the budget deficits for major industrialized countries, there is a serious lack of similar studies for developing countries like Turkey. Secondly, we use an extensive data set, including all important economic policy instruments and indicators, which are particularly extensive for budget items. This paper aims to fill these gaps in the literature. Although Tutar and Tansel (2000) examined the effects of coalitions and elections on budget deficits jointly for Turkey, this study did not indicate any significance for the effects of coalition governments by using monthly data and it used only budget expenditures as data set. In fact, ours is one of the first empirical studies to discuss the effects of the fractionalized governments on Turkish economy, comprehensively.

The rest of this paper is organized as follows. The methodology is discussed in the second section. Data are described and empirical findings are reported in the third section. The fourth section presents our conclusions.

2. Methodology:

In order to capture the effects of political structure of governments on various economic aggregates, we used the transfer function analysis and the following model is estimated:

$$X_t = \sum_{i=1}^{12} \alpha_i M_i + \sum_{i=1}^{p} \beta_i X_{t-i} + \gamma Z_t + \varepsilon_t \qquad (1)$$

where X_t is the policy variable in interest; M_1 to M_{12} are the monthly dummy variables that are used to account for seasonality; p is the lag order that is determined by using Final Prediction Error Criterion; Z_t is the political structural variable and ε_t is the error term at time t. Here, γ is the coefficient of our interest to assess the effects of political structures on economic aggregates.

3. Empirical Results:

This section reports the estimates of transfer functions for various macroeconomic aggregates, discussed in the previous section, by using monthly data from 1985:01 to 2001:11 in order to see the effects of minority and coalition governments on a set of fiscal, monetary and macroeconomic variables. The fiscal variables consist of the central government's consolidated budget with both revenue and expenditure items. Revenue items include *total revenues, tax revenues, direct and indirect revenues, non-tax revenues* and *other revenues*. Expenditure items consist of *total expenditures, non-interest expenditures, personnel expenditures, investment expenditures, other current expenditures; other transfers* and *transfers to State Economic Enterprises (SEE*, here after). In the regressions, all the fiscal variables are taken as their ratios to total revenues and all fiscal data are taken from the Turkish Central Bank's electronic data delivery system (CBEDS). On the other hand, monetary variables consist of monetary aggregates and interest rates. Monetary aggregates are *quasi-money, reserve money, M1, M2,* and *M2Y,* where M2Y is M2 plus the foreign exchange deposits at commercial banks. Monetary aggregates are taken from the International Monetary Fund-International Financial Statistics (IMF-IFS) tape and CBEDS. All the monetary aggregates are used as the logarithmic monthly growth in the regression analyses. The interest rate data set includes four different interest rates: *the time deposit rate, nominal* and *real treasury auction rates,* and *the interbank interest rate.* Time deposit rate is taken from CBEDS. Nominal treasury auction rate is taken from the State Planning Organization's (SPO) Main Economic indicators but real treasury auction rate is calculated by deflating the nominal treasury auction rate with the wholesale price index (WPI). The interbank interest rate is taken from the IMF-IFS.

Berument (2001) argues that the spread between the interbank interest rate and monthly depreciation rate measures the monetary policy better than the short-term interest rate and various money aggregates. Hence, this spread (*monetary spread*) is used as a measure of monetary policy. Moreover, the spread between the nominal treasury auction rate and the lag value of interbank interest rate (*fiscal spread*) is used as fiscal policy (see Berument, 2002). In addition, we use *the consumer price index (CPI), the wholesale price index (WPI), public sector* and *private sector WPIs* as inflation indicators. *The industrial production index* is used as a proxy for output. All these data are taken from the CBEDS and logarithmic monthly growth values are used for all inflation and output indicators.

Firstly, the effects of minority government (*Dm*) and number of parties in a government (*Dn*) are investigated and they are reported in Table 1. Hence, we include these two variables into equation (1) jointly. In the first column, we report the estimated coefficients for Dm. *Expenditures, personnel expenditures* and *other transfers* increase and *budget balance* decreases statistically significantly as expected. However, *investment expenditures* decrease statistically significantly. This may mean that minority governments increase their visible spending but decrease non-visible spending to give the impression of a competent government (Rogoff and Sibert, 1988). Although the signs of *non-interest expenditures* and *other current expenditures* are positive as expected, they are statistically insignificant. Moreover, coefficients of *direct taxes* and *indirect taxes* are positive. These results are not consistent with our expectations because one of the main outcome of minority government is decreasing taxes to influence voters; however, these are not statistically significant. On the other hand, our results show that there is a decrease in *tax revenues* as we expected, but its coefficient is statistically insignificant. Also, *all monetary variables, inflation* and *output indicators* have positive coefficients except the coefficient of *M1*. This result supports our expectations that minority governments have higher monetary expansion and higher inflation rates, but their coefficients are statistically insignificant.

As reported in the second column of Table 1, we expect that increases in the number of parties in a government increase all types of expenditures since each party has different constituencies and each party can veto expenditure cuts that interfere with the interests of their respective constituencies. The results suggest that if number of parties in a government increases, *expenditures, other transfers, non-tax revenues, other revenues and primary balance* increase statistically significantly. Moreover, *non-interest expenditures, personnel expenditures, investment expenditures, transfers to SEEs, tax revenues* and *budget balance* show a statistically significant decrease. On the other hand, the signs of the estimated coefficients of *non-interest expenditures, personnel expenditures, transfers to SEEs* and *investment expenditures* are not positive as expected. However, *personnel expenditures* and *transfers to SEEs* increase when *investment expenditures* fall with an increase in the number of parties in a government since the parties prefer *transfer expenditures* or *personnel expenditures* to *investment* especially after 1990 in Turkey. For example, share of investments in the budget decreased from 15.6% in 1987 to 6% in 1996 (Tutar and Tansel, 2000). Hence, we can say that when the number of parties in a government increases, *expenditures* and *other transfers* increase and *investment expenditures* decrease in Turkey. This result is parallel to Rogoff and Sibert (1988) since they state that governments like to give image that they are more competent. Hence, we can argue that decreasing in *personnel expenditures* and *transfers to SEEs* are not in conformity with our expectations. On the other hand, our result shows that

there is a statistically significant decrease in *tax revenues* as expected. However, during coalition governments, *direct taxes* increase when *indirect taxes* decrease but their coefficients are statistically insignificant. In addition, the signs of *all monetary variables*, *inflation* and *output indicators* are positive as we expected except M2. Although *nominal treasury auction rate, real treasury auction rate* and *fiscal spread* have statistically significant coefficients, the others do not. Therefore, our evidence presented in Table 1 suggests that expansionary fiscal policy is seen when the number of parties in a government increases in Turkey. Our results support Roubini and Sachs' (1989) conclusion because they show that public debt increases as the number of parties in a coalition government increases.

However, Edin and Ohlsson (1991) object using variables whose value increase as the number of parties in a government increases. The reason is that as the number of parties in a government increases, an increase in economic variables under a two party coalition government is two times, and under a three party coalition government is three times as large as that under a minority government. They suggest using separate dummy for each category of the political power dispersion index. Therefore, we introduce separate dummy variables for each category of the political power dummy (*Dn*) like as in Edin and Ohlsson. Hence, the effects of minority government (*Dm*), the effects of two party coalition government (*D2*) and the effects of three party coalition government (*D3*) are estimated jointly and they are reported in Table 2.

The empirical evidence suggests that *expenditures* and *other transfers* have positive and statistically significant coefficients for minority governments. However, *Investment expenditures* show a statistically significant decrease and this result is parallel with respect to Table 1. Although *non-interest expenditures, personnel expenditures* are positively affected by the existence of a minority government and they are statistically insignificant. Moreover, our results show that there is a decrease in *tax revenues* and *budget balance* as expected but they are statistically insignificant. In addition, *non-interest expenditures, personnel expenditures, investment expenditures, other current expenditures, transfers to SEEs and tax revenues* are affected negatively by coalition governments. All these variables are statistically significant when three party coalition governments govern Turkey. However, when Turkey is governed by two party coalition governments, the signs of all fiscal variables are the same as three party coalition governments but only *investment expenditures, other current expenditures, direct taxes* and *non-tax revenues* have positive and statistically significant coefficients. Moreover, *non-tax revenues* and *other revenues* have statistically significant positive coefficients for three party coalition government dummies. It is important to note that

although there is a decrease in all expenditure items, *expenditure* increases for both types of coalition governments. However, the estimated coefficient of *expenditure* is statistically insignificant for two party coalition governments. In addition, the signs of the estimated coefficients of *tax revenues* are negative as expected but statistically significant only for three party coalition governments. Also, *primary balance shows a* statistically significant increase only for three party coalition governments and *budget balance* falls during coalition governments as expected but its coefficient is statistically insignificant for both types of coalition governments. Therefore, the evidence presented in Table 2 suggests that the effects of coalition governments are weaker than minority governments to resist populist policies as suggested in Table 1 since political parties in a coalition may be associated with a low ability to reduce deficits (Roubini and Sachs, 1989). However, our evidence does not support Edin and Ohlsson's results (1991) because they find that only minority governments have higher budget deficits.

On the other hand, when we look at the monetary variables, we suggest that *reserve money, time deposit rate, nominal treasury bill rate, real treasury auction rate* and *fiscal spread* have positive statistically significant coefficients when Turkey is governed by coalition governments. In addition, *M1, M2Y* and *interbank interest rate* show a statistically significant increase with two party coalition governments. Therefore, our evidence suggests that both expansionary fiscal and monetary policy are seen when Turkey is governed by coalition governments. Moreover, *all inflation* and *output indicators* have insignificant coefficients except *the private WPI*, which has positive statistically significant coefficient. This may suggest that inflation increases when two party coalition governments govern Turkey.

4. Conclusion:

This study aims to test the effects of fractionalized governments in Turkey including both fiscal and monetary indices as well as measures of economic performance by using monthly data from 1985:01 to 2001:11. Our results suggest that when Turkey is governed by minority or coalition governments, *expenditures* increase, *tax revenues* decrease and *budget balance* decrease. However, the effects of coalition governments are weaker than minority governments due to absence of cooperation and lack of enforcement. Hence, our findings suggest that higher expenditure and higher budget deficits are seen when coalition governments govern Turkey. This conclusion is supported by the effects of an increase in the number of parties in a government. However, it is important to note that although minority

governments have no effect on monetary aggregates, inflation and output indicators, coalition governments have expansionary effects on monetary aggregates.

Table 1:
Effects of political structure of governments on various economic aggregates[1]

Fiscal Variables	Dm	Dn
Expenditures	0.303** (2.105)	0.092** (2.113)
Non-interest expenditures	0.052 (0.693)	-0.055** (-2.850)
Personel expenditures	0.004* (0.169)	-0.014** (-2.111)
Investment expenditures	-0.052** (-2.135)	-0.037** (-3.686)
Other current expenditures	0.004 (0.355)	-0.001 (-0.126)
Other transfers	0.154** (3.233)	0.033** (2.897)
Transfers to SEEs	-0.003 (-0.186)	-0.008* (-1.935)
Tax revenues	-0.019 (-0.696)	-0.013** (-2.091)
Direct taxes	0.004 (0.196)	0.006 (1.044)
Indirect taxes	0.001 (0.019)	-0.012 (-1.593)
Non-tax revenues	0.017 (0.662)	0.019** (2.752)
Other revenues	0.019 (0.696)	0.013** (2.092)
CB advances	-0.036 (-0.381)	0.011 (0.451)
Primary balance	-0.052 (-0.692)	0.055** (2.850)
Budget balance	-0.303** (-2.105)	-0.092** (-2.113)
Monetary Variables		
Quasi-money	0.001 (0.048)	0.001 (0.681)
Reserve money	0.005 (0.154)	0.008 (1.638)
M1	-0.014 (-0.510)	0.004 (0.720)
M2	0.026 (0.433)	-0.016 (-1.056)
M2Y	0.004 (0.367)	0.002 (0.661)
Time deposit rate	2.952 (0.725)	1.323 (1.286)
Nominal treasury auction rate	1.808 (0.171)	6.201* (1.721)
Real treasury auction rate	0.025 (0.317)	0.049* (1.786)
Interbank interest rate	5.546 (0.319)	4.986 (1.124)
Monetary spread	1.734 (0.974)	0.362 (0.825)
Fiscal spread	0.009	0.006**

	(1.085)	(2.224)
Public WPI - Private WPI	0.010 (0.724)	0.001 (0.266)
Inflation and Output Indicators		
CPI	-0.007 (-0.868)	-0.001 (0.123)
WPI	-0.005 (-0.522)	0.0002 (0.123)
Private WPI	-0.007 (-0.967)	0.001 (0.109)
Public WPI	-0.002 (-0.100)	0.001 (0.231)
Industrial production index	-0.009 (-0.898)	-0.001 (-0.632)

Note: t-ratios are reported in parenthesis for each corresponding coefficient.
* Indicates 10% significance level.
** Indicates 5% significance level.

Table 2:
Effects of political structure of governments on various economic aggregates

Fiscal Variables	Dm	D2	D3
Expenditures	0.267* (1.887)	0.056 (0.920)	0.159* (1.850)
Non-interest expenditures	0.049 (0.558)	-0.048 (-1.456)	-0.127** (-3.314)
Personel expenditures	0.007 (0.254)	-0.011 (-0.915)	-0.029** (-2.211)
Investment expenditures	-0.046** (-2.016)	-0.043** (-3.529)	-0.072** (-3.727)
Other current expenditures	-0.008 (-0.759)	-0.018** (-2.653)	-0.013** (-2.147)
Other transfers	0.115** (2.408)	0.020 (1.027)	0.025 (0.997)
Transfers to SEEs	-0.002 (-0.122)	-0.008 (-1.227)	-0.016* (-1.952)
Tax revenues	-0.016 (-0.581)	-0.009 (-0.809)	-0.027** (-2.125)
Direct taxes	0.005 (0.255)	0.019** (1.965)	0.010 (0.867)
Indirect taxes	0.0006 (0.030)	-0.016 (-1.462)	-0.023 (-1.584)
Non-tax revenues	0.026 (1.077)	0.032** (2.882)	0.045** (3.455)
Other revenues	0.015 (0.581)	0.009 (0.811)	0.027** (2.125)
CB advances	-0.004 (-0.043)	0.095 (1.440)	0.064 (0.964)
Primary balance	-0.049 (-0.656)	0.046 (1.456)	0.127** (3.314)
Budget balance	-0.267 (-1.887)	-0.056 (-0.920)	-0.159 (-1.850)
Monetary Variables			
Quasi-money	0.0006 (0.105)	0.004 (1.434)	0.002 (0.609)
Reserve money	0.005 (0.221)	0.021** (2.065)	0.019* (1.748)
M1	-0.008 (-0.304)	0.026** (2.169)	0.010 (0.809)
M2	0.055 (0.926)	0.032 (1.093)	-0.014 (-0.467)
M2Y	0.005 (0.475)	0.013** (2.570)	0.005 (0.899)
Time deposit rate	5.618 (1.356)	6.594** (2.588)	4.274** (1.984)
Nominal treasury auction rate	5.298 (0.486)	12.859** (2.019)	14.171** (1.962)
Real treasury auction rate	0.074 (0.913)	0.116** (2.503)	0.129** (2.439)
Interbank interest rate	8.041 (0.465)	14.196* (1.653)	11.536 (1.296)

Money spread	1.8213	0.2340	0.6754
	(0.9107)	(0.2908)	(0.7686)
Fiscal spread	0.0118	0.0122**	0.0120**
	(1.3145)	(2.8228)	(2.2591)
Public WPI – Private WPI	0.0002	-0.0029	0.0013
	(0.0366)	(-0.4781)	(0.2029)
Inflation and Output Indicators			
CPI	-0.005	0.006	0.001
	(-0.574)	(1.437)	(0.285)
WPI	-0.006	0.006	0.0008
	(-0.553)	(1.440)	(0.174)
Private WPI	-0.007	0.006*	0.0004
	(-0.879)	(1.738)	(0.113)
Public WPI	-0.0009	0.006	0.002
	(-0.051)	(0.704)	(0.188)
Industrial production index	-0.008	0.0006	-0.003
	(-0.823)	(0.161)	(-0.760)

Note: t-ratios are reported in paranthesis for each corresponding coefficient.

* Indicates 10% significance level.

** Indicates 5% significance level.

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Appendix

Parties in the government	Period covered
Motherland Party	13/12/1983-21/12/1987
Motherland Party	21/12/1987-09/11/1989
Motherland Party	09/11/1989-23/06/1991
Motherland Party	23/06/1991-20/11/1991
True Path Party+Socialist Populist Party	21/11/1991-25/06/1993
True Path Party+Republicist Populist Party	25/06/1993-05/10/1995
True Path Party (Minority Government)	05/10/1995-30/10/1995
True Path Party+Republicist Populist Party (Minority Government)	30/10/1995-06/03/1996
True Path Party+Motherland Party	06/03/1996-28/06/1996
Welfare Party+True Path Party	28/06/1996-30/06/1997
Motherland Party+Democratic Left Party+Democrat Turkey Party	30/06/1997-11/01/1999
Democratic Left Party (Minority Government)	11/01/1999-28/05/1999
Democratic Left Party+Nationalist Movement Party+Motherland Party	28/05/1999-

The definitions of the dummy variables are as follows.

Dn = Number of ruling parties in the government. That is, the numbers of parties in the government even for minority governments.

Dm = Minority government;

D2 = Coalition government with 2 parties;

D3 = Coalition government with 3 parties.