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ERDAL T. KARAGOL[a]* AND AZIZ TURHAN[b]

[a]*Faculty of Economics and Administrative Sciences, Balikesir University, Bandirma, Balikesir, Turkey 10200;* [b]*Banking Regulation and Supervision Agency, Ataturk Bulvari No. 191, 06680 Kavaklıdere/ Ankara/Turkey*

This paper investigates the relationship between external debt, defence expenditures and political business cycles in Turkey for 1960–2002. Here, two important aspects of the political business cycle, the electoral effects and the partisan effects, were investigated. The empirical finding of impulse response functions of defence expenditures to a shock in the partisan effect is positive. The results reported here indicate that political colours of parties appear to be important. This suggests that defence expenditure is influenced by political ideology and the fiscal policy of governments after elections. Moreover, the impulse response functions of external debt stock to shocks to the electoral effects and the response of external debt stock shocks to the partisan effects increased over the whole period.

INTRODUCTION

This paper investigates the relationship between external debt, defence expenditures and two important aspects of the political business cycle; namely, the electoral effects and the partisan effects in Turkey. The electoral cycle view claims that governing incumbents in majority systems can improve their re-election chances by influencing macroeconomic conditions through launching opportunistic policies prior to elections. Partisan cycles occur as a result of ideological differences between political parties. According to this perspective, the election outcome surprises voters, which in turn injects exogenous shocks into the economy, at least partially. Nordhaus (1975) states that the incumbent party seeks to maximize its re-election chances by producing the best short-run combinations just before the election. Accordingly, the government wants to stimulate the economy on the eve of an election to become more competent in the eyes of voters. Nordhaus' model predicts that governments launch contraction policies in the first half of their terms, and expansionary policies in the second half. Nordhaus' model implies that people who vote for the incumbent party act with 'irrational

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*Corresponding author. Email: erdalkaragol@hotmail.com

myopia' (Wagner, 2001: 433). Moreover, Meiselman (1986), Grier (1987), Allen (1986) all find evidence in the favour of an electoral cycle in the USA.

Besides the cycles in the level of economic activity, many studies have recently been focused on economic policy cycles on the eve of elections. From the political business cycle perspective, the incumbent government likes to cut taxes, but increase expenditures as the election comes closer (Rogoff, 1990). Castro and Veiga (2004) present evidence that both the timing of stabilization and the choice of the nominal anchor are affected significantly by the incumbent party's intention to secure re-elections. According to Tuffe (1978), for having an effective means of influencing government popularity, opportunistic policies must yield clear and immediate economic benefits to a large number of people. It is believed that expansionary government spending can be easily observed, so politicians can gain direct credit for it. Studies, such as Tuffe (1978) and Alesina (1989), provide support for policy cycles in the USA. Schuknecht (2000) provides evidence from developing countries that most governments use fiscal policies to enhance their electoral prospects before the election. Ergun (2000) and Telatar (2003) find evidence in favour of electoral cycles in Turkey. Ergun (2000) investigated the pre-election behaviour of many fiscal and monetary policy instruments for the 1985–1999 period. Her results suggest that the incumbent government creates policy cycles intentionally before elections. Teletar (2003) investigated that Turkish governments prefer either to manipulate the economy or to seek the right time for an election. It is found that politicians prefer launching expansionary policies rather than waiting for the right time in order to boost their popularity.

The relationship between defence expenditures and the political business cycle is of particular importance for Turkey, since this country has allocated a considerably higher percentage of its GNP to defence expenditure. At the same time, the annual growth rate of the Turkish economy between 1950 and 1994 averaged 5.4%. Turkey has one of the largest armed forces in the world and the size of army does not show any decreasing trends, although many other countries have started to decrease the size of their armies. In Turkey, military service is compulsory and the share of conscripts in the army is very high. As one of the major arms importers, Turkey started to build its own defence industry after 1980. The main aim for founding its defence industry was import-substitution of military equipment, hence, military independence (Sezgin, 2000). Sezgin (2004) suggests that external debt is positively related to arms imports, implying that Turkish arms imports have contributed to the indebtedness of Turkey. Sen (1991) states that arms imports in the 1980s have been a major contributory factor to debt creation. Karagol (2005, 2006) showed that Turkey has important policy implications for decision-makers as defence expenditure reductions can be initiated with no serious damage to Turkey's security programmes. Otherwise, defence expenditures increase Turkey's external debt accumulation.

This paper aims to contribute to the existing literature on external debt, defence expenditures and two important aspects of the political business cycle, namely the electoral effects and the partisan effects in Turkey by using impulse response functions during the period 1960–2002. The empirical findings show that the political colours of parties appear to be important. This suggests that defence expenditure is influenced by political ideology and the fiscal policy of governments. It is argued that increases in defence expenditures continue after elections. Therefore, it can be suggested that incumbent governments have applied expansionary policies in Turkey in the post-election period. The increasing defence expenditure in the post-electoral period can be considered as an inheritance from previous governments, which manipulated the economy with large government expenditures, including defence expenditures.

The remainder of this paper is organized as follows: the next section deals with the model, variables and the data. The section after gives the empirical results and the concluding remarks are presented in the final section.

DATA, VARIABLES AND MODEL

We use annual defence expenditures for 1960–2002 for Turkey. Defence expenditure data are taken from SIPRI (1991) (Stockholm International Peace Research Institute) and various Yearbooks. The external debt stock (DEB) data are obtained from the State Planning Organisation (SPO), *Economic and Social Indicators: 1950–2003* and various years. The GNP deflator (1987=100) was used to deflate GNP. The source of the above time series is (SPO) State Planning Organization of Turkey (2004). The model is:

$$LDEB = \alpha_0 + \alpha_1 LDEX + \alpha_2 ELEY + \alpha_3 ELEP \tag{1}$$

External debt stock and defence expenditures are transformed to natural logs, denoted as follows:

LDEB (Log of external debt stock): We expect that a country's external debt stock is affected by defence expenditures and by the position in the business cycle. We try to assess two important aspects of the political business cycle, namely the electoral effects and the partisan effects.

LDEX (Log of defence expenditures): Defence expenditures have a direct effect on a country's external debt stock if a country is an arms importer and the total import payment is financed by external funds. In consequence, external debt liabilities of the country accumulate. If a country's import payment is financed by export earnings, resources are absorbed that could have better alternative uses (Looney and Frederiksen, 1986).

ELEY: The election dummy variable captures the effects of the electoral cycle. The election years are used for the electoral effects. ELEY takes the value of 1 when Turkey has an election, and the value 0 when there is no election. We expect that governing incumbents in majority systems can improve their re-election chances by influencing macroeconomic conditions through launching opportunistic policies prior to elections. This will increase defence expenditures and the external debt stock.

ELEP: The political colour variable captures the effects of the incumbent party on defence expenditures. For this estimation, four different scales are used. ELEP takes the value 0 when Turkey has a military coup, the value 1 when the government is right-wing; 2 when the government is left-wing, and 3 when the government is Islamic right-wing (see Figure 1). This scale is completely figurative (Kollias *et al.*, 2004). We hypothesised that the affiliated fiscal policies of the incumbent party affected debt with the political business cycle. We expect that right-wing right parties support government expenditures, including defence expenditures, more than left-wing parties. This injects exogenous shocks into the economy.

EMPIRICAL FINDINGS AND SOME IMPLICATIONS

Table I shows the ADF test results on the integration properties of external debt and defence expenditures for Turkey. The ADF test was used to test whether all variables were stationary or needed to be differenced. The ADF test results suggest that the two series are non-stationary in levels. As we look at the first differences of these two investigated series (external debt and defence expenditures), the two series are found to be stationary.

Given that integration of the two series is of the same order, we continued to test whether the two series are cointegrated over the sample period. The cointegration test was tested under
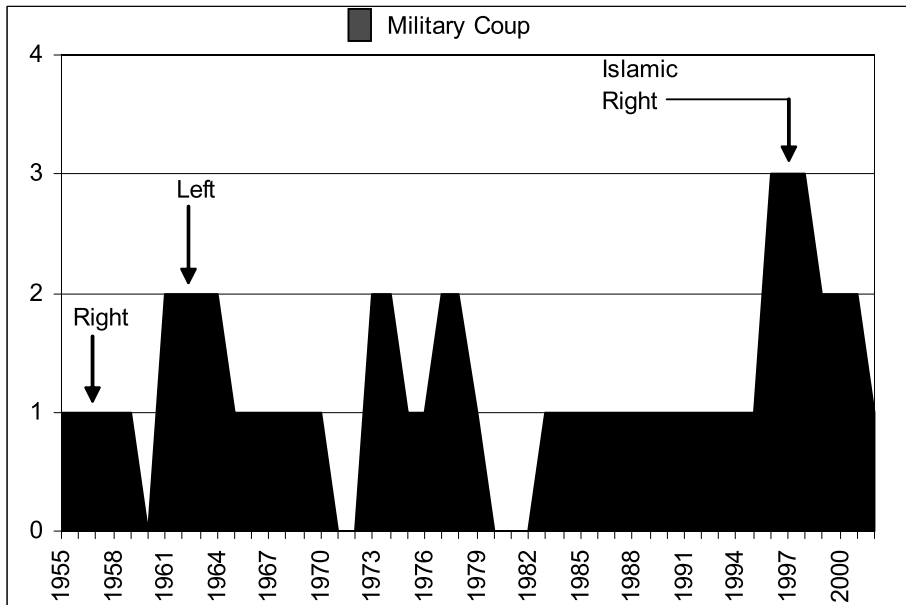
Notes: 0 when Turkey have military coup,
1 when the government is right-wing;
2 when the government is left-wing
3 when the government is Islamic right-wing

FIGURE 1   The Political Colour of the Incumbent Parties

the assumption of no deterministic trend in the data using Johansen's cointegration test. The likelihood ratio (LR) and trace statistic test showed that there was at least one cointegration relation, they reject the hypothesis of no cointegration, and indicate that there is one cointegrating equation at the 5% significance level (i.e. there is a long-run relationship between external debt and defence expenditures for Turkey, see Table II).

In our estimation, two important aspects of the political business cycle, the electoral effects and the partisan effects, were introduced. Turkey has a multi-party democracy and has effectively a multi-party system. In order to capture the electoral and partisan effects on defence expenditures, two dummy variables were introduced in the empirical estimation. The electoral dummy variable (ELY) indicates the effects of the electoral cycle while (ELEP) shows the political colour variable and indicates the effects of the incumbent party on defence expenditures. In other words, what we are trying to examine here with the inclusion of these two dummy variables is whether election dates and/or the political colour and the related fiscal

TABLE I   ADF Test Results

Levels		First Differences	
LDEB	−3.015 (1)	ΔLDEB (0)	−7.567**
LDEX	−2.358 (0)	ΔLDEX (1)	−6.282**

Critical values used in ADF test: 5%=−3.508, 1%=−4.165
Max lag is 5
Notes: Variables are defined in the text.

Critical values used in ADF test: 5%=−2.928, 1%=−3.584L
Max lag is 5
Notes: Variables are defined in the text
Δ indicates first differences.
**Denotes for 1% significance level.

TABLE II Johansen and Juselius Cointegration Test

Cointegration Rank	Trace Statistics			Max Statistics		
		5 %	1%		5%	1%
R=0	75.17711*	47.21	54.46	50.6695*	27.07	32.24
r≤=1	24.50760	29.68	35.65	12.8552	20.97	25.52
r≤=2	11.65235	15.41	20.04	10.0828	14.07	18.63
r≤=3	1.569474	3.76	6.65	1.56947	3.76	6.65

* Denotes for 5% significance level.
** Denotes for 1% significance level.

policy of the incumbent party influenced defence expenditures in line with the political business cycle literature (Kollias *et al.*, 2004).

The impulse response functions capture information on the short-run and medium-term implications generated by the data in Figures 2 and 3. An impulse response function maps out the effect of a one-standard-deviation shock to the current and future values of the endogenous
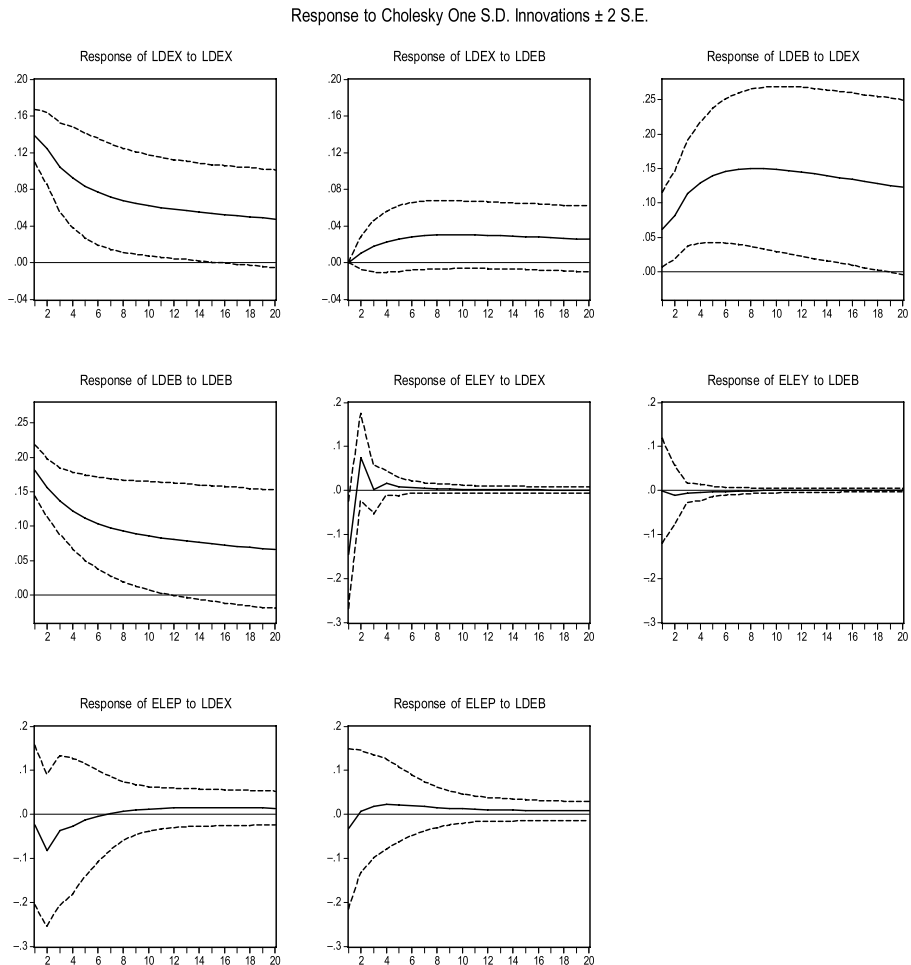

Response to Cholesky One S.D. Innovations ± 2 S.E.

FIGURE 2   Impulse response functions: a one standard deviation shock in LDEB and LDEX

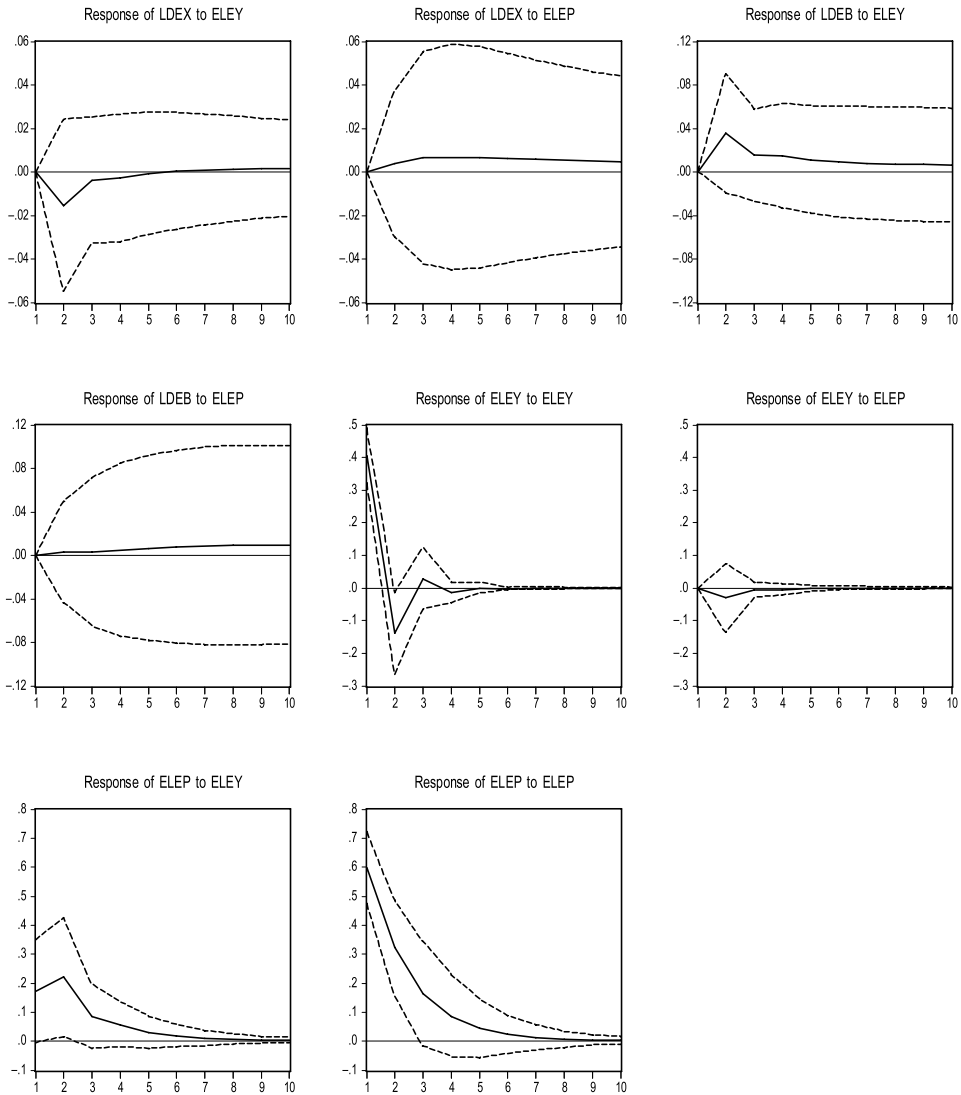Response to Cholesky One S.D. Innovations ± 2 S.E.

FIGURE 3   Impulse response functions: a one standard deviation shock in ELEY and ELEP

variables over the 20-step-ahead years. In the panels of Figure 2, first row and third column, it is clear that the impulse response functions of the variance of LDEB to shocks in LDEX were positive. LDEB (external debt stock) rose within the subsequent six years to the maximum height and continued thereafter. Karagol (2005) found that defence expenditures increase Turkey's external debt accumulation. Thus, Turkey's defence expenditures and its defence imports will contribute to Turkey's indebtedness. Moreover, the response functions of the variance of LDEX to shocks in LDEB were positive (see Figure 2, first row and second column)

Figure 3, first row and second column, shows that the impulse response functions of defence expenditures (LDEX) to ELEP is positive. It is clear that the impulse response functions of all variables to 1 SD shock in ELEP fluctuated within the first years and were maintained thereafter.

In the partisan model, political parties are not opportunistic, so they do not generate policy cycles to improve their electoral prospects. On the other hand, even for parties that are not opportunistic, cycles in the economy exist due to some policies. Moreover, as seen from Figure 3, first row and first column, the response of defence expenditures (LDEX) to ELEY is negative two years ahead, and then starts to rise gently to attain a height at the eighth year, which is maintained thereafter.

It is clear that from Figure 3, first row, third column, that the impulse response functions of LDEB to shocks to ELEY is positive. The response of LDEB to shocks to ELEY increased over the entire period ahead, after experiencing an increase in the first years. This suggests that election years – electoral effects – increased borrowing in Turkey. Moreover, the response of LDEB to shocks to ELEP (second row, first column), increased over the whole period. This indicates that partisan effects take place in Turkey. Generally, compared with left-wing parties, the right-wing parties give greater weight to government expenditures, including defence expenditures. Such a finding is consistent with our expectations that right-wing parties will support government expenditures, including defence spending, more than left-wing parties.

CONCLUDING REMARKS

This study investigated the relationship between defence expenditures and the political business cycle in Turkey for 1960–2002. In our estimation, two important aspects of the political business cycle, the electoral effects and the partisan effects, were investigated. The empirical findings indicate that the partisan effect, i.e. the political colours of parties, appear to be more important than the electoral effect. This suggests that defence expenditure is influenced by political ideology and the fiscal policy of governments. It can be concluded that the increase in defence expenditures continues after elections. The incumbent governments have applied expansionary policies in Turkey in the post-election period. The increasing defence expenditure in the post-electoral period can be considered as an inheritance from previous governments, which manipulated the economy with large government expenditures, including defence expenditures (Ergun, 2000). Additionally, the response of debt stock shocks to the partisan effects and the impulse response of external debt stock to shocks to the electoral effects increased over the whole period. It is suggested that the increase in the external debt stock continues before and after elections.

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