

ELECTORAL POLITICAL BUSINESS CYCLES
IN TURKEY

A Master's Thesis

by

MINE ERGÜN

Department of
Economics
Bilkent University
Ankara
April 2000

HB
3808.25
E74
2000

**ELECTORAL POLITICAL BUSINESS CYCLES
IN TURKEY**

A Master's Thesis

**by
MINE ERGÜN**

**Department of
Economics
Bilkent University
Ankara
April 2000**

To My Family

**ELECTORAL POLITICAL BUSINESS CYCLES
IN TURKEY**

The Institute of Economics and Social Sciences
of
Bilkent University

by

MİNE ERGÜN

In Partial Fulfillment of the Requirements for the Degree of
MASTER OF ARTS IN ECONOMICS

in

**DEPARTMENT OF
ECONOMICS
BİLKENT UNIVERSITY
ANKARA**

April 2000

8052261

2000

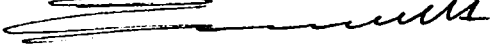
-E74

3808.25

H8

I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Economics.

Supervisor (Yrd. Doc. Dr. Hakan Berument)




I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Economics.

Examining Committee Member (Yrd. Doc. Dr. Serdar Sayar)



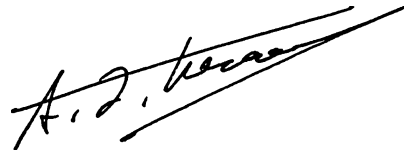
I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Economics.

Examining Committee Member (Yrd. Doc. Dr. Kivilkim Methin-Özcan)



Approval of the Institute of Economics and Social Sciences

Director (Prof. Dr. Ali Karaasmanoglu)



ABSTRACT

ELECTORAL POLITICAL BUSINESS CYCLES IN TURKEY

Ergün, Mine

M.S., Department of Economics

Supervisor: Asst. Prof. Hakan Berument

April 2000

There is an extensive empirical literature testing Political Business Cycles hypothesis for major developed countries. This study differs from those ones at three points. Firstly, this paper is one of the first empirical studies testing Electoral Political Business Cycles in Turkey that is a developing country with developing markets and institutions. Secondly, the data set includes all the important economic policy instruments and indicators, especially the paper uses of extensive budget terms. Finally, the literature studies uses annually or quarterly data, but this paper uses monthly data. The empirical results provide significant evidence of expansionary fiscal and monetary policies prior to elections, leading to a significant increase in output growth. Moreover, pre-election expansionary policies result as higher inflation after elections. Thus, the empirical results suggest that like some of the developed countries Turkey has Electoral Political Business Cycles.

ÖZET

TÜRKİYE'DE SEÇİME BAĞLI POLİTİK İŞ DÖNGÜLERİ

Ergün, Mine

Master, Ekonomi Bölümü

Tez Yöneticisi: Yrd. Doç. Dr. Hakan Berument

Nisan 2000

Literatürde Politik İş Döngüleri birçok gelişmiş ülke için ampirik olarak test edilmiştir. Bu çalışma, onlardan üç noktada farklılaşmaktadır. Öncelikle, bu çalışma Seçime Bağlı Politik İş Döngüsüleri'nin, gelişen market ve kurumlaşma yapısıyla, gelişmekte olan bir ülke konumundaki Türkiye için test edildiği ilk çalışmalar arasında yer almaktadır. İkinci olarak, çalışmada kullanılan veri seti bütün önemli ekonomik politika enstrümanlarını ve göstergelerini, özellikle detaylı bütçe verilerini içermektedir. Son olarak, literatürde yıllık veya üç aylık frekansta veriler kullanılırken, bu çalışmada aylık frekansta veri kullanılmıştır. Ampirik sonuçlar seçim öncesi dönemde genişleyici bütçe ve para politikalarının uygulandığına dair anlamlı kanıtlar sunmakta ve bunun sonucunda üretimde anlamlı bir artış gözlenmektedir. Bununla beraber, seçim öncesi uygulanan genişleyici politikalar, seçim sonrası dönemde yüksek enflasyon olarak etkilerini göstermektedir. Özetle, ampirik sonuçlar birçok gelişmiş ülke gibi Türkiye için de Seçime Bağlı Politik İş Döngüleri'nin varlığını göstermektedir.

ACKNOWLEDGMENTS

I would like to thank especially Asst. Prof. Hakan Berument for his helpful guidance throughout the whole research. I owe a great deal to all my colleagues in SPO for their encouragement. Last, I would like to thank my parents, my sister and Nergiz for all their endless support. Without them this thesis could not have been possible.

TABLE OF CONTENTS

ABSTRACT.....	iii
ÖZET.....	iv
ACKNOWLEDGMENTS.....	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES.....	ix
LIST OF FIGURES.....	xi
CHAPTER 1: INTRODUCTION AND LITERATURE REVIEW.....	1
CHAPTER 2: HISTROCIAL BACGROUND AND TURKISH STUDIES.....	7
CHAPTER 3: DATA DESCRIPTION.....	12
3.1 Fiscal Data.....	13
3.1.1 Revenue Terms.....	13
3.1.1.1 Total Revenues.....	13
3.1.1.1.a Tax Revenues.....	13
3.1.1.1.a1 Direct Tax Revenues.....	14
3.1.1.1.a2 Indirect Tax Revenues.....	14
3.1.1.1.b Non-tax Revenues.....	14
3.1.1.1.c Other Revenues.....	14
3.1.1.1.d Central Bank Short Term Advances..	14

3.1.2 Expenditure Terms.....	15
3.1.2.1 Total Expenditures.....	16
3.1.2.1.a Non-Interest Expenditures.....	16
3.1.2.1.a1 Personnel Expenditures.....	16
3.1.2.1.a2 Investment Expenditures.....	18
3.1.2.1.a3 Other Current Expenditures.....	18
3.1.2.1.a4 Transfers to SEEs Expenditures.....	18
3.1.2.1.a5 Other Transfers.....	18
3.1.3 Deficits.....	19
3.2 Monetary Data.....	20
3.2.1 Monetary Aggregates	20
3.2.1 Interest Rates.....	20
3.3 Inflation Indicators.....	21
3.4 Output Indicators.....	22
4: METHODOLOGY AND MODEL SPECIFICATION.....	23
5: EMPIRICAL EVIDENCE AND DISCUSSION.....	27
5.1 Election Effects on Fiscal Policy.....	27
5.1.1 Pre-electoral Effects on Fiscal Policy.....	27
5.1.2 Post-electoral Effects on Fiscal Policy.....	32
5.2 Election Effects on Monetary Policy.....	36
5.2.1 Pre-electoral Effects on Monetary Policy.....	36
5.2.1 Post-electoral Effects on Monetary Policy.....	39

5.3 Election Effects on Inflation.....	41
5.3.1 Pre-electoral Effects on Inflation.....	41
5.3.2 Post-electoral Effects on Inflation.....	43
5.4 Election Effects on Output.....	46
CHAPTER 6: CONCLUSION.....	48
BIBLIOGRAPHY.....	52
APPENDICES.....	
A. ADF Unit Root Tests.....	55
B: Descriptive Statistics.....	56
C: Tables of the Effects of Elections on Policy Variables and Macroeconomic Indicators	58

LIST OF TABLES

1	Number Deputies and Share of Total Votes in General Elections.....	9
2	The Ratios of Consolidated Budget Revenue Terms to GNP.....	15
3	The Ratios of Consolidated Budget Expenditure and Deficit Terms to GNP.....	17
4	Effects of Elections on Expenditures in the Pre-Election Period.....	29
5	Hausman F-Test Statistics for Revenues.....	30
6	Effects of Elections on Revenues in the Pre-Election Period via IV.....	30
7	Effects of Elections on Revenues in the Pre-Election Period via OLS..	31
8	Effects of Elections on Deficits in the Pre-Election Period.....	32
9	Effects of Elections on Expenditures in the Post-Election Period.....	33
10	Effects of Elections on Revenues in the Post-Election Period.....	35
11	Effects of Elections on Deficits in the Post-Election Period.....	35
12	Effects of Elections on Monetary Aggregates in the Pre-Election Period.....	37
13	Effects of Elections on Interest Rates in the Pre-Election Period.....	38
14	Effects of Elections on Monetary Aggregates in the Post-Election Period.....	39
15	Effects of Elections on Interest Rates in the Post-Election Period.....	40
16	Hausman F-Test Statistics for Inflation and Output.....	41
17	Effects of Elections on Inflation and Output in the Pre-Election Period	

	via IV.....	42
18	Effects of Elections on Inflation and Output in the Pre-Election Period	
	via OLS.....	43
19	Effects of Elections on Inflation and Output in the Post-Election	
	Period	44
20	Effects of Elections on the Gap Between Public and Private Sector	
	Inflation in the Pre-Election and Post-Election Periods	46

LIST OF FIGURES

1	Monthly Increase in Public Sector WPI.....	44
---	--	----

CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

Economic performance has always been an important criterion from voters' point of view to evaluate the performance of the government. Governments that come to power through democratic elections usually have incentives to manipulate the economy through fiscal and monetary policies to create a favorable economic environment for their supporters. Hence, Political Business Cycles (PBC) theory argues that the incumbent government aims to influence the voters prior to elections with the help of the economic manipulations (see, Nordhaus, 1975 and Lindbeck, 1976).

This paper aims to find out if Turkish governments applied opportunistic fiscal or monetary policies prior to elections to increase their chances of reelection during the 1987 and 1999 period. The paper further investigates the post-election effects of the way fiscal and monetary instruments were used just prior to elections by using key indicators of economic performance. This paper differs from the literature studies at three points. Firstly, although there exists an extensive empirical literature testing PBC hypothesis for major developed countries, there is a serious lack of similar studies for developing countries and emerging markets with developing markets and institutions. The motivation of the paper is to fill this gap in literature. In fact, this paper is one of the first empirical studies that discuss electoral PBC in Turkey -a developing country and an emerging market- by making a particularly extensive use of budget terms.¹ Secondly, this paper uses an extensive data set including all the important economic policy instrument and indicators, especially for budget terms. Finally, the data set is

¹ Ozatay (1999) considers electoral PBC in Turkey, but his data set is limited and small.

monthly. The empirical results suggest that like some of the developed countries Turkey has electoral PBC.

There are two main strands of thought that discuss the common notion of politic intervention into the conduct of economic policy. The first line of thought in the area of politic intervention into the economy is Partisan PBC, initiated by Hibbs (1977), dealing with characteristic differences of the economic policies of the governments according to their ideological preferences. By this line of thought, governments apply fiscal and monetary policies to favor their supporters, and economic outcomes such as the level of output, inflation and unemployment fluctuate along time as a function of the party's ideology in power. However, Partisan PBC will not be considered in this paper, because Sayan and Berument (1997) tested Partisan PBC in Turkey for the time period 1957-1994, and their results have no significant evidence of Partisan PBC. Hence, this study is mainly concerned with the validity, within the Turkish context, of the other line of thought, namely Electoral PBC.

Initiated by Nordhaus (1975) and Lindbeck (1976), Electoral PBC hypothesis argues that a strategic incumbent government would like to show a good economic performance before elections and would apply expansionary economic policies in order to influence the voters and maximize its chance of reelection. Typically, the incumbent government is expected to influence the voters by adopting policies to increase output or decrease unemployment using the exploitable Phillips curve trade-off. Furthermore, the opportunistic manipulations done in the pre-electoral period may have important effects on the post-electoral economic performance. For instance, when the rate of inflation begins to rise after the elections as a result of expansionary fiscal and monetary policies, the incumbent government would try to decrease inflation by applying post-electoral contractionary fiscal and monetary policies leading to a recession in the post-election period. As a result, the economy would contract and will

be ready for a new pre-election upswing for the next elections. Hence, Electoral PBC theory suggests that there are systematic variations at some certain macroeconomic indicators, coinciding with election periods.

Empirical studies testing Electoral PBC hypothesis have been carried out for major developed countries (see, McCallum, 1978; Alesina and Sachs, 1988; Rogoff, 1990; Alesina and Roubini, 1992 and Alesina, Roubini and Cohen, 1997). These studies commonly consider first economic policy instruments such as expenditures, taxes, transfers and monetary supply in the empirical analysis and conduct tests to see if electoral PBC are applicable to countries in question. Secondly, they consider such macroeconomic outcomes as the level of output or the rate of inflation as the indicators of economic performance and test policy outcomes tests with respect to the level of output growth, unemployment and inflation. The results of the empirical studies, however, are mixed and they provide little or no evidence in support of Electoral PBC hypothesis.

Rogoff and Sibert (1988), considering economic policy instruments, state that incumbent government reduces taxes or increases government spending before elections to be seen as “more competent” than opposition. As a consequence of signalling, an electoral cycle arises in fiscal variables, which is called “Budgetary PBC”. Although the voters dislike deficits² (Tabellini and Alesina, 1990), all traditional and recent versions of Budgetary PBC claim that an increase in fiscal deficits should be observed before elections, because the incumbent government will cheat by applying expansionary or loose fiscal policies before elections (Laney and Willett, 1983; Alesina, Roubini and Cohen, 1997). There is no agreement on the source of this fiscal deficit, as either the reduction in taxes or the increase in government expenditures can be the reason. Both of these above two policies can be observed simultaneously as well.

² Because, voters do not want to pay the bill of the deficit.

While Alesina and Roubini (1992) find that government spending has a tendency to increase and tax revenues have a tendency to decrease before elections, the electoral dummies do not turn out to be statistically significant in their analysis. Besides, using the US (1960-1993) data, Alesina, Roubini and Cohen (1997) find that deficits are higher in election years, but the pre-electoral dummy is again not statistically significant. However, they find significant evidence for OECD countries supporting the hypothesis of PBC that the deficit increases prior to elections. They find not only an increase in government spending, but also a decrease in tax revenues in OECD countries. Unfortunately, the estimated coefficients of the government spending and tax revenues are not statistically significant. Furthermore, they test subcomponents of government spending as government transfers and social security expenditures, but find no significant evidence of Electoral PBC. Rogoff (1990) considers components of government spending and claims that pre-electoral signalling will increase the government spending and this will lead to reductions in public investment spending, because budget cycle will appear as the distortions in the allocation of the public resources. However, the voters can recognize of investment spending only with a lag, therefore, instead of spending on investment projects, the incumbent government favors transfers for programs whose effects are more quickly visible. Ito and Park (1988) consider Japan and they find no significant evidence of loose fiscal policy before elections.

Laney and Willett (1983) consider US and claim that over the 1960-1976 period, the federal deficit was related to the presidential electoral cycle and half of the deficit was monetized. Furthermore, Rogoff and Sibert (1988) also state that deficits before elections are monetised, but the voters can understand the effects of monetization on inflation only with a lag. Alesina, Roubini and Cohen (1997) consider monetary policy and find statically significant evidence of monetary expansion in OECD countries, but not in US. While Ito and Park (1988) study Japan and find no

evidence of expansionary monetary policy, Heckelman and Berument (1998) find significant evidence of loose monetary policy before elections in Japan.

Alesina (1989), Alesina and Roubini (1992), Alesina, Cohen and Roubini (1993), Alesina, Roubini and Cohen (1997) consider policy outcome tests and reject the main implications of increasing growth and decreasing unemployment in election years. Alesina, Roubini and Cohen (1997) test electoral PBC for both the US and some OECD countries, but they find no evidence of increasing output growth and decreasing unemployment for both cases. Besides, Heckelman and Berument (1998) find no evidence of increasing output in Britain and Japan. Alesina, Roubini and Cohen (1997) also consider inflation, but find no evidence of decreasing inflation prior to elections neither in the US, nor in OECD countries. However, they find evidence of increasing inflation in the post-election period in OECD countries.

Ito and Park (1988) suggest an alternative hypothesis, Opportunistic Election Timing (OET) hypothesis, under election system that has varying election timing. OET hypothesis suggests that instead of manipulating the economy, the incumbent government can call an early election when the economic performance is good. In fact, this is easier than manipulating the economy, moreover, there is no risk of inflation after elections. Ito and Park test the implications of OET for Japan and find that Japan is more likely to call early elections when the growth is high. While Alesina, Cohen and Roubini (1993) reject OET for all the OECD countries except Japan in their data, Heckelman and Berument (1998) consider Japan and Britain and find significant evidence supporting OET hypothesis for monetary growth in Japan contrary to Ito and Park. They also found significant evidence supporting OET in inflation, but the in regression, the coefficient of inflation is opposite to the prediction of PBC hypothesis.

The rest of the study is organized as follows. Chapter 2 gives information about Turkish political life and elections, Chapter 3 describes the data, and Chapter 4 discusses the methodology. Empirical findings are reported in Chapter 5 and Chapter 6 concludes.

CHAPTER 2

HISTORICAL BACKGROUND AND TURKISH STUDIES

Before discussing the effects of elections on the economic variables, it is necessary to have a sight at the history of elections and the characteristics of the elections. Even though Turkey is parliamentary democratic republic, there have been three military interruptions in the democratic process in the history of Turkish Republic.³ Even so, the democratic parliamentary system has been working efficiently since the last military interruption in 1980. In fact, before the elections on October 6, 1983, a military government was governing Turkey, therefore, it did not need to manipulate the economy to impress the voters. Besides, there was lack of politic competition amongst the parties in this election due to the prohibition of some ex-party leaders from making politics. When the referendum allowing pre-1980 era party leaders to make politics took place (Onis 1997) in 1987, the full politic competition in Turkey restarted. Thus, this paper deals with the time period including full politic competition and studies on the period 1985-1999 with monthly data. In fact, full politic competition is needed to test PBC, because under lack of politic competition, the performances of different parties can not be compared in a right way. The absence of full politic competition may lead the incumbent government to decide on economic policies and outcomes without wondering about the votes he will take in the next elections. Therefore, he may not find it worthwhile to show his best performance, because he will realize that he has no strong opposition.

There are four elections in the time period the paper considers. The first one was on November 29, 1987. The second one was on October 20, 1991. The third and

³ The first interruption was on May 27, 1960. The second and third ones were on March 12, 1971 and September 12, 1980, respectively.

the fourth ones were on December 24, 1995 and April 18, 1999, respectively. The competition at the first election, which was also the first election after 1983 elections, was mainly between two major parties; incumbent right-wing Motherland Party (Anavatan Partisi, ANAP) and left-wing Social Democratic Populist Party (Sosyal Demokrat Halkci Parti, SHP). The winner of this competition was ANAP, and ANAP has controlled the prime ministership for four years between 1987-1991. However, restarting of politic competition resulted as party fragmentation in Turkey⁴. At the same time, high party fragmentation caused big parties to lose their votes. Consequently, it became difficult to have a one-party government in Turkey, and the era of the coalitions began. Furthermore, the conflicts between coalition parties and pressure of the opposition parties that give support to the government cause the life of coalitions to be short. As a consequence, in the second election, none of the parties managed to get the majority of the seats in the parliamentary, therefore, the new government was founded as a coalition by the right-wing True Path Party (Dogru Yol Partisi ,DYP) as the dominant partner of the coalition and SHP, the minor partner of the coalition. This coalition has controlled country for four years.

The third election took place on December 24, 1995. At this election, the two ex-governmental parties lost some of their popularity and new government was founded as a coalition by two right-wing parties, Welfare Party (Refah Partisi, RP) as the dominant partner and DYP as the minor partner of the coalition. Due to the conflicts between the two governmental parties, the government resigned and new government was founded by ANAP and Democratic Left Party (Demokratik Sol Parti, DSP) with the support of Republican People's Party (Cumhuriyet Halk Partisi, CHP) and Democratic Turkey Party (Demokratik Turkiye Partisi, DTP). But, there had been some politic scandals that caused the government to resign, and a minority government by DSP governed Turkey until April 18, 1999 early elections. The results

⁴ For instance, there were 12 different parties participating in 1995 elections and only 5 of them could enter into the parliamentary.

of the last election were not again permitting for a majority government, therefore new coalition was founded by DSP, Nationalist Action Party (Milliyetci Hareket Partisi, MHP) and ANAP. The number of deputies and the percentage of the votes parties took in the elections are represented in Table 1.

Table 1- Number of Deputies and Share of Total Votes in General Elections

	November 1987		October 1991		December 1995		April 1999	
	%	Number of Deputies	%	Number of Deputies	%	Number of Deputies	%	Number of Deputies
Right of Center Parties								
<i>ANAP</i>	36.3	292	24	115	19.6	132	13.2	86
<i>DYP</i>	19.1	59	27	178	19.2	135	12	85
<i>RP</i>	7.2	0	16.9	62	21.4	158	15.4	111
<i>MHP</i>	-	-	-	-	8.2	0	18	129
Left of Center Parties								
<i>SHP</i>	24.8	99	20.8	88	-	-	-	-
<i>CHP</i>	-	-	-	-	10.7	49	8.7	0
<i>DSP</i>	8.5	0	10.8	7	14.6	76	22.2	136

Note: ANAP (Motherland Party), DYP (True Path Party), RP (Welfare Party), MHP (Nationalist Action Party), SHP (Social Democratic Populist Party), CHP (Republican People's Party), DSP (Democratic Left Party)

The government has changed after two of the four elections (1991 and 1995), and accordingly the economic policies applied by the governments have differed. The high election frequency⁵, therefore, leads to the different applications and priorities in the economic policies. Turkish election system is flexible, therefore, the government has the chance of calling early election. All the elections, except the one in 1987, were early and they were announced approximately three or four months before election dates.

⁵ There are 4 elections during the 14 years in the concerning time period.

Although the electoral system of each election differs at some stages, their characteristics are the same. To be represented in the parliamentary, there was a 10 per cent barrier for the parties in all of the four elections. In other words, to be represented in the parliamentary, a party must take at least 10 per cent of the votes around the country. High party fragmentation made it difficult for the parties to overcome this barrier, therefore some of the parties made election agreements.⁶ In fact, some old ex-parliamentary parties who did not make election agreements could not overcome 10 per cent barrier and could not be represented in the parliamentary in 1991, 1995 and 1999 elections⁷.

Under the scope of the historical political background, now a recent study will be discussed. Ozatay (1999), considering a quarterly data set from 1985 to 1995, found some evidence of PBC in fiscal and monetary policies prior to elections in Turkey. As monetary instruments he tested net domestic assets and monetary base and he found evidence of monetary expansion (in net domestic assets) prior to elections. As fiscal instruments he considered total government expenditures and other transfers. In fact, he found that other transfers term, increased significantly prior to elections. Thus, he concluded that politicians manipulated the economy using fiscal and monetary policies. However, he only considered a limited number of fiscal and monetary variables. In fact, he did not consider budget deficits or tax revenues or personnel and investment spending which are channels for the government to signal

⁶ In 1991 election MHP made an election agreement with RP, whereas BBP (Great Unity Party) made an election agreement with ANAP in 1995 election.

⁷For instance, in 1995 election MHP and in 1999 elections CHP could not enter parliamentary because of 10 per cent barrier.

his competency. Besides, he did not consider about the interest rate as a monetary instrument. However, Berument and Malatyali (1998) claimed that Turkish Central Bank used interbank rate as an instrument to target M2Y. Besides, Ozatay tested inflationary effects in the post-election period due to the expansionary fiscal and monetary policies done in the pre-election period. Hence, he found evidence of increasing inflation in the post-election period. However, he did not consider the post-electoral behaviour of fiscal and monetary variables. Finally, he tested if the price of public goods and services are manipulated before elections and concluded that the gap between the rate of increase in public and private sector prices increased prior to elections, although this gap is eliminated just after the elections.

Ozatay considers not only general elections, but also the municipal elections in his analysis. But, in this paper it is assumed that the economic policies applied for general and municipal elections differ. In fact, general and municipal elections are considered separately. However, the municipal elections have no significant effect on policy instruments and economic indicators, on the contrary general elections have significant effects. The reason can be the fact that, in the municipal elections, the allocation of the expenditures of government along the country changes rather than the amount of the expenditures. Thus, in the study the empirical results of the effects of general elections are discussed.

CHAPTER 3

DATA DESCRIPTION

The data set includes monthly data for fiscal and monetary policy indices and measures of economic performance such as, inflation and output indicators between 1985:1 and 1999:5. The first reason of choosing the period is the data availability of fiscal and monetary figures and inflation and production indicators are only efficiently available after 1985. The second reason is to see the pre-electoral effects of 1987 elections. Final reason is the existence of full politic competition discussed in section 2. Monthly data is not generally studied in literature. But, using high frequency data increases the number of observations and provides to examine the policies applied by the government more sensitively. For instance, suppose there is a significant increase in one of the expenditure terms just one or two months before elections. If low frequency data (quarterly or annual) is studied, the significant fiscal manipulation may not be detected; however, studying with higher frequency data (such as monthly) may increase the probability to detect the significance change in variables.

Turkey has been governing by coalition governments for nine years and there always exist conflicts between the partners of the coalitions. Consequently, there exists high politic instability in Turkey during the time period the paper concerns. In fact, the government has changed for three times between 1995-1999, because of conflicts between the coalition partners. Thus, monthly data provides to examine the economic behaviour of frequently chancing government.

In the following subsections the data set will be described extensively. In section 3.1 fiscal data, in section 3.2 monetary data, in section 3.3 inflation indicators

and 3.4 section output indicators are described. All the variables in the data set are tested for unit roots and the results of ADF tests are presented in Appendix A. Moreover, the standard statistical properties of the data are presented in Appendix B.

3.1 Fiscal Data

Fiscal data consists of central government's consolidated budget with both revenues and expenditure terms. All the fiscal variables are used as a ratio of revenues in the analysis. The reason of this will be discussed later in section 5.1. Fiscal data set is taken from Turkish Ministry of Finance, General Directorate of Public Accounts Monthly Bulletins and Turkish Central Bank Electronic Data Delivery System (CBEDS) including 1985:1 and 1999:5. The revenue and expenditure terms of the budget will be discussed in section 3.1.1 and 3.1.2, respectively. Section 3.1.3 discusses the deficits.

3.1.1 Revenue Terms

3.1.1.1 Total Revenues

The revenue terms of the consolidated budget, which are in the concern of this paper, are discussed below. The ratios of revenue terms to GNP are presented in Table 2.

3.1.1.1.a Tax Revenues

Tax revenues are the major term of revenues. In fact, between 1987-1998, the average ratio of tax revenues to GNP is 13.4 per cent, where the average ratio of total revenues to GNP is 16.8 per cent.

3.1.1.1.a1 Direct Tax Revenues

Direct tax revenues include revenues of taxes on income and wealth. Direct tax revenues constitute approximately half of tax revenues. In fact, the average ratio of direct tax revenues to GNP is 6.3 per cent between 1987 and 1998.

3.1.1.1.a2 Indirect Tax Revenues

Indirect tax revenues include revenues of taxes on goods and services. The average ratio of indirect taxes to GNP is 7.1 per cent between 1987-1998.

3.1.1.1.b Non-tax Revenues

Non-tax revenues usually include portfolio and interest revenues of Treasury, fine revenues, rent revenues, revenues of sales of immovables.

3.1.1.1.c Other Revenues

Other revenues include revenues from budgetary funds and transfers from some special funds.

3.1.1.1.d Central Bank Short Term Advances

Another budget revenue term is the central bank short time advances. To be more clear, central bank provides short-term credit with low interest rates to the Treasury. The limit of this credit is determined with a ratio of the budget deficit by regulations. Although after 1995 new low obligatory limits were set for this term, between 1991 and 1996, central bank short-term advances have a significant ratio to

GNP; in fact in 1993 its ratio to GDP is 2.7 per cent. Thus, Turkish governments made use of this monetarization term as a budget-financing instrument in that time period. Whether there exists significant increase in financing budget by using short time advances during election times will be tested.

Table 2 -The Ratios of Consolidated Budget Revenue Terms to GNP (%)

	Revenues	Tax Revenues	Direct Taxes	Indirect Taxes	Nontax Revenues	Other Revenues	CB Advances
1987	13.92	12.06	5.99	6.08	1.1	1.86	-1.17
1988	13.61	11.02	5.47	5.55	1.97	2.60	-0.09
1989	13.62	11.09	5.92	5.17	1.97	2.53	-0.29
1990	14.24	11.43	5.96	5.47	2.02	2.81	-0.39
1991	15.25	12.40	6.48	5.92	1.38	2.85	-0.55
1992	15.79	12.83	6.47	6.36	2.68	2.96	-1.02
1993	17.59	13.23	6.42	6.80	4.11	4.36	-0.16
1994	19.16	15.12	7.30	7.82	3.89	4.05	-0.51
1995	17.88	13.82	5.62	8.19	3.68	4.06	-0.38
1996	18.04	14.98	5.90	9.08	2.87	3.06	-0.31
1997	19.92	16.16	6.57	9.59	3.44	3.76	-0.41
1998	22.21	17.25	8.04	9.21	4.62	4.96	-0.59

For an incumbent government all the above terms are channels of signalling by applying opportunistic policies. For instance, the government can decrease the rents of the house provided to employees or excuse the penalties before elections concerning non-tax revenues. But, the main concern of this paper is tax, direct and indirect tax revenues. Since, they are the dominant revenue terms of the budget.

3.1.2 Expenditure Terms

The expenditure terms of consolidated budget, which are in the concern of this paper, are discussed below. The ratios of the expenditure terms to GNP are presented in Table 3.

3.1.2.1 Total Expenditures:

Government total consolidated budget expenditures mainly consist of expenditures and non-interest expenditures. However, interest payments are inherited from the past, therefore, they do not reflect the expenditures of government and depend on the interest rates, which can not be directly controlled by the government. Moreover, interest payments depend on the borrowing strategies and policies of the ex-governments. Thus, interest expenditures do not have any implications about the policies adopted by the present government, therefore, this paper does not consider interest payment expenditures.

3.1.2.1.a Non-Interest Expenditures

Non-interest expenditures include government total consolidated budget expenditures excluding interest payment expenditures. Hence, they reflect the real current spending of the government, because interest payment expenditures are excluded as discussed above. Besides, the average ratio of non-interest expenditures to GNP is 15.8 per cent between 1987 and 1998, where the average ratio of total revenues to GNP is 21.7 per cent. Non-interest expenditures consist of mainly 5 parts:

3.1.2.1.a1 Personnel Expenditures

The large number of governmental workers makes personnel expenditures significant for populist policies, because the incumbent government can impress the large portion of the voters by making an improvement in their salaries. Besides, personnel expenditures is the largest non-interest expenditure term and the average ratio of personnel expenditures to GNP is 6.6 per cent between 1987 and 1998.

Table 3 - The Ratios of Consolidated Budget Expenditure and Deficit Terms to GNP (%)

	Expenditures	Non-Interest Expenditures	Personnel Expenditures	Other Current Expenditures	Investment Expenditures	Transfers to SEEs	Other Transfers	Primary Deficit	Budget Deficit
1987	17.39	14.37	3.99	2.06	3.52	0.59	4.20	0.44	3.46
1988	16.60	12.75	3.91	1.86	2.76	0.79	3.42	-0.87	2.99
1989	16.87	13.29	5.44	1.79	2.53	0.53	3.00	-0.33	3.26
1990	17.25	13.74	6.66	1.76	2.53	0.32	2.46	-0.51	3.01
1991	20.53	16.74	7.77	1.75	2.70	1.92	2.59	1.49	5.28
1992	20.08	16.43	8.52	1.83	2.65	0.74	2.70	0.65	4.30
1993	24.29	18.46	8.48	1.77	2.66	1.29	4.25	0.87	6.70
1994	23.08	15.41	7.02	1.89	1.87	0.54	4.08	-3.76	3.91
1995	21.91	14.57	6.40	1.82	1.30	0.58	4.47	-3.30	4.03
1996	26.31	16.31	6.50	2.06	1.59	0.34	5.82	-1.73	8.27
1997	27.34	19.59	7.05	2.42	2.17	0.42	7.52	-0.33	7.42
1998	29.12	17.58	7.23	2.45	1.87	0.30	5.74	-4.63	6.91

3.1.2.1.a2 Investment Expenditures

As mentioned before, Rogoff (1990) asserts that investment spending of the government decreases before elections. Thus, the total consolidated budget investment expenditures will be used to test this assertion for Turkish case.

3.1.2.1.a3 Other Current Expenditures

Other current expenditures mainly include expenditures of security forces other agencies.

3.1.2.1.a4 Transfers to State Economic Enterprises (SEEs)

Transfers to SEEs term is significant for the analysis amongst the expenditure terms, because most of Turkish SEEs are losing money and can not compensate their expenditures, thus a significant portion of the budget is channelled to SEEs. Moreover, SEEs are channels for implementation of social and distributive government policies. Some of the SEEs buy agricultural products of subsidized prices and sell them at market prices, therefore, they are vehicles of subsidizing agriculture support policies (see, Atiyas and Sayin, 1998).

3.1.2.1.a5 Other Transfers

Other transfers include transfer expenditures except transfers to SEEs and interest payments. Since other transfer does not include transfers for interest payments, other transfers term is used rather than total transfers. In general, other transfers consist of transfers to social security institutions, municipalities, agricultural subsidy institutions, support and price stabilization funds and off-duty losses. All these

terms are very crucial for the analysis, because they give opportunity to governments to apply populist policies; consequently an increase in any of them will be an indicator of opportunistic cycle in Turkey. In fact, Ozatay (1999) points out that Turkish politicians use social security as a signalling channel and he gives the example of the retirement age, which has been changed from time to time in Turkey. Due to the unavailability of the monthly data for the subcomponents of the other transfers term, they can not be tested for PBC separately. Moreover, this term is on the average second largest term among the non-interest expenditures in 1987-1998 with a ratio of 4.2 per cent to GNP.

3.1.3 Deficits

There are two deficit terms in the consolidated budget: primary and budget deficits. These figures will be to examine the interaction of the revenues and expenditures at election periods. In fact, the deficits give more information about the type of fiscal policy (tight or expansionary). Budget deficit is defined as the difference between government expenditures and revenues and taken as positive when total government expenditures exceed its revenues, whereas primary deficit is the budget deficit excluding interest expenditures. In fact, as presented in Table 3, Turkish budget has been giving budget deficit for all the years in the concern time period, even though it usually gives primary surplus in the same period. However, in the two election years, 1987 and 1991, the budget gives primary deficit, whereas in 1995 it gives primary surplus.

3.2 Monetary Data

In empirical tests for monetary policy, it is not clear to use monetary aggregates or interest rates as the monetary policy proxy. In literature, it is common to use monetary aggregates as the proxies of the monetary policy, however to use which monetary aggregate as the proxy is again not clear. On the other hand, in many countries interest rates are used as the main instruments of monetary policy during the times when monetary demand changes due to the financial innovations and deregulation (Alesina, Roubini and Cohen, 1997). Thus, in this paper both monetary aggregates and interest rates are tested for the existing of PBC not to miss any kind of manipulations or their effects.

3.2.1 Monetary Aggregates

This paper deals with 5 different monetary supply aggregates: quasimoney, which is the sum of time deposits and liabilities of central bank, reserve money (M0), M1, M2, and M2Y, where M2Y is the sum of M2 with foreign time deposits. All the monetary aggregates are used as their logarithmic growth in the empirical analysis and the unit root tests are presented in Appendix A. Monetary aggregate data is taken from International Monetary Fund's Financial Series and includes time period 1985:1 1998:10, because of the availability of the data.

3.2.2 Interest Rates

This paper also considers interest rates to test the election effects on monetary policy. The data set includes five different interest rates: three-month Turkish Lira (TL) time deposit rate, three month United States (US) dollar time deposit rate, nominal and real *treasury rates* and interbank rates, where *treasury rate* is calculated

as the weighted average of interest rates of Treasury auctions at that month. Real treasury bill rate is calculated by deflating nominal treasury rate with whole sale price index (WPI). These 5 different interest rates are chosen, because, firstly interbank rate is an instrument of the Central Bank to manipulate monetary market and reflects the short term market rate. In fact, Berument and Malatyali (1998) show that the monetary policies of Turkish Central Bank can be evaluated by looking at interbank rate instead of monetary aggregates. Moreover, they claim that Turkish Central Bank uses interbank rate as an instrument to target M2Y. Secondly, three-month TL and US time deposit rates reflect the demand for TL and foreign currency. Thirdly, although, treasury rates are not related to monetary policy and reflect only the borrowing comforts of the Treasury, they are discussed in this section, due to being interest rate.

Interest rates, which are non-stationary, are used in logarithmic growths (see, Appendix A). Time deposit and foreign currency deposit rates are taken from Central Bank Electronic Delivery System (CBEDS) including 1985:1 and 1999:7 time period. Nominal treasury rates are taken from State Planning Organization (SPO) Economic Indicators including time period 1987:7 and 1999:5, whereas interbank rate is taken from IFS including time period 1985:1 and 1998:10, because of the availability of the data.

3.3 Inflation Indicators

This paper also considers the effects of elections on inflation. Hence, consumer price index (CPI) and WPI are used in this paper to see the effects of pre-electoral fiscal and monetary policies on inflation. Moreover, public sector WPI and private sector WPI are used to examine the reactions of the two different sectors to

pre-electoral manipulations. Public sector WPI reflects the price level of government goods and services, whereas private sector WPI reflects the price level of private goods and services, where, WPI is the weighted average of the public and private sector whole sale price indexes. In the empirical analysis, logarithmic monthly growth of the indexes are used, because all of the indexes are non-stationary (see, Appendix A). The three WPI's are taken for CBEDS, as the WPI calculated by Turkish Treasury including time period 1985:1 and 1999:7 and CPI is taken from Turkish State Statistics Institute (SSI) including the time period 1987:1 and 1999:5.

3.4 Output Indicators

In this paper, industrial production index is used to examine the effects of the manipulations to the economy during elections on output. Industrial production index is used a proxy for output instead of real GDP, because monthly real GDP is not available for Turkey. Similar to price indexes, monthly growth of logarithmic industrial production index is used, because industrial production index is non-stationary (see, Appendix A). Production index is taken from Turkish State Statistics Institute including time period 1986:1 and 1999:5.

CHAPTER 4

METHODOLOGY AND MODEL SPECIFICATION

This paper aims to test electoral PBC in Turkey using the monthly data from 1985:1 to 1999:5. To test the implication of PBC theory, the following model 1 is estimated.

$$y_t = \alpha + \sum_{i=1}^n \beta_i y_{t-i} + \delta_k d_k + \varepsilon_t \quad (1) \quad k=1, 2, \dots, 6$$

In Model 1, policy variable y_t is assumed to follow an autoregressive process and this pattern is assumed to be interrupted by elections as measured by the dummy term d_t . ε_t is the error term at time t , n is the lag order and is specified by looking at Akaike information criterion and k is the month the dummy represents⁸. The primary interest of this paper is the coefficient δ_k of the electoral dummy d_k in this model. In other words, the coefficient δ_k is tested under the null hypothesis ($H_0: \delta_k=0$). The sign of δ_k gives the direction of the correlation between election periods and the policy variables. Moreover, the significance of δ_k gives information about the significance of the correlation and provides empirical evidence for the existing of PBC. This type of specification is often used in literature (see, McCallum (1978), Alesina and Sachs (1988), Ito and Park (1988), Alesina, Cohen and Roubini (1993) and Heckelman and Berument (1998)).

⁸ In fact, in empirical study effects of elections are tested for 12 months and the corresponding results are presented in Appendix C.

An alternative methodology to see the effects of elections on y_t can be estimating the above Model 1 using the sum of the electoral dummies and considering the null hypothesis that each of the coefficient of the dummies is equal to zero. However, there may exist multicollinearity problem amongst the electoral dummies and the policy variable y_t in such a model. To avoid such a multicollinearity problem, therefore, Model 1 is used for empirical analysis.

In order to estimate Model 1, ordinary least square (OLS) regression procedure is used. But, OLS assumes the residual terms are uncorrelated with the explanatory variables in order to have unbiased estimates. However, if the explanatory variables are correlated with the residuals and accordingly with the dependent variable, then simultaneity bias problem will arise, consequently, the estimates yield by OLS will be biased. Hence, model will be misspecified and OLS will not be an appropriate process to estimate the given data.

In the concern of this paper, simultaneity bias problem may arise if the incumbent government calls an early election when the economic performance is going good as mentioned in Section 1 (Ito and Park, 1988). Hence, the considered cyclic policy variables and economic indicators may influence election timing. As a consequence, election timing will not be exogenous and estimating Model 1 via OLS will give biased estimates causing a simultaneous endogeneity problem. Ito and Park (1988) and Alesina, Cohen and Roubini (1993) suggested different procedures to test exogeneity of elections. Later, Heckelman and Berument (1998) used Hausman Specification test procedure (1978). To decide on the exogeneity of elections for policy variable y_t , they include an instrumental variable d_k^* , in their model and consider an F-test to test the restriction $\delta_k^*=0$. This paper follows their methodology

to test the exogeneity of elections. Thus, the instrument variable, d_k^* , is included in Model 1 as:

$$y_t = \alpha + \sum_{i=1}^n \beta_i y_{t-i} + \delta_k d_k + \delta_k^* d_k^* + u_t \quad (2)$$

Then, to check whether simultaneity bias problem exists Hausman's (1978) second test is applied under the null hypothesis ($H_0 = \delta_k^*$). Thus, if the null hypothesis is not rejected, election timing will be exogenous for y_t and OLS estimation will give unbiased reliable results. However, if the null is rejected, then election timing will be endogenous for y_t and model will be misspecified leading to give biased results via OLS. In the case of endogeneity, the reliable estimates are the ones via IV. In the concern of this paper, variables that government can not control directly or has less power to control is expected to have endogenous election timing. Thus, elections should be exogenous for government spending (Keil, 1988), whereas government revenues can be endogenous since government does not have the individual power to decide on the level of revenues. Besides, Turkish Central Bank is not considered as an independent central bank, thus money supply equations should have exogenous election timing. Finally, with respect to spending and money supply equations, the equations of economic indicators as output growth and inflation are more likely have endogenous election timing. In fact, the results of the Hausman test support this intuition. In addition, instrument variable (IV) technique is used to estimate the equations that have simultaneous endogeneity problem.

Finally, pre and post electoral effects of elections on policy variables are examined using two alternative types of electoral dummies d_k and pd_k . d_k 's are

constructed such that, they are equal to unity for the month of the election and k months before the elections and zero otherwise. The second type of the electoral dummies, dp_k 's are constructed such that they are equal to unity at the election month and k months after the elections and zero otherwise.

Meanwhile, as mentioned in section 3, there are some non-stationary variables in the data set as can be seen in Appendix A. Therefore, the difference form of the non-stationary series are used in the regressions to have white noise residuals.

CHAPTER 5

EMPIRICAL EVIDENCE AND DISCUSSION

In this chapter, the empirical results for the effects of elections will be discussed within the following subsections. The effects of elections on fiscal variables is discussed in section 5.1, on monetary policy is discussed in section 5.2 and on inflation and output is discussed in section 5.3 and section 5.4, respectively.

5.1 Election Effects on Fiscal Policy

Model 1 has been estimated for all fiscal variables with the electoral dummies defined in section 4 to test the hypothesis that governments apply expansionary fiscal policies before elections. In regressions, fiscal variables measured at their ratios to total government revenues, because this paper aims to test what is the behaviour of a fiscal variable compared with the behaviour of other fiscal variables during elections. In section 5.1.1 pre-electoral and in section 5.1.2 post-electoral effects on fiscal policy variables will be discussed, respectively.

5.1.1 Pre-electoral Effects on Fiscal Policy

Table 4 presents the empirical evidence of pre-electoral effects on the terms of government expenditures.⁹ Government decides on amount of its expenditures,

⁹ In the empirical study, pre and post electoral effects on policy instruments and measures of economic performance is considered for 12 months and the results are presented in Appendix C.

therefore, it has the opportunity to control them. However, government can not decide on its revenues, because its revenues may change due to the factors government can not directly control¹⁰. In fact, simultaneous bias (endogeneity) problem may arise for revenue terms and OLS estimates may not be biased. Thus, simultaneous endogeneity is tested by applying Hausman tests and in the case of endogenous election timing, estimates via instrument variable (IV) technique will be discussed.

The empirical evidence presented in Table 4 suggests that *government expenditures* statistically significantly increase before elections and *government expenditures* have the highest correlation with the electoral dummy representing the first month before elections. Besides, the empirical evidence also suggests that the estimated coefficient for *non-interest expenditures* increase statistically significantly prior to elections and *non-interest expenditures* have the highest correlation with the pre-electoral dummy representing the first month before elections.

Considering the subcomponents of non-interest expenditures; *personnel*, *investment*, *other current expenditures*, *transfers to SEEs* and *other transfers* are estimated separately using Model 1. The empirical evidence suggests that the estimated coefficient of *personnel expenditures* increases statistically significantly before elections and *personnel expenditures* have the highest correlation with the electoral dummy representing three months before elections. Besides, the estimates presented in Table 4 suggest that *investment expenditures*, contrary to Rogoff (1990), increase significantly prior to elections. *Other current expenditures* also increase statistically significantly before elections and *other current expenditures* have the highest correlation with the electoral dummy representing two months before elections. Moreover, our empirical evidence suggest that the estimated coefficient of

¹⁰ For instance, taxes such as VAT depend on the consumption behavior of the agents that government can not directly control

transfers to SEEs significantly increases before elections and *transfers to SEEs* have the highest correlation with the pre-electoral dummy representing three months before elections. Besides, the empirical evidence suggests that the estimated coefficient of *other transfers* increases before elections, but there exists no statistically significant correlation between *other transfers* and pre-electoral dummies. Although *other transfers* term is an appreciate term for implementing populist policies including social security and agricultural and price subsidies, the government does not statistically significantly use this expenditure term. On the contrary, Ozatay (1999) finds statistically significant evidence of increasing *other transfers* prior to elections using the first difference and real forms of other transfers.

TABLE 4 – Effects of Elections on Expenditures in the Pre-Election Period

	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆
Expenditures	0.306** (2.559)	0.195* (1.940)	0.143 (1.612)	0.051 (0.628)	0.018 (0.235)	0.013 (0.181)
Non-Interest Expenditures	0.278*** (3.516)	0.213*** (3.180)	0.189*** (3.173)	0.121** (2.182)	0.086 (1.648)	0.096* (1.938)
Personnel Expenditures	0.042 (1.584)	0.034 (1.529)	0.033* (1.703)	0.022 (1.263)	0.016 (1.012)	0.016 (1.060)
Investment Expenditures	0.043* (1.886)	0.028 (1.506)	0.017 (0.995)	0.015 (1.021)	0.011 (0.781)	0.009 (0.663)
Other Current Expenditures	0.014 (1.039)	0.021* (1.936)	0.013 (1.394)	0.014 (1.639)	0.012 (1.593)	0.007 (1.010)
Other Transfers	0.062 (1.292)	0.038 (0.946)	0.053 (1.513)	0.015 (0.489)	-0.002 (-0.058)	0.005 (0.188)
Transfers to SEEs	0.025 (1.585)	0.019 (1.490)	0.034*** (3.025)	0.026** (2.537)	0.020** (2.120)	0.020** (2.222)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.
Note: t-statistics are reported in parenthesis for the corresponding coefficient.

In brief, the empirical evidence suggests that more of total revenues are channelled to the government expenditures. Thus, over all empirical evidence is parallel with PBC theory where government adopts expansionary fiscal policies to manipulate the economy before elections.

As mentioned before, simultaneous endogeneity problem may arise for revenue terms. Before discussing pre-electoral effects on revenues, Hausman test based on model 2 are applied to the revenue terms and the results are presented in Table 5. Given our choice of instrument variables, Hausman statistics are significant for direct and indirect tax revenues, thus the elections are endogenous for them. Thus, OLS estimates are biased for direct and indirect tax revenues.

TABLE 5 – Hausman F-Test Statistics for Revenues

	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆
Tax Revenues	3.704	3.579	3.600	3.641	3.728	4.047*
Direct Taxes	5.731*	4.781*	4.210*	3.90**	4.028*	3.957**
Indirect Taxes	5.100*	11.052*	7.305*	4.684*	4.607*	6.907*
Nontax Revenues	2.972	2.861	3.016	3.173	2.995	3.134
Other Revenues	1.992	2.042	2.039	1.835	1.895	1.942

* indicates 1 % and ** indicates 5 % significance level.,

TABLE 6 – Effects of Elections on Revenues in the Pre-Election Period via IV

	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆
Tax Revenues	-0.062 (-0.521)	-0.032 (-0.391)	-0.025 (-0.349)	-0.036 (-0.565)	-0.038 (-0.560)	-0.060 (-0.811)
Direct Taxes	-0.122 (-1.404)	-0.060 (-1.071)	-0.034 (-0.757)	-0.028 (-0.668)	-0.019 (-0.457)	-0.031 (-0.669)
Indirect Taxes	0.276 (0.502)	0.819 (0.568)	0.325 (0.781)	0.057 (0.513)	-0.018 (-0.278)	-0.084 (-1.149)
Nontax Revenues	0.033 (0.208)	0.001 (0.006)	-0.027 (-0.264)	-0.052 (-0.476)	-0.019 (-0.150)	-0.056 (-0.332)
Other Revenues	-0.020 (-0.164)	-0.026 (-0.295)	-0.025 (-0.354)	-0.006 (-0.096)	-0.013 (-0.197)	-0.019 (-0.257)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.

Note: t-statistics are reported in parenthesis for the corresponding coefficient.

Table 6 presents the estimates of revenue terms via IV¹¹. The empirical evidence suggests decreasing direct tax revenues prior to elections. But, the correlation between the pre-electoral dummies and direct and indirect tax revenues are not statistically significant. Thus, the empirical evidence does not provide statistically significant evidence supporting OET hypothesis for revenues of the government.

The results of Hausman test presented in Table 5 suggest that OLS estimates of revenue terms except direct and indirect tax revenues are unbiased. Hence, Table 7 presents empirical results via OLS for the revenue terms in the pre-election period.

TABLE 7 – Effects of Elections on Revenues in the Pre-Election Period via OLS

	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆
Tax Revenues	-0.017 (-0.701)	-0.012 (-0.596)	-0.008 (-0.434)	-0.016 (-0.957)	-0.01 (-0.657)	-0.011 (-0.729)
Direct Taxes	-0.029 (-1.398)	-0.025 (-1.431)	-0.022 (-1.465)	-0.032** (-2.402)	-0.028** (-2.298)	-0.029** (-2.472)
Indirect Taxes	0.016 (0.833)	0.011 (0.702)	0.011 (0.794)	0.01 (0.814)	0.008 (0.666)	0.006 (0.521)
Nontax Revenues	-0.003 (-0.178)	-0.003 (-0.201)	-0.009 (-0.613)	-0.005 (-0.403)	-0.007 (-0.616)	-0.011 (-0.962)
Other Revenues	0.016 (0.652)	0.011 (0.554)	0.007 (0.364)	0.015 (0.928)	0.009 (0.580)	0.009 (0.635)
CB Advances	0.109 (1.308)	0.080 (1.163)	0.044 (0.728)	0.038 (0.690)	0.034 (0.661)	0.029 (0.606)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.
Note: t-statistics are reported in parenthesis for the corresponding coefficient.

The empirical evidence suggests decreasing *tax revenues* prior to elections, thus *total tax revenues* and *non-tax revenues* decrease in the pre-election period. However, tax revenues and non-tax revenues are not statistically significant correlated with election dummies. Besides, *central bank short term advances* increase prior to elections, but the estimated coefficient is not statistically significantly, either.

¹¹ In the empirical study, pre-electoral effects on revenue terms via IV for 12 months is also considered and the results are presented in Appendix C, Table C3.

Although, the empirical evidence is not statistically significant for revenue terms, it suggests that the ratio of tax revenues in total revenues decrease in the pre-election period, implying that the incumbent government applies loose revenue policy prior to election periods.

Table 8 presents the pre-electoral effects on budget deficits. As a consequence of expansionary fiscal policies, the fiscal deficit is expected to increase prior to elections. Hence, empirical evidence supports the hypothesis of PBC that budget deficit increases prior to elections. Although Turkish budget gives usually primary surplus, empirical evidence suggests that the estimated coefficient of *primary deficit* statistically significantly increases in the pre-election period. Furthermore, it also suggests that the estimated coefficient of *budget deficit* statistically significantly increases in the pre-election period. In fact, both *primary* and *budget deficits* have the highest correlation with the electoral dummy representing one month before elections. The reason of the increase in deficit is the statistically significant increase in government spending, since the decrease in tax revenues is not statistically significant.

TABLE 8 - Effects of Elections on Deficits in the Pre-Election Period

	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆
Primary Deficit	0.278*** (3.516)	0.213*** (3.180)	0.189*** (3.173)	0.121** (2.182)	0.086* (1.648)	0.096* (1.938)
Budget Deficit	0.306** (2.559)	0.195* (1.940)	0.143 (1.612)	0.051 (0.628)	0.018 (0.235)	0.013 (0.181)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.
Note: t-statistics are reported in parenthesis for the corresponding coefficient.

5.1.2 Post-Electoral Effects on Fiscal Policy

Table 9 presents the post-electoral effects on government expenditures. Thus, the estimated coefficient for the *total government expenditures* increases statistically

significantly after the elections. Moreover, government expenditures have the highest correlation with the electoral dummy representing two months after elections. Similarly, empirical evidence suggests that *non-interest expenditures* of the government increase after elections and the estimated coefficient for *non-interest expenditures* statistically significantly increases after elections.

TABLE 9 - Effects of Elections on Expenditures in the Post-Election Period

	dp ₁	dp ₂	dp ₃	dp ₄	dp ₅	dp ₆
Expenditures	0.293 ** (2.261)	0.312 *** (2.781)	0.198 * (1.916)	0.078 (0.824)	0.129 (1.498)	0.138* (1.732)
Non-Interest Expenditures	0.267*** (3.110)	0.306*** (4.171)	0.240*** (3.472)	0.148** (2.261)	0.111* (1.823)	0.077 (1.368)
Personnel Expenditures	0.006 (0.206)	0.058** (2.401)	0.048** (2.177)	0.027 (1.320)	0.011 (0.562)	0.001 (0.083)
Investment Expenditures	0.073*** (3.078)	0.045** (2.098)	0.024 (1.262)	0.016 (0.913)	0.006 (0.360)	0.003 (0.227)
Other Current Expenditures	0.004 (0.306)	0.015 (1.231)	0.013 (1.267)	0.008 (0.847)	0.005 (0.579)	0.004 (0.465)
Other Transfers	0.104** (2.056)	0.116*** (2.689)	0.082** (2.104)	0.053 (1.471)	0.049 (1.467)	0.037 (1.187)
Transfers to SEEs	-0.015 (-0.870)	0.002 (0.124)	-0.005 (-0.393)	-0.011 (-0.964)	-0.012 (-1.119)	-0.009 (-0.910)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.
Note: t-statistics are reported in parenthesis for the corresponding coefficient.

Moreover, sub-components of non-interest expenditures behave similar to the pre-election period. The empirical evidence suggests that the estimated coefficients of *personnel expenditures* and *investment expenditures* increase statistically significantly after elections. In fact, *personnel expenditures* have the highest correlation with the post-electoral dummy representing two months, whereas *investment expenditures* have the highest correlation with the dummy representing one month after elections. Next, empirical evidence suggests that *other current expenditures* increase in the post-election period, however they have no statistically significant correlation with the post-electoral dummies. Contrary to pre-election period, *other transfers* term

increases statistically significant after elections. Furthermore, *other transfers* have the highest correlation with the dummy representing two months after elections. Thus, the government prefers to channel his funds to social security, price and agricultural subsidies after elections to realize his promises to his voters in the pre-election period. Hence, in the post-election period expansionary spending policies follow as in pre-election period. Finally, *transfers to SEEs* term is the only decreasing expenditure term after elections, however *transfers to SEEs* are not significantly correlated with any post-electoral dummy variable.

In Table 10, the empirical results of post-electoral effects on revenue terms are presented. In the post-election period, the empirical evidence suggests that the estimated coefficient of tax revenues increases statistically significantly after elections and *tax revenues* have the highest correlation with the electoral dummy representing two months after elections. Similarly, the estimated coefficient of *indirect taxes* is significantly positive after elections and *indirect tax revenues* have the highest correlation with the electoral dummy representing two months after elections. Moreover, the estimates presented in Table 9 suggest that *direct taxes* also increase after elections but the correlation between *direct tax revenues* and post-electoral dummies is not statistically significant. Next, nontax and other revenues decrease statistically significantly with significant correlation with electoral dummies. Besides, the empirical evidence suggests that the estimated coefficient of *central bank short-term advances* increases insignificantly as in pre-electoral period. Hence, it can be concluded that the ratio of tax revenues to total revenues increases after elections and although government continues to increase its spending, it applies tighter tax policies the post election period.

TABLE 10 - Effects of Elections on Revenues in the Post-Election Period

	dp ₁	dp ₂	dp ₃	dp ₄	dp ₅	dp ₆
Tax Revenues	0.016 (0.592)	0.061*** (2.778)	0.035* (1.775)	0.024 (1.318)	0.022 (1.352)	0.022 (1.436)
Direct Taxes	0.003 (0.140)	0.035 (1.866)	0.013 (0.748)	0.000 (0.006)	0.005 (0.400)	0.006 (0.439)
Indirect Taxes	0.039* (1.945)	0.057*** (3.451)	0.046*** (3.070)	0.038*** (2.746)	0.029** (2.189)	0.028** (2.241)
Nontax Revenues	-0.013 (-0.617)	-0.029* (-1.669)	-0.006 (-0.378)	0.001 (0.081)	0.001 (0.064)	0.000 (-0.012)
Other Revenues	-0.017 (-0.625)	-0.060*** (-2.730)	-0.034* (-1.692)	-0.023 (-1.251)	-0.022 (-1.305)	-0.021 (-1.349)
CB Advances	0.023 (0.259)	0.060 (0.793)	0.041 (0.613)	0.025 (0.403)	0.038 (0.675)	0.037 (0.701)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.
 Note: t-statistics are reported in parenthesis for the corresponding coefficient.

As presented in Table 11, the empirical evidence suggests that the estimated coefficients of *primary* and *budget deficits* increase in the post-election period. In fact, both *primary* and *budget deficits* have the highest correlation with the dummy representing 2 months after elections. Thus, although the ratio of tax revenues to total revenues increase in the post-election period, the ratio of government expenditures continues to increase such that budget deficit increases statistically significantly in the post-electoral period.

TABLE 11 - Effects of Elections on Deficits in the Post-Election Period

	dp ₁	dp ₂	dp ₃	dp ₄	dp ₅	dp ₆
Primary Deficit	0.267*** (3.110)	0.306*** (4.171)	0.240*** (3.472)	0.148** (2.261)	0.111* (1.823)	0.077 (1.368)
Budget Deficit	0.293** (2.261)	0.312* (2.781)	0.198* (-1.916)	0.078 (0.824)	0.129 (1.498)	0.138* (1.732)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.
 Note: t-statistics are reported in parenthesis for the corresponding coefficient.

All the regressions above are also performed for logarithmic difference of nominal budget terms and the results are similar. But, they are not presented here not to occupy much space.

5.2 Elections Effects on Monetary Policy

Model 1 has been estimated for monetary aggregates and interest rates with electoral dummies to test the existing of PBC in monetary policy. PBC theory claims that prior to elections the incumbent government can manipulate the economy by making use of monetary policy and by adopting expansionary monetary policy in the pre-election period. However, to decrease the inflation generated by the pre-election expansionary policies, a tight monetary policy will be applied in the post-election period.

In section 5.2.1 pre-electoral and in section 5.2.2 post electoral effects on monetary policy will be discussed under the scope of PBC. In all of the regressions, monetary aggregates and interest rates are used as logarithmic growths, except the interbank rate.

5.2.1 Pre-Electoral Effects on Monetary Policy

There are two claims of monetary policy instruments; monetary aggregates and interest rates. First claim of monetary policy instrument considered in this paper is monetary aggregates and Table 12 presents the pre-electoral effects on monetary aggregate variables. The results indicate that growth rate of *quasimoney*, *M2* and *M2Y* significantly increase prior to elections. They all have the highest correlation

with the electoral dummy representing one month before elections. Thus, it can be concluded that the empirical evidence supports the hypothesis of expanding monetary policy in the pre-election. However, the empirical evidence suggests that the estimated coefficient of *M1* decreases, where the estimated coefficient of *reserve money* is mixed.

TABLE 12 - Effects of Elections on Monetary Aggregates in the Pre-Election Period

	d₁	d₂	d₃	d₄	d₅	d₆
Quasimoney	0.038*** (3.037)	0.026** (2.418)	0.016*** (1.733)	0.011 (1.327)	0.009 (1.190)	-0.003 (-0.3919)
Reserve Money	-0.002 (-0.050)	0.002 (0.074)	-0.004 (-0.150)	0.000 (0.012)	-0.011 (-0.483)	-0.000 (-0.022)
M1	-0.004 (-0.149)	-0.004 (-0.199)	-0.008 (-0.456)	-0.008 (-0.462)	-0.008 (-0.502)	-0.004 (-0.323)
M2	0.032*** (2.884)	0.021** (2.292)	0.012 (1.514)	0.012 (1.553)	0.009 (1.366)	0.001 (0.217)
M2Y	0.034*** (2.946)	0.022** (2.331)	0.013 (1.572)	0.012 (1.508)	0.010 (1.399)	0.002 (0.234)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.
Note: t-statistics are reported in parenthesis for the corresponding coefficient.

Second claim of monetary policy considered in this paper is a set of interest rates. Table 13 presents the pre-electoral effects on interest rates. *Interbank rate* might be considered as the monetary instrument of central bank among the interest rates to manipulate the economy. In fact, Berument and Malatyah (1998) show that Turkish Central Bank uses interbank rate as an instrument to target M2Y. The empirical evidence suggests that in the pre-election period the estimated coefficient of *inter-bank rate* decreases, but the correlation between interbank rate and electoral dummies is not statistically significant for OECD countries. Alesina, Roubini and Cohen (1997) tested long-term interest rates and they also found no statistically significant decrease in interest rate. In this study, the estimated coefficients for *three-month TL* and *US time deposit rates* have mixed results for the period prior to

elections. However, the empirical evidence suggests that *nominal* and *real treasury rate* increase prior to elections. The increase in treasury rate can be attributed to two factors. Firstly, budget deficit increases before elections and the government has to finance its debt by borrowing from the market. Secondly, there is an uncertainty in political life, because nobody knows who will govern the country after elections. Thus, the uncertainty increases the risk premium in interest rates, so does the *treasury rate*.

TABLE 13 - Effects of Elections on Interest Rates in the Pre-Election Period

	d₁	d₂	d₃	d₄	d₅	d₆
Time Deposit Rate	0.014 (0.123)	-0.003 (-0.034)	-0.010 (-0.124)	-0.018 (-0.245)	-0.023 (-0.333)	-0.036 (-0.538)
US Dollar Time Deposit Rate	0.050 (0.488)	0.000 (-0.004)	0.007 (0.085)	-0.006 (-0.087)	0.013 (0.197)	-0.014 (-0.234)
Treasury Bill Rate	0.014 (0.625)	0.014 (0.792)	0.009 (0.547)	0.001 (0.076)	0.003 (0.239)	0.003 (0.207)
Real Treasury Bill Rate	0.034 (1.327)	0.034 (1.568)	0.032* (1.674)	0.022 (1.222)	0.019 (1.125)	0.015 (0.926)
Interbank Rate	-0.026 (-0.572)	-0.023 (-0.624)	-0.039 (-1.218)	-0.025 (-0.858)	-0.020 (-0.745)	-0.016 (-0.653)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.
Note: t-statistics are reported in parenthesis for the corresponding coefficient.

As a last item for monetary policy, the monetary equations are not expected to have endogenous election timing. Because, monetary policy can be changed at any time even when the elections are announced. In fact, the results of Hausman tests support this assertion, however they are not presented here not to occupy much space. Thus, monetary supply equations have exogenous election timings.

5.2.2 Post-Electoral Effects on Monetary Policy

In the post-election period PBC suggests a tight monetary policy to eliminate the inflationary effects of expansionary economic policies applied in the pre-election period. Table 14 presents the empirical evidence of monetary aggregates in post-election period. In fact, empirical evidence suggests that the estimated coefficient for *reserve money* decreases after elections and reserve money has the highest correlation with the dummy representing three months after elections. However, in other monetary aggregates empirical evidence suggests mixed or increasing estimated coefficients after elections. In fact, the monetary aggregates as *M2* and *M2Y* statistically significantly increase after elections. Thus, empirical evidence does not support the hypothesis that tight monetary policy is applied in the post-election period to eliminate the inflationary effects.

TABLE 14 - Effects of Elections on Monetary Aggregates in the Post-Election Period

	dp ₁	dp ₂	dp ₃	dp ₄	dp ₅	dp ₆
Quasimoney	0.007 (0.489)	0.008 (0.723)	0.011 (1.183)	0.009 (1.084)	0.005 (0.657)	0.004 (0.529)
Reserve Money	-0.050 (-1.370)	-0.057* (-1.912)	-0.062** (-2.415)	-0.023 (-0.969)	-0.032 (-1.483)	-0.046** (-2.235)
M1	0.007 (0.261)	-0.010 (-0.470)	-0.026 (-1.464)	-0.015 (-0.900)	-0.016 (-1.072)	-0.019 (-1.338)
M2	0.021* (1.818)	0.008 (0.862)	0.002 (0.216)	0.003 (0.359)	0.003 (0.366)	0.002 (0.345)
M2Y	0.024** (2.009)	0.010 (0.970)	0.004 (0.468)	0.003 (0.323)	0.003 (0.387)	0.003 (0.457)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.
Note: t-statistics are reported in parenthesis for the corresponding coefficient.

Table 15 presents the empirical results for the interest rates in the post-election period. *Interbank rate* behaves similar to its pre-election behaviour. The empirical evidence suggests that the estimated coefficient of *interbank rate* decreases

after elections, but the correlation between *interbank rate* and election dummies is not statistically significant. For the interest rates, in the post-election period an increase is expected due to the possible adopted tight monetary policy and decreasing money supply. However, in the post-election period empirical evidence does not provide evidence supporting expansionary money supplies. But, it suggests that the estimated coefficient of *three-month TL* and *US dollar time deposit rate* increases after elections. Moreover, *TL* and *US dollar time deposit rates* both have the highest correlation with the electoral dummies representing two months after the election. Although, in the post-election period, empirical evidence does not support the decreasing monetary aggregates, it supports the increasing interest rates. Thus, the incumbent government manipulated the economy using monetary supply aggregates in the pre-election period and using interest rates in the post election period.

TABLE 15 - Effects of Elections on Interest Rates in the Post-Election Period

	dp ₁	dp ₂	dp ₃	dp ₄	dp ₅	dp ₆
Time Deposit Rate	0.003 (0.241)	0.342*** (3.733)	0.272*** (3.284)	0.230*** (2.998)	0.201*** (2.767)	0.177** (2.562)
US Dollar Time Deposit Rate	0.054 (0.514)	0.321** (3.925)	0.286*** (3.674)	0.236*** (3.139)	0.218*** (3.056)	0.219*** (3.221)
Treasury Bill Rate	0.040* (1.881)	0.015 (0.761)	0.004 (0.249)	0.005 (0.329)	0.004 (0.261)	0.006 (0.443)
Real Treasury Bill Rate	0.044* (1.713)	0.015 (0.659)	-0.003 (-0.149)	0.003 (0.134)	-0.001 (-0.053)	0.005 (0.316)
Interbank Rate	-0.036 (-0.814)	-0.029 (-0.780)	-0.012 (-0.361)	-0.024 (-0.822)	-0.021 (-0.777)	-0.020 (-0.790)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.
Note: t-statistics are reported in parenthesis for the corresponding coefficient.

Furthermore, the empirical evidence the estimated coefficient of *nominal treasury rates* increases after elections and *nominal treasury rate* has the highest correlation with the dummy representing just one month after elections. As in pre-

electoral period, the increase in *nominal treasury rate* can be attributed to the increase in budget deficit.

5.3 Effects of Elections on Inflation

PBC theory suggests that inflation is lower prior to elections, whereas it is higher after elections due to the expansionary fiscal and monetary policies applied in the pre-election period (Nordhaus, 1975; Rogoff and Sibert, 1988; and Alesina, Roubini and Cohen, 1997). The electoral effects on inflation are discussed for pre-election period in section 5.3.1 and for post-election period in section 5.3.2.

5.3.1 Pre-Electoral Effects on Inflation

As mentioned in section 4, inflation equation may have endogenous election timing, because government can not control inflation directly and inflation is an important indicator of economic performance of a country. Table 16 presents Hausman test for inflation and industrial production¹². The results indicate that the regression for *CPI* suffers from endogeneity.

TABLE 16 – Hausman F-Test Statistics for Inflation-Output

	d₁	d₂	d₃	d₄	d₅	d₆
Monthly Growth Rate of CPI	9.895*	9.976*	9.869*	9.854*	9.915*	10.072*
Monthly Growth Rate of WPI	2.124	2.000	1.937	2.103	2.630	2.600
Monthly Growth Rate of private WPI	2.715	3.064	1.949	2.049	2.742	2.642
Monthly Increase in Industrial Production Index	9.313*	9.158*	10.711*	10.035*	14.605*	14.216*

* indicates 1 % significance level.

¹² In the empirical study, Hausman test for inflation for 12 months is also considered and the results are presented in Appendix C, Table C9.

Considering the simultaneous endogeneity problem, the equations for inflation is estimated via IV and the estimates for inflation is presented in Table 17¹³. The empirical evidence suggests that the estimated coefficient for the growth of CPI decreases in the pre-election period, but the correlation of CPI with the electoral dummies is not statistically significant. Thus, the empirical evidence does not provide evidence supporting OET hypothesis for CPI.

TABLE 17 - Effects of Elections on Inflation-Output in the Pre-Election Period via IV

	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆
Monthly Growth Rate of CPI	-0.018 (-0.314)	0.003 (0.124)	-0.001 (-0.035)	-0.001 (-0.077)	-0.001 (-0.038)	-0.009 (-0.687)
Monthly Growth Rate of WPI	0.030 (0.373)	0.003 (0.104)	-0.003 (-0.133)	-0.007 (-0.292)	-0.005 (-0.244)	-0.007 (-0.341)
Monthly Growth Rate of private WPI	0.042 (0.812)	0.023 (0.865)	0.006 (0.223)	0.007 (0.309)	0.001 (0.038)	0.002 (0.099)
Monthly Increase in Industrial Production Index	0.198* (1.868)	0.165 (1.614)	0.182* (1.688)	0.176 (1.367)	0.261 (1.451)	0.303 (1.220)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.
Note: t-statistics are reported in parenthesis for the corresponding coefficient.

Hausman test results presented in Table 16 suggest that the general, private and public sector WPI equations have exogenous election timings, thus OLS estimates are consistent. The empirical results of pre-electoral effects on inflation via OLS are presented in Table 18. The estimated coefficient for the growth of *WPI and private WPI* are mixed. However, the empirical evidence suggests that the estimated coefficient for monthly growth of *public sector WPI* decreases before elections and monthly growth rate of *public sector WPI* has the highest correlation with the electoral dummy representing 6 months before elections. Thus, the empirical evidence

¹³ In the empirical study, pre-electoral effects on inflation terms via IV for 12 months is also considered and the results are presented in Appendix C, Table C10

suggests that the inflation is lower in public sector prior to elections, therefore the evidence of lower inflation in the pre-election period is consistent with PBC theory.

TABLE 18 - Effects of Elections on Inflation-Output in the Pre-Election Period via OLS

	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆
Monthly Growth Rate of CPI	-0.004 (-0.396)	-0.004 (-0.531)	-0.003 (-0.419)	-0.003 (-0.494)	-0.004 (-0.701)	-0.004 (-0.771)
Monthly Growth Rate of WPI	0.000 (0.027)	0.001 (0.093)	0.001 (0.081)	-0.003 (-0.269)	-0.008 (-0.763)	-0.006 (-0.673)
Monthly Growth Rate of private WPI	0.000 (0.045)	-0.002 (-0.228)	0.001 (0.085)	0.000 (0.009)	-0.008 (-1.573)	-0.006 (-1.208)
Monthly Growth Rate of public WPI	-0.010 (-0.603)	-0.009 (-0.680)	-0.012 (-0.971)	-0.015 (-1.359)	-0.015 (-1.449)	-0.016* (-1.729)
Monthly Increase in Industrial Production Index	0.044** (2.053)	0.021 (1.214)	0.019 (1.216)	0.001 (0.059)	0.008 (0.642)	0.008 (0.706)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.
Note: t-statistics are reported in parenthesis for the corresponding coefficient.

5.3.2 Post-Electoral Effects on Inflation

Table 19 presents the empirical evidence of post-electoral effects on inflation and empirical evidence supports the hypothesis of increasing inflation after elections. In fact, monthly growth of *CPI* and *private WPI* increase after elections, but the correlations of *both CPI* and *private WPI* with election dummies are not statistically significant.

Furthermore, the empirical evidence suggests that the estimated coefficient of monthly growth of *public sector WPI* increases in the post-election period statistically significantly. In fact, it has the highest correlations with the electoral dummy representing four months after elections.

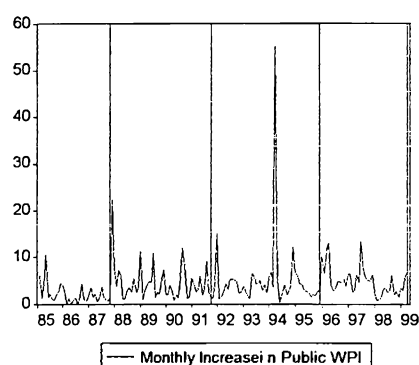
TABLE 19 - Effects of Elections on Inflation-Output in the Post-Election Period

	dp ₁	dp ₂	dp ₃	dp ₄	dp ₅	dp ₆
Monthly Growth Rate of CPI	0.002 (0.197)	0.000 (0.045)	0.003 (0.416)	0.006 (0.948)	0.008 (1.393)	0.005 (0.914)
Monthly Growth Rate of WPI	0.017 (0.993)	0.015 (1.097)	0.021 (1.692)	-0.005 (-0.445)	0.000 (-0.009)	-0.001 (-0.124)
Monthly Growth Rate of private WPI	0.011 (1.266)	0.006 (0.828)	0.008 (1.340)	0.010 (1.842)	0.008 (1.529)	0.005 (1.019)
Monthly Growth Rate of public WPI	0.023 (1.434)	0.022 (1.607)	0.034*** (2.864)	0.034*** (3.067)	0.030*** (2.831)	0.024** (2.337)
Monthly Increase in Industrial Production Index	0.019 (0.875)	0.008 (0.436)	0.023 (1.407)	0.011 (0.734)	0.012 (0.876)	0.003 (0.233)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.
 Note: t-statistics are reported in parenthesis for the corresponding coefficient.

In Figure 1, the increase in monthly growth of *public sector WPI* after elections can be detected easily. The vertical lines represent the election times. Thus, the empirical evidence supports the hypothesis that inflation increases in the post-election period especially in public sector.

Figure 1- Monthly Increase in Public Sector WPI



As mentioned before, although *public sector WPI* decreases prior to elections, it increases statistically significantly after elections. Besides, the same behavior can not be observed in *private sector WPI*. Therefore, to examine the different behaviors of the two price index, following Ozatay (1999), another variable, *gap*, is defined as

the difference of monthly logarithmic growths of public and private sector WPI's and Model 3 is estimated to examine the relation between public and private WPI's before and after elections.

$$gap_t = \alpha + \delta_k d_k + \sum_{i=1}^{11} \gamma_i s_{it} \quad (3)$$

where d_k is the electoral dummy and s_i 's are the monthly seasonal dummies.

Table 20 presents the empirical evidence by estimating Model 3 with both pre and post electoral dummies.¹⁴ The empirical evidence suggests that the estimated coefficient for the *gap* is negative in the pre-election period. To be more clear, the growth of the price level of public sector goods and services is lower than the growth of the price level of private sector goods and services. In fact, Turkey has been suffering from high rates of inflation for 25 years and the incumbent does not want to increase the social tension before elections, therefore, it tries to keep the price level of public goods and services below the general price level before elections. However, the empirical evidence suggests that the estimated coefficient of *gap* becomes statistically significantly positive in post-election periods. Thus, the public sector prices increase such that the coefficient of the *gap* becomes positive after elections contrary to negative values prior to elections. Hence, the incumbent government lets the public sector prices to adjust to the general price level, therefore, *public sector WPI* increases statistically significantly after elections.

¹⁴In the empirical study, pre and post electoral effects on the gap for 12 months is also considered and the results are presented in Appendix C, Table C13.

**TABLE 20 -Effects of Elections on the Gap Between Public and Private Sector Inflation
in the Pre-Election and Post-Election Period**

	d₁	d₂	d₃	d₄	d₅	d₆
Gap Between Monthly Growth Rate of Public and Private WPI	-0.006 (-0.501)	-0.003 (-0.247)	-0.007 (-0.743)	-0.008 (-1.027)	-0.004 (-0.493)	-0.009 (-1.252)
	dp₁	dp₂	dp₃	dp₄	dp₅	dp₆
Gap Between Monthly Growth Rate of Public and Private WPI	0.011 (0.903)	0.013 (1.240)	0.023** (2.510)	0.021** (2.505)	0.017** (2.218)	0.014* (1.855)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.
Note: t-statistics are reported in parenthesis for the corresponding coefficient.

5.3 Election Effects on Output

Finally, the effects of elections on industrial production will be discussed. The main assertion of PBC is that as a consequence of the manipulations done by the incumbent government, output increases prior to elections. However, the expansionary pre-election policies may result as an increase in inflation after elections, therefore, to eliminate the inflationary effects, a recession is expected after elections. This paper uses the growth of industrial production index as a proxy of output growth and considers election effects on the growth of industrial production index. As presented in Table 16, the regressions for industrial production suffers from endogeneity bias¹⁵ and the empirical results via IV for the pre-election period is presented in Table 17¹⁶. Hence, the empirical evidence suggests that the estimated coefficient of pre-electoral monthly industrial output growth increases prior to elections, hence industrial output increases prior to elections. In fact, growth of

¹⁵ In the empirical study, Hausman test for output for 12 months is also considered and the results are presented in Appendix C, Table C9.

¹⁶ In the empirical study, pre-electoral effects on output for 12 months via OLS is also considered and the results are presented in Appendix C, Table C10.

industrial production index has the highest correlation with the dummy representing the first month before elections. Moreover, the significant increase in output growth before elections with endogenous election timing indicate that OET exists for output growth. To repeat, government calls early elections when output is growing well.

Table 19 presents the post-electoral effects on output. However, empirical evidence does not support the hypothesis that recession will take place after elections to eliminate the increasing inflation. The empirical evidence suggests that the estimated coefficient of monthly growth of output continues to increase in the post-election period.

CHAPTER 6

CONCLUSION

This paper aims to test the electoral PBC hypothesis in Turkey using monthly data from 1985:1 to 1999:5 including both fiscal and monetary indices and measures of economic performance. Pre and post electoral dummies are constructed to examine the effects of the elections on the policy instruments and economic outcomes and an autoregressive model is estimated using electoral dummies.

This paper differs from the studies in the existing literature with respect to the following points. Firstly, the data set is extensive including all the important economic policy instruments and indicators, especially for budget terms. Secondly, the extensive data set is monthly. Finally, the literature studies consider developed countries, thus considering a developing country to test PBC hypothesis, this paper fills the gap in the literature. In fact, the paper finds significant evidence supporting that Turkey, a developing country, has Electoral PBC.

Hausman specification test is applied to test the exogeneity of elections timing in the autoregressive model and to specify the models. Thus, Hausman test results suggest that regressions of fiscal variables as direct and indirect tax revenues and economic indicators as growth of CPI and output have endogenous election timings. Since three of the elections were early, it may be expected that the government calls early elections because of the well going such indicators and consequently OET may exist. However, the empirical evidence via IV suggests that OET exists only for

output growth, cause only the estimated coefficient of output growth and elections have significant correlation with endogenous election timings.

Although OET is present for only output growth, empirical evidence provides statistically significant evidence of electoral PBC in Turkey for various policy instruments and economic performance indicators. Firstly, statistically significant empirical evidence supports the hypothesis of PBC that expansionary fiscal policies are applied prior to elections. In fact, government expenditures statistically significantly increase before elections. Beside the significant increase in expenditures, tax revenues decrease prior to election insignificantly. As a consequence of both rising expenditures and declining tax revenues, primary and budget deficits increase statistically significantly before elections. Therefore, it can be concluded that the incumbent government applied expansionary fiscal policies in Turkey in the pre-election period. Moreover, this result is consistent with other empirical studies in literature (see, Rogoff, Roubini and Cohen, 1997). The interesting point is the expansionary fiscal policies continue after elections. In fact, government expenditures increase significantly such that, although tax revenues significantly increase, budget deficits continue to increase after elections. In fact, the increasing budget deficit in the post-electoral period can be attributed as an inheritance from the ex-governments, that manipulated the economy with expansionary fiscal policies, because after the two of the elections government in the office changed. It is necessary to mention that the empirical evidence supporting electoral PBC in fiscal variables is much stronger than empirical evidence in any other study done for various countries.¹⁷ This can be because of the institutional differences in budgetary procedures, as preparation, approval and implementation of the budget, amongst the countries that are discussed (see, Alesina and Perotti, 1995).

¹⁷ In literature, although expansionary fiscal policies are suggested prior to elections, the empirical evidence, especially for subcomponents of expenditure and revenues, is rarely statistically insignificant.

Secondly, the empirical evidence for monetary policy is parallel with PBC theory where government adopts expansionary monetary policies before elections. In fact, money supplies as M2 and M2Y behave cyclic before elections and significantly increase, whereas after elections, interest rates have significant cyclic behaviors contrary to pre-election period. In fact, TL and US currency time deposit rates statistically significantly increase after elections. Moreover, due to the significant increase in budget deficits in pre and post election periods, treasury rates increase so does the Treasury's borrowing cost.

Thirdly, the empirical evidence supports the PBC hypothesis of increasing inflation in the post-election period. In fact, public sector WPI increases statistically significantly after elections. There are three possible reasons of the increasing inflation after elections. The first one is that government manipulates the economy with expansionary monetary policies such that it chooses its monetary policies so that the realized burden of expansionary monetary policy will be realized with higher inflation after elections. The second reason is that the inflation increases with the expansionary fiscal stimulation done before elections with a delay and that government adjusts fiscal stands with higher taxes after elections. The last reason is that the government tries to keep the price level of government goods and services low before elections, not to increase social tension. However, after elections, due to the first two reasons discussed above, the incumbent government can no longer keep the public sector prices low, therefore, it lets the public sector prices to adjust to the general price level.

Finally, the empirical evidence supports evidence of OET in output equation before elections. Thus, the government calls early elections when the growth of industrial production index - taken as the proxy for output growth- is growing well.

However, empirical evidence does not support the PBC hypothesis that output decreases after elections in order to eliminate the inflationary effects. In fact, inflation can not be eliminated and it increases after elections

The empirical results presented in this paper are generally consistent with PBC theory. The empirical evidence suggests that the incumbent government manipulated the Turkish economy in the pre-election periods to increase their re-election chance between 1985 and 1999.

BIBLIOGRAPHY

Alesina, Alberto and Nouriel Roubini. 1992. "Political Cycles in OECD Democracies," *Review of Economic Studies* 59(4): 663-88.

Alesina, Alberto, Nouriel Roubini, and Gerald D. Cohen. 1997. *Political Cycles and the Macroeconomy*. Cambridge and London: MIT Press.

Alesina, Alberto, Gerald D. Cohen, and Nouriel Roubini. 1993. "Electoral Business Cycle in Industrial Democracies," *European Journal of Political Economy* 9(1): 1-23.

Alesina Alberto and Roberto Perotti. 1995. "The Political Economy of Budget Deficits," *IMF Staff Papers* 1-3.

Alesina, Alberto and Jeffrey Sachs. 1988. "Political Parties and the Business Cycle in the United States, 1948-1984," *Journal of Money Credit and Banking* 20(1): 63-82.

Atiyas, Izak. and Serif Sayın. 1998. "A Political Economy Perspective on Turkish Budget Deficits," *Boğaziçi Journal* 12(1): 55-79.

Berument, Hakan and Kamuran Malatyalı. 1998."Parasal ve Reel Büyüklükler Arasındaki Etkileşim: Türkiye Üzerine Bir İnceleme," Unpublished Paper

Heckelman, Jac C. and Hakan Berument. 1998. "Political Business Cycles and Endogenous Elections," *Southern Economic Journal* 64(4): 987-1000.

Hibbs, Douglas A. 1977. "Political Parties and Macroeconomic Policy," *American Political Science Review* 71(4): 1467-1487.

Ito, Takatoshi and Jin Hvak Park. 1988. "Political Business Cycles in the Parliamentary System," *Economic Letters*, 27(3): 233-238.

Keil, Manfred W. 1988. "Is the Political Cycle Real Dead?," *Southern Economic Journal* 55(1): 86-99.

Laney, Leroy O. and Thomas D. Willett. 1983. "Presidential Politics, Budget Deficits, and Monetary Policy in the United States; 1960-1976," *Public Choice* 4(1): 53-69.

Lindbeck, Assar. 1976. "Stabilization Policies in Open economies with Endogenous Politicians," *American Economic Review* 66(2): 1-19.

McCallum, Bennett T. 1978. "The Political Business Cycle: An Empirical Tests," *Southern Economic Journal* 44(3): 504-515 .

Nordhaus, William D. 1975. "The Political Business Cycle," *Review of Economic Studies* 42(2): 169-190.

Onis, Ziya. 1997. "Democracy, Populism and Chronic Inflation in Turkey: The Post Liberalization Experience," *Yapi Kredi Economic Review* 8(1): 33-50.

Ozatay, Fatih. 1999. "Populist Policies and the Role of Economic Institutions in the Performance of the Turkish Economy," *Yapi Kredi Economic Review* (forthcoming)

Rogoff, Kenneth. 1990. "Equilibrium Political Budget Cycles," *American Economic Review* 80(1): 21-36.

Rogoff, Kenneth and Anne Sibert. 1988. "Elections and Macroeconomic Policy Cycles," *Review of Economic Studies* 55(1): 1-16.

Sayan, Serdar and Hakan Berument. 1997. "Politics, Economic Populism and Governments in Turkey" *Hacettepe Üniversitesi İktisadi ve İdari Bilimler Dergisi* 15(2): 171-185.

Tabellini, Guido and Alberto Alesina. 1990. "Voting on the Budget Deficits," *The American Economic Review* 80(1): 37-49.

APPENDIX A

ADF UNIT ROOT TESTS

<i>Fiscal Variables (1)</i>	Level	Difference
Tax Revenues	-4.027*	-
Direct Taxes	-3.994*	-
Indirect Taxes	-3.709*	-
Non-tax Revenues	-4.674*	-
Other Revenues	-4.280*	-
CB Advances	-3.556*	-
Expenditures	-6.515*	-
Non-Interest Expenditures	-5.452*	-
Personnel Expenditures	-3.737*	-
Investment Expenditures	-3.471	-
Other Current Expenditures	-6.616*	-
Other Transfers	-4.767*	-
Transfers to SEEs	-4.089*	-
Primary Deficit	-5.452	-
Budget Deficit	-6.514*	-
<i>Monetary Variables (2)</i>		
Quasimoney	12.870*	-
Reserve Money	1.057	-7.625*
M1	1.696	-6.524*
M2	2.873	-3.530*
M2Y	2.785	-3.669*
Reserve Money	1.057	-7.625*
Time Deposit Rate	-1.511	-8.019*
US Dollar Time Deposit Rate	0.533	-3.492**
Treasury Rate	-1.789	-7.294*
Real Treasury Rate	-2.530	-5.263*
Interbank Rate	-3.370**	-7.341*
<i>Inflation & Output Indicators (2)</i>		
CPI	1.292	-5.554*
WPI	2.010	-5.268*
Public WPI	1.746	-5.720*
Private WPI	1.882	-5.207*
Industrial Production Index	-2.032	-8.314*

(1) All as a ratio to total revenues

(2) All in logarithms

* indicates null hypothesis of ADF test is rejected at 1 % significance level

** indicates null hypothesis of ADF test is rejected at 5 % significance level

APPENDIX B

DESCRIPTIVE STATISTICS

<i>Fiscal Variables (1)</i>	Mean	Median	Maximum	Minimum	Std. Dev.
Tax Revenues	0.807	0.807	1.147	0.614	0.071
Direct Taxes	0.384	0.380	0.755	0.040	0.084
Indirect Taxes	0.423	0.413	0.925	0.037	0.083
Non-tax Revenues	0.154	0.155	0.510	-0.382	0.083
Other Revenues	0.193	0.193	0.539	-0.295	0.084
CB Advances	-0.044	-0.043	0.973	-1.445	0.263
Expenditures	1.275	1.185	2.838	0.644	0.378
Non-Interest Expenditures	0.947	0.894	2.432	0.419	0.284
Personnel Expenditures	0.388	0.366	0.699	0.197	0.114
Investment Expenditures	0.152	0.131	0.699	0.000	0.106
Other Current Expenditures	0.112	0.092	0.598	0.006	0.096
Other Transfers	0.254	0.229	1.059	-0.090	0.139
Transfers to SEEs	0.041	0.027	0.321	0.000	0.045
Primary Deficit	-0.053	-0.106	1.432	-0.581	0.284
Budget Deficit	0.275	0.185	1.838	-0.356	0.378
<i>Monetary Variables (2)</i>					
Quasimoney	5.088	4.822	9.734	1.169	2.469
d(Quasimoney)	0.606	0.599	0.963	0.371	0.136
Reserve Money	3.041	2.849	6.938	-0.329	2.142
d(Reserve Money)	0.044	0.037	0.370	-0.245	0.109
M1	3.877	3.632	7.662	0.723	2.053
d(M1)	0.042	0.043	0.304	-0.258	0.090
M2	5.365	5.106	9.852	1.664	2.375
d(M2)	0.049	0.047	0.182	-0.043	0.030
M2Y	5.997	5.740	10.515	2.284	2.388
d(M2Y)	0.050	0.045	0.176	-0.050	0.031
Time Deposit Rate	0.001	0.000	0.213	-0.212	0.032
d(Time Deposit Rate)	0.058	0.054	0.121	0.027	0.022
US Dollar Time Deposit Rate	0.000	0.000	0.020	-0.012	0.004
d(US Dollar Time Deposit Rate)	0.492	0.492	1.505	0.008	0.173
Treasury Rate	0.002	0.002	0.175	-0.220	0.051
d(Treasury Rate)	0.070	0.074	0.416	-0.241	0.131
Real Treasury Rate	0.003	0.008	0.184	-0.264	0.056
d(Real Treasury Rate)	0.479	0.495	0.841	0.300	0.114
Interbank Rate	0.002	0.003	0.431	-0.857	0.109

(Table continues on the following page)

APPENDIX B (Cont'd)

<i>Inflation & Output Indicators (2)</i>					
CPI	7.703	7.508	11.270	4.483	2.055
d(CPI)	0.046	0.046	0.221	-0.009	0.027
WPI	7.087	6.889	10.907	3.894	2.159
d(WPI)	0.041	0.039	0.284	-0.045	0.028
Public WPI	7.129	6.912	10.940	3.936	2.158
d(Public WPI)	0.041	0.031	0.439	0.000	0.042
Private WPI	7.069	6.879	10.895	3.877	2.160
d(Private WPI)	0.041	0.040	0.219	-0.065	0.027
Industrial Production Index	4.580	4.580	5.001	4.101	0.200
d(Industrial Production Index)	0.004	-0.002	0.207	-0.218	0.087

(1) All as a ratio to total revenues

(2) All in logarithms and d() represents the monthly difference

APPENDIX C: EFFECTS OF ELECTIONS ON POLICY VARIABLES AND MACROECONOMIC INDICATORS

TABLE C1 - Effects of Elections on Expenditures in the Pre-Election Period

	d	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆	d ₇	d ₈	d ₉	d ₁₀	d ₁₁	d ₁₂
Expenditures	0.212 (1.242)	0.306** (2.559)	0.195* (1.940)	0.143 (1.612)	0.051 (0.628)	0.018 (0.235)	0.013 (0.181)	-0.019 (-0.286)	0.029 (0.464)	-0.002 (-0.037)	0.006 (0.103)	0.012 (0.200)	0.024 (0.431)
Non-Interest Expenditures	0.188 (1.653)	0.278*** (3.516)	0.213*** (3.180)	0.189*** (3.173)	0.121** (2.182)	0.086 (1.648)	0.096* (1.938)	0.049 (1.014)	0.060 (1.289)	0.018 (0.397)	-0.005 (-0.121)	0.005 (0.115)	-0.001 (-0.013)
Personnel Expenditures	-0.020 (-0.524)	0.042 (1.584)	0.034 (1.529)	0.033* (1.703)	0.022 (1.263)	0.016 (1.012)	0.016 (1.060)	0.006 (0.392)	0.014 (1.004)	0.010 (0.772)	0.003 (0.252)	0.005 (0.396)	-0.001 (-0.057)
Investment Expenditures	0.034 (1.088)	0.043* (1.886)	0.028 (1.506)	0.017 (0.995)	0.015 (1.021)	0.011 (0.781)	0.009 (0.663)	0.002 (0.181)	-0.001 (-0.061)	-0.010 (-0.885)	-0.012 (-1.118)	-0.008 (-0.765)	-0.007 (-0.627)
Other Current Expenditures	0.024 (1.314)	0.014 (1.039)	0.021* (1.936)	0.013 (1.394)	0.014 (1.639)	0.012 (1.593)	0.007 (1.010)	0.006 (0.790)	0.006 (0.929)	0.006 (0.865)	0.001 (0.235)	0.007 (1.172)	0.004 (0.758)
Other Transfers	0.054 (0.809)	0.062 (1.292)	0.038 (0.946)	0.053 (1.513)	0.015 (0.489)	-0.002 (-0.058)	0.005 (0.188)	-0.008 (-0.319)	0.004 (0.150)	-0.000 (-0.008)	-0.000 (-0.020)	0.002 (0.107)	0.003 (0.126)
Transfers to SEEs	0.000 (0.001)	0.025 (1.585)	0.019 (1.490)	0.034*** (3.025)	0.026** (2.537)	0.020** (2.120)	0.020** (2.222)	0.019** (2.261)	0.017** (2.048)	0.016* (1.920)	0.015* (1.931)	0.013* (1.731)	0.012 (1.545)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.

Note: The number at the intersection of a row and a column is the coefficient of the dummy variable in the column, where the policy variable in the row is regressed on its lags and on only the dummy in the column.

APPENDIX C

TABLE C2- Hausman F-Test Statistics for Revenue Terms

	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆	d ₇	d ₈	d ₉	d ₁₀	d ₁₁	d ₁₂
Tax Revenues	3.704	3.579	3.600	3.641	3.728	4.047*	3.832	3.638	3.718	3.347	3.528	3.155
Direct Taxes	5.731*	4.78*	4.210*	3.904	4.028*	3.957**	3.840	3.910	4.290*	5.339*	6.583*	7.770*
Indirect Taxes	5.100*	11.052*	7.305*	4.684*	4.607*	6.907*	8.481*	7.039*	10.549*	8.863*	9.824*	8.646*
Nontax Revenues	2.972	2.861	3.016	3.173	2.995	3.134	4.279	3.380	3.590	3.408	4.123	3.272
Other Revenues	1.992	2.042	2.039	1.835	1.895	1.942	1.881	2.233	1.878	3.269	1.656	1.949

* indicates 1 % and ** indicates 5 % significance level.

Note: The number at the intersection of a row and a column is the Hausman statistics of the dummy variable in the column for the policy variable in the row.

APPENDIX C

TABLE C3 - Effects of Elections on Revenues in the Pre-Election Period via IV

	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆	d ₇	d ₈	d ₉	d ₁₀	d ₁₁	d ₁₂
Tax Revenues	-0.062 (-0.521)	-0.032 (-0.391)	-0.025 (-0.349)	-0.036 (-0.565)	-0.038 (-0.560)	-0.060 (-0.811)	-0.045 (-0.579)	-0.020 (-0.283)	-0.037 (-0.570)	-0.020 (-0.319)	-0.048 (-0.701)	-0.033 (-0.469)
Direct Taxes	-0.122 (-1.404)	-0.060 (-1.071)	-0.034 (-0.757)	-0.028 (-0.668)	-0.019 (-0.457)	-0.031 (-0.669)	-0.031 (-0.662)	-0.001 (-0.036)	0.008 (0.238)	0.020 (0.549)	0.035 (0.932)	0.056 (1.097)
Indirect Taxes	0.276 (0.502)	0.819 (0.568)	0.325 (0.781)	0.057 (0.513)	-0.018 (-0.278)	-0.084 (-1.149)	-0.092 (-1.518)	-0.060 (-1.299)	-0.089* (-1.804)	-0.077 (-1.580)	-0.093 (-1.671)	-0.082 (-1.587)
Nontax Revenues	0.033 (0.208)	0.001 (0.006)	-0.027 (-0.264)	-0.052 (-0.476)	-0.019 (-0.150)	-0.056 (-0.332)	-0.213 (-0.604)	-0.052 (-0.496)	-0.060 (-0.809)	-0.031 (-0.757)	-0.047 (-1.129)	-0.027 (-0.658)
Other Revenues	-0.020 (-0.164)	-0.026 (-0.295)	-0.025 (-0.354)	-0.006 (-0.096)	-0.013 (-0.197)	-0.019 (-0.257)	-0.012 (-0.154)	-0.042 (-0.555)	-0.011 (-0.160)	-0.056 (-0.864)	0.019 (0.297)	-0.031 (-0.376)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.

Note: The number at the intersection of a row and a column is the coefficient of the dummy variable in the column, where the policy variable in the row is regressed on its lags and on only the dummy in the column.

APPENDIX C

TABLE C4 - Effects of Elections on Revenues and Deficits in the Pre-Election Period via OLS

	d	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆	d ₇	d ₈	d ₉	d ₁₀	d ₁₁	d ₁₂
Tax Revenues	-0.003 (-0.093)	-0.017 (-0.701)	-0.012 (-0.596)	-0.008 (-0.434)	-0.016 (-0.957)	-0.01 (-0.657)	-0.011 (-0.729)	-0.006 (-0.436)	-0.002 (-0.166)	-0.008 (-0.658)	-0.017 (-1.403)	-0.018 (-1.537)	-0.023 (-2.005)
Direct Taxes	-0.010 (-0.334)	-0.029 (-1.398)	-0.025 (-1.431)	-0.022 (-1.465)	-0.032** (-2.402)	-0.028** (-2.298)	-0.029** (-2.472)	-0.021* (-1.848)	-0.015 (-1.368)	-0.017 (-1.614)	-0.023 (-2.320)**	-0.02 (-2.134)**	-0.024 (-2.606)**
Indirect Taxes	0.022 (0.825)	0.016 (0.833)	0.011 (0.702)	0.011 (0.794)	0.01 (0.814)	0.008 (0.666)	0.006 (0.521)	0.001 (0.118)	0.003 (0.297)	0.001 (0.123)	0.002 (0.261)	0.000 (0.014)	-0.002 (-0.202)
Nontax Revenues	-0.011 (-0.398)	-0.003 (-0.178)	-0.003 (-0.201)	-0.009 (-0.613)	-0.005 (-0.403)	-0.007 (-0.616)	-0.011 (-0.962)	-0.013 (-1.214)	-0.014 (-1.386)	-0.008 (-0.856)	-0.002 (-0.223)	-0.006 (-0.641)	-0.001 (-0.075)
Other Revenues	0.001 (0.028)	0.016 (0.652)	0.011 (0.554)	0.007 (0.364)	0.015 (0.928)	0.009 (0.580)	0.009 (0.635)	0.005 (0.361)	0.001 (0.087)	0.008 (0.598)	0.016 (1.303)	0.017 (1.439)	0.022 (1.906)*
CB Advances	0.139 (1.194)	0.109 (1.308)	0.080 (1.163)	0.044 (0.728)	0.038 (0.690)	0.034 (0.661)	0.029 (0.606)	0.036 (0.793)	0.040 (0.915)	0.038 (0.897)	0.034 (0.836)	0.025 (0.634)	0.030 (0.768)
Primary Deficit	0.188 (1.653)	0.278*** (3.516)	0.213*** (3.180)	0.189*** (3.173)	0.121** (2.182)	0.086* (1.648)	0.096* (1.938)	0.049 (1.014)	0.060 (1.289)	0.018 (0.397)	-0.005 (-0.121)	0.005 (0.115)	-0.001 (-0.013)
Budget Deficit	0.212 (1.242)	0.306** (2.559)	0.195* (1.940)	0.143 (1.612)	0.051 (0.628)	0.018 (0.235)	0.013 (0.181)	-0.019 (-0.286)	0.029 (0.464)	-0.002 (-0.037)	0.006 (0.103)	0.012 (0.200)	0.024 (0.431)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.

Note: The number at the intersection of a row and a column is the coefficient of the dummy variable in the column, where the policy variable in the row is regressed on itslags and on only the dummy in the column.

APPENDIX C

TABLE C5 - Effects of Elections on Expenditures in the Post-Election Period

	dp ₁	dp ₂	dp ₃	dp ₄	dp ₅	dp ₆	dp ₇	dp ₈	dp ₉	dp ₁₀	dp ₁₁	dp ₁₂
Expenditures	0.293 ** (2.261)	0.312 *** (2.781)	0.198 * (1.916)	0.078 (0.824)	0.129 (1.498)	0.138* (1.732)	0.158** (2.121)	0.145** (2.053)	0.132* (1.960)	0.123* (1.894)	0.074 (1.187)	0.110* (1.818)
Non-Interest Expenditures	0.267*** (3.110)	0.306*** (4.171)	0.240*** (3.472)	0.148** (2.261)	0.111* (1.823)	0.077 (1.368)	0.094* (1.809)	0.106** (2.194)	0.094** (2.053)	0.089** (2.043)	0.057 (1.343)	0.079* (1.945)
Personnel Expenditures	0.006 (0.206)	0.058** (2.401)	0.048** (2.177)	0.027 (1.320)	0.011 (0.562)	0.001 (0.083)	0.006 (0.366)	0.011 (0.703)	0.009 (0.611)	0.009 (0.650)	0.002 (0.119)	0.004 (0.276)
Investment Expenditures	0.073*** (3.078)	0.045** (2.098)	0.024 (1.262)	0.016 (0.913)	0.006 (0.360)	0.003 (0.227)	0.009 (0.665)	0.010 (0.782)	0.011 (0.883)	0.015 (1.240)	0.006 (0.520)	0.010 (0.910)
Other Current Expenditures	0.004 (0.306)	0.015 (1.231)	0.013 (1.267)	0.008 (0.847)	0.005 (0.579)	0.004 (0.465)	0.004 (0.461)	0.004 (0.559)	0.008 (1.082)	0.006 (0.818)	0.007 (1.093)	0.007 (1.099)
Other Transfers	0.104** (2.056)	0.116*** (2.689)	0.082** (2.104)	0.053 (1.471)	0.049 (1.467)	0.037 (1.187)	0.043 (1.487)	0.044 (1.605)	0.036 (1.381)	0.026 (1.035)	0.017 (0.676)	0.028 (1.192)
Transfers to SEEs	-0.015 (-0.870)	0.002 (0.124)	-0.005 (-0.393)	-0.011 (-0.964)	-0.012 (-1.119)	-0.009 (-0.910)	-0.009 (-0.930)	-0.006 (-0.657)	-0.005 (-0.566)	-0.004 (-0.444)	-0.004 (-0.496)	-0.004 (-0.515)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.

Note: The number at the intersection of a row and a column is the coefficient of the dummy variable in the column, where the policy variable in the row is regressed on its lags and on only the dummy in the column.

APPENDIX C

TABLE C6 - Effects of Elections on Revenues and Deficits in the Post-Election Period

	dp ₁	dp ₂	dp ₃	dp ₄	dp ₅	dp ₆	dp ₇	dp ₈	dp ₉	dp ₁₀	dp ₁₁	dp ₁₂
Tax Revenues	0.016 (0.592)	0.061*** (2.778)	0.035* (1.775)	0.024 (1.318)	0.022 (1.352)	0.022 (1.436)	0.024 (1.615)	0.026* (1.821)	0.025* (1.814)	0.025* (1.850)	0.018 (1.386)	0.021* (1.696)
Direct Taxes	0.003 (0.140)	0.035 (1.866)	0.013 (0.748)	0.000 (0.006)	0.005 (0.400)	0.006 (0.439)	0.012 (1.006)	0.010 (0.842)	0.011 (0.954)	0.010 (0.914)	0.005 (0.483)	0.003 (0.344)
Indirect Taxes	0.039* (1.945)	0.057*** (3.451)	0.046*** (3.070)	0.038*** (2.746)	0.029** (2.189)	0.028** (2.241)	0.021** (1.806)	0.022* (1.945)	0.020* (1.841)	0.022** (2.128)	0.019* (1.909)	0.023** (2.424)
Nontax Revenues	-0.013 (-0.617)	-0.029* (-1.669)	-0.006 (-0.378)	0.001 (0.081)	0.001 (0.064)	0.000 (-0.012)	-0.002 (-0.173)	-0.001 (-0.089)	-0.002 (-0.189)	-0.004 (-0.355)	0.003 (0.275)	0.003 (0.330)
Other Revenues	-0.017 (-0.625)	-0.060*** (-2.730)	-0.034* (-1.692)	-0.023 (-1.251)	-0.022 (-1.305)	-0.021 (-1.349)	-0.024 (-1.588)	-0.025* (-1.752)	-0.024* (-1.750)	-0.025* (-1.844)	-0.017 (-1.340)	-0.020 (-1.603)
CB Advances	0.023 (0.259)	0.060 (0.793)	0.041 (0.613)	0.025 (0.403)	0.038 (0.675)	0.037 (0.701)	0.040 (0.785)	0.022 (0.459)	-0.003 (-0.068)	-0.021 (-0.477)	-0.014 (-0.326)	-0.012 (-0.295)
Primary Deficit	0.267*** (3.110)	0.306*** (4.171)	0.240*** (3.472)	0.148** (2.261)	0.111* (1.823)	0.077 (1.368)	0.094* (1.809)	0.106** (2.194)	0.094** (2.053)	0.089** (2.043)	0.057 (1.343)	0.079* (1.945)
Budget Deficit	0.293** (2.261)	0.312* (2.781)	0.198* (-1.916)	0.078 (0.824)	0.129 (1.498)	0.138* (1.732)	0.158** (2.121)	0.145** (2.053)	0.132* (1.960)	0.123* (1.894)	0.074 (1.187)	0.110* (1.818)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.

Note: The number at the intersection of a row and a column is the coefficient of the dummy variable in the column, where the policy variable in the row is regressed on its lags and on only the dummy in the column.

APPENDIX C

TABLE C7 - Effects of Elections on Monetary Policy in the Pre-Election Period

	d	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆	d ₇	d ₈	d ₉	d ₁₀	d ₁₁	d ₁₂
Quasimoney	0.034*** (1.897)	0.038*** (3.037)	0.026** (2.418)	0.016*** (1.733)	0.011 (1.327)	0.009 (1.190)	-0.003 (-0.3919)	0.002 (0.268)	0.002 (0.280)	0.000 (0.057)	-0.000 (-0.044)	-0.002 (-0.349)	0.000 (0.084)
Reserve Money	-0.009 (-0.164)	-0.002 (-0.050)	0.002 (0.074)	-0.004 (-0.150)	0.000 (0.012)	-0.011 (-0.483)	-0.000 (-0.022)	-0.021 (-1.111)	-0.017 (-0.990)	0.000 (0.006)	0.006 (0.380)	-0.003 (-0.185)	-0.006 (-0.384)
M1	-0.015 (-0.439)	-0.004 (-0.149)	-0.004 (-0.199)	-0.008 (-0.456)	-0.008 (-0.462)	-0.008 (-0.502)	-0.004 (-0.323)	-0.014 (-1.069)	-0.013 (-1.038)	-0.010 (-0.865)	-0.000 (-0.040)	0.000 (0.004)	0.000 (0.002)
M2	0.032** (2.040)	0.032*** (2.884)	0.021** (2.292)	0.012 (1.514)	0.012 (1.553)	0.009 (1.366)	0.001 (0.217)	0.003 (0.493)	-0.001 (-0.092)	-0.002 (-0.413)	-0.001 (-0.270)	-0.001 (-0.274)	0.001 (0.114)
M2Y	0.034** (2.067)	0.034*** (2.946)	0.022** (2.331)	0.013 (1.572)	0.012 (1.508)	0.010 (1.399)	0.002 (0.234)	0.004 (0.706)	0.001 (0.188)	-0.002 (-0.379)	-0.002 (-0.397)	-0.002 (-0.339)	0.001 (0.185)
Time Deposit Rate	0.045 (0.276)	0.014 (0.123)	-0.003 (-0.034)	-0.010 (-0.124)	-0.018 (-0.245)	-0.023 (-0.333)	-0.036 (-0.538)	-0.031 (-0.496)	-0.022 (-0.371)	-0.020 (-0.340)	-0.028 (-0.482)	-0.036 (-0.646)	-0.034 (-0.625)
US Dollar Time Deposit Rate	0.030 (0.209)	0.050 (0.488)	0.000 (-0.004)	0.007 (0.085)	-0.006 (-0.087)	0.013 (0.197)	-0.014 (-0.234)	-0.016 (-0.278)	-0.042 (-0.746)	-0.043 (-0.795)	-0.041 (-0.769)	-0.035 (-0.672)	-0.059 (-1.173)
Treasury Bill Rate	0.038 (1.257)	0.014 (0.625)	0.014 (0.792)	0.009 (0.547)	0.001 (0.076)	0.003 (0.239)	0.003 (0.207)	0.014 (1.166)	0.010 (0.832)	0.006 (0.562)	0.004 (0.344)	0.002 (0.235)	0.000 (-0.047)
Real Treasury Bill Rate	0.050 (1.464)	0.034 (1.327)	0.034 (1.568)	0.032* (1.674)	0.022 (1.222)	0.019 (1.125)	0.015 (0.926)	0.031** (2.094)	0.037** (2.579)	0.034** (2.493)	0.032** (2.509)	0.032** (2.607)	0.026** (2.235)
Interbank Rate	-0.049 (-0.780)	-0.026 (-0.572)	-0.023 (-0.624)	-0.039 (-1.218)	-0.025 (-0.858)	-0.020 (-0.745)	-0.016 (-0.653)	-0.017 (-0.710)	-0.015 (-0.642)	-0.012 (-0.541)	-0.013 (-0.633)	-0.010 (-0.506)	-0.009 (-0.447)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.

Note: The number at the intersection of a row and a column is the coefficient of the dummy variable in the column, where the policy variable in the row is regressed on its lags and on only the dummy in the column.

APPENDIX C

TABLE C8 - Effects of Elections on Monetary Policy in the Post-Election Period

	dp ₁	dp ₂	dp ₃	dp ₄	dp ₅	dp ₆	dp ₇	dp ₈	dp ₉	dp ₁₀	dp ₁₁	dp ₁₂
Quasimoney	0.007 (0.489)	0.008 (0.723)	0.011 (1.183)	0.009 (1.084)	0.005 (0.657)	0.004 (0.529)	0.003 (0.493)	0.004 (0.621)	0.006 (1.002)	0.009 (1.486)	0.009 (1.499)	0.010* (1.815)
Reserve Money	-0.050 (-1.370)	-0.057* (-1.912)	-0.062** (-2.415)	-0.023 (-0.969)	-0.032 (-1.483)	-0.046** (-2.235)	-0.036*** (-1.866)	-0.026 (-1.362)	-0.021 (-1.143)	-0.020 (-1.168)	-0.023 (-1.375)	-0.022 (-1.346)
M1	0.007 (0.261)	-0.010 (-0.470)	-0.026 (-1.464)	-0.015 (-0.900)	-0.016 (-1.072)	-0.019 (-1.338)	-0.017 (-1.265)	-0.013 (-0.999)	-0.010 (-0.807)	-0.011 (-0.888)	-0.008 (-0.707)	0.000 (0.007)
M2	0.021* (1.818)	0.008 (0.862)	0.002 (0.216)	0.003 (0.359)	0.003 (0.366)	0.002 (0.345)	0.002 (0.337)	0.004 (0.739)	0.006 (1.127)	0.008 (1.518)	0.007 (1.420)	0.009* (1.770)
M2Y	0.024** (2.009)	0.010 (0.970)	0.004 (0.468)	0.003 (0.323)	0.003 (0.387)	0.003 (0.457)	0.002 (0.357)	0.004 (0.726)	0.006 (1.073)	0.008 (1.460)	0.008 (1.436)	0.009* (1.828)
Time Deposit Rate	0.003 (0.241)	0.342*** (3.733)	0.272*** (3.284)	0.230*** (2.998)	0.201*** (2.767)	0.177** (2.562)	0.160** (2.416)	0.143** (2.244)	0.126** (2.042)	0.118* (1.969)	0.119** (2.031)	0.108* (1.884)
US Dollar Time Deposit Rate	0.054 (0.514)	0.321** (3.925)	0.286*** (3.674)	0.236*** (3.139)	0.218*** (3.056)	0.219*** (3.221)	0.195*** (2.933)	0.178*** (2.772)	0.166*** (2.666)	0.155** (2.562)	0.147** (2.496)	0.144** (2.513)
Treasury Bill Rate	0.040* (1.881)	0.015 (0.761)	0.004 (0.249)	0.005 (0.329)	0.004 (0.261)	0.006 (0.443)	0.007 (0.514)	0.006 (0.464)	0.003 (0.212)	0.005 (0.400)	0.004 (0.329)	0.009 (0.808)
Real Treasury Bill Rate	0.044* (1.713)	0.015 (0.659)	-0.003 (-0.149)	0.003 (0.134)	-0.001 (-0.053)	0.005 (0.316)	0.008 (0.479)	0.007 (0.467)	0.002 (0.167)	0.008 (0.527)	0.005 (0.346)	0.012 (0.882)
Interbank Rate	-0.036 (-0.814)	-0.029 (-0.780)	-0.012 (-0.361)	-0.024 (-0.822)	-0.021 (-0.777)	-0.020 (-0.790)	-0.025 (-1.030)	-0.030 (-1.308)	-0.022 (-0.987)	-0.025 (-1.173)	-0.024 (-1.159)	-0.018 (-0.876)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.

Note: The number at the intersection of a row and a column is the coefficient of the dummy variable in the column, where the policy variable in the row is regressed on its lags and on only the dummy in the column.

APPENDIX C

TABLE C9- Hausman F-Test Statistics for Inflation-Output

	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆	d ₇	d ₈	d ₉	d ₁₀	d ₁₁	d ₁₂
Monthly Growth Rate of CPI	9.895*	9.976*	9.869*	9.854*	9.915*	10.072*	10.322*	10.211*	10.072*	10.094*	10.191*	10.246*
Monthly Growth Rate of WPI	2.124	2.000	1.937	2.103	2.630	2.600	2.747	2.793	2.869	2.955	3.139	3.191
Monthly Growth Rate of private WPI	2.715	3.064	1.949	2.049	2.742	2.642	2.714	2.688	2.806	2.868	2.903	2.747
Monthly Increase in Industrial Production Index	9.313*	9.158*	10.711*	10.035*	14.605*	14.216*	13.003*	13.584*	13.886*	10.092*	12.714*	9.149*

* indicates 1 % significance level.

Note: The number at the intersection of a row and a column is the Hausman statistics of the dummy variable in the column for the policy variable in the row.

APPENDIX C

TABLE C10 - Effects of Elections on Inflation-Output in the Pre-Election Period via IV

	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆	d ₇	d ₈	d ₉	d ₁₀	d ₁₁	d ₁₂
Monthly Growth Rate of CPI	-0.018 (-0.314)	0.003 (0.124)	-0.001 (-0.035)	-0.001 (-0.077)	-0.001 (-0.038)	-0.009 (-0.687)	-0.012 (-0.948)	-0.011 (-0.856)	-0.009 (-0.804)	-0.011 (-0.964)	-0.011 (-0.963)	-0.010 (-0.891)
Monthly Growth Rate of WPI	0.030 (0.373)	0.003 (0.104)	-0.003 (-0.133)	-0.007 (-0.292)	-0.005 (-0.244)	-0.007 (-0.341)	-0.002 (-0.120)	-0.004 (-0.199)	-0.003 (-0.181)	-0.004 (-0.186)	-0.004 (-0.189)	-0.003 (-0.125)
Monthly Growth Rate of private WPI	0.042 (0.812)	0.023 (0.865)	0.006 (0.223)	0.007 (0.309)	0.001 (0.038)	0.002 (0.099)	0.002 (0.164)	0.001 (0.041)	0.000 (0.003)	0.000 (-0.031)	0.000 (0.020)	-0.001 (-0.071)
Monthly Increase in Industrial Production Index	0.198* (1.868)	0.165 (1.614)	0.182* (1.688)	0.176 (1.367)	0.261 (1.451)	0.303 (1.220)	0.363 (0.957)	0.294 (1.170)	0.344 (0.982)	0.214 (1.041)	0.241 (1.158)	0.191 (0.977)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.

Note: The number at the intersection of a row and a column is the coefficient of the dummy variable in the column, where the policy variable in the row is regressed on its lags and on only the dummy in the column.

APPENDIX C

TABLE C11 - Effects of Elections on Inflation-Output in the Pre-Election Period via OLS

	d	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆	d ₇	d ₈	d ₉	d ₁₀	d ₁₁	d ₁₂
Monthly Growth Rate of CPI	-0.003 (-0.226)	-0.004 (-0.396)	-0.004 (-0.531)	-0.003 (-0.419)	-0.003 (-0.494)	-0.004 (-0.701)	-0.004 (-0.771)	-0.005 (-1.052)	-0.007 (-1.455)	-0.007 (-1.451)	-0.008* (-1.673)	-0.007 (-1.656)	-0.006 (-1.429)
Monthly Growth Rate of WPI	0.001 (0.045)	0.000 (0.027)	0.001 (0.093)	0.001 (0.081)	-0.003 (-0.269)	-0.008 (-0.763)	-0.006 (-0.673)	-0.006 (-0.624)	-0.006 (-0.721)	-0.006 (-0.667)	-0.006 (-0.790)	-0.007 (-0.884)	-0.007 (-0.891)
Monthly Growth Rate of private WPI	0.003 (0.286)	0.000 (0.045)	-0.002 (-0.228)	0.001 (0.085)	0.000 (0.009)	-0.008 (-1.573)	-0.006 (-1.208)	-0.005 (-1.091)	-0.006 (-1.289)	-0.006 (-1.426)	-0.007 (-1.614)	-0.006 (-1.607)	-0.006 (-1.600)
Monthly Growth Rate of public WPI	-0.008 (-0.356)	-0.010 (-0.603)	-0.009 (-0.680)	-0.012 (-0.971)	-0.015 (-1.359)	-0.015 (-1.449)	-0.016* (-1.729)	-0.015* (-1.668)	-0.014 (-1.650)	-0.014* (-1.681)	-0.016* (-1.917)	-0.017** (-2.190)	-0.017** (-2.177)
Monthly Increase in Industrial Production Index	0.047 (1.590)	0.044** (2.053)	0.021 (1.214)	0.019 (1.216)	0.001 (0.059)	0.008 (0.642)	0.008 (0.706)	0.012 (1.069)	0.015 (1.359)	0.009 (0.901)	0.006 (0.588)	0.006 (0.638)	0.005 (0.545)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.

Note: The number at the intersection of a row and a column is the coefficient of the dummy variable in the column, where the policy variable in the row is regressed on its lags and on only the dummy in the column.

APPENDIX C

TABLE C12 - Effects of Elections on Inflation-Output in the Post-Election Period

	dp ₁	dp ₂	dp ₃	dp ₄	dp ₅	dp ₆	dp ₇	dp ₈	dp ₉	dp ₁₀	dp ₁₁	dp ₁₂
Monthly Growth Rate of CPI	0.002 (0.197)	0.000 (0.045)	0.003 (0.416)	0.006 (0.948)	0.008 (1.393)	0.005 (0.914)	0.000 (0.028)	-0.002 (-0.304)	-0.003 (-0.541)	-0.001 (-0.311)	-0.001 (-0.297)	-0.001 (-0.314)
Monthly Growth Rate of WPI	0.017 (0.993)	0.015 (1.097)	0.021 (1.692)	-0.005 (-0.445)	0.000 (-0.009)	-0.001 (-0.124)	-0.004 (-0.386)	-0.005 (-0.589)	-0.005 (-0.595)	-0.004 (-0.510)	-0.003 (-0.424)	-0.003 (-0.400)
Monthly Growth Rate of private WPI	0.011 (1.266)	0.006 (0.828)	0.008 (1.340)	0.010 (1.842)	0.008 (1.529)	0.005 (1.019)	0.003 (0.630)	0.002 (0.429)	0.002 (0.394)	0.002 (0.528)	0.002 (0.556)	0.002 (0.545)
Monthly Growth Rate of public WPI	0.023 (1.434)	0.022 (1.607)	0.034*** (2.864)	0.034*** (3.067)	0.030*** (2.831)	0.024** (2.337)	0.021** (2.129)	0.019** (2.054)	0.018** (1.988)	0.016* (1.920)	0.015* (1.834)	0.012 (1.536)
Monthly Increase in Industrial Production Index	0.019 (0.875)	0.008 (0.436)	0.023 (1.407)	0.011 (0.734)	0.012 (0.876)	0.003 (0.233)	0.002 (0.184)	0.003 (0.286)	0.003 (0.256)	0.003 (0.303)	0.003 (0.257)	-0.001 (-0.078)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.

Note: The number at the intersection of a row and a column is the coefficient of the dummy variable in the column, where the policy variable in the row is regressed on its lags and on only the dummy in the column.

APPENDIX C

TABLE C13 - Effects of Elections on Gap in the Pre and Post-Election Period

	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆	d ₇	d ₈	d ₉	d ₁₀	d ₁₁	d ₁₂
Difference of Monthly Growth Rate of Public and Private WPI	-0.006 (-0.501)	-0.003 (-0.247)	-0.007 (-0.743)	-0.008 (-1.027)	-0.004 (-0.493)	-0.009 (-1.252)	-0.009 (-1.310)	-0.008 (-1.320)	-0.008 (-1.280)	-0.009 (-1.460)	-0.010 (-1.696)	-0.007 (-1.318)
	dp ₁	dp ₂	dp ₃	dp ₄	dp ₅	dp ₆	dp ₇	dp ₈	dp ₉	dp ₁₀	dp ₁₁	dp ₁₂
Difference of Monthly Growth Rate of Public and Private WPI	0.011 (0.903)	0.013 (1.240)	0.023** (2.510)	0.021** (2.505)	0.017** (2.218)	0.014* (1.855)	0.013* (1.812)	0.012* (1.773)	0.012* (1.783)	0.010 (1.643)	0.011* (1.761)	0.009 (1.541)

*** indicates 1 %, ** indicates 5 % and * indicates 10 % significance level.

Note: The number at the intersection of a row and a column is the coefficient of the dummy variable in the column, where the policy variable in the row is regressed on its lags and on only the dummy in the column.

ELECTORAL POLITICAL BUSINESS CYCLES
IN TURKEY

A Master's Thesis

by
MINE ERGÜN

Department of
Economics
Bilkent University
Ankara
April 2000