

## POLITICAL BUDGET CYCLES – GOING BEYOND THE AVERAGE

Michał Wielechowski✉

Warsaw University of Life Sciences – SGGW

### ABSTRACT

We test whether there are country-specific election cycles present in the public expenditure in the European Union. Using panel data on all 28 current EU Member States from 1995 to 2015, we find in general evidence for an election-induced expansion in total government spending and within the categories of public services, safety, housing, recreation, and education. Our contribution is to combine the notion of targeting specific public spending categories and the occurrence of country-specific political budget cycles in the EU. The results indicate that election cycles vary substantially across countries. We observe a significant election effect in about 77% of our estimates. Two thirds of these observed significant effects represent increased spending in pre-election period.

**Key words:** political budget cycle (PBC), election cycle, general government expenditure, European Union, country-specific PBCs

**JEL codes:** E62, H11, H30, H50, H62

### INTRODUCTION

In the 1970s, Nordhaus [1975] introduced his theory about political budget cycles (PBCs). The theory can best be summarized as election induced manipulations in fiscal policy by the incumbent to maximize electoral support [Shi and Svensson 2003]. Voters generally prefer candidates from whom they expect to deliver greater material well-being [Franzese 2000]. Meanwhile, it is also assumed that the electorate is backward looking and evaluates the performance of the government only on its recent past. This gives incumbents great incentives to adopt expansionary fiscal policies in the late year(s) of their term in office.

The more recent empirical literature provides a more nuanced picture as voters are more fiscal conservative than expected and punish politicians who create large public deficits [Peltzman 1992, Brender 2003, Brender and Drazen 2008, 2013, Drazen and Eslava 2010, Garmann 2017]. This latter implies that when elections are

upcoming there might be a shift in the composition of the public spending rather than an increase in the total. In an election year, the public expenditure shift towards easily targeted and observed spending categories and away from less visible areas. It leaves the aggregate expenditure unaffected [Rogoff 1990, Kneebone and McKenzie 2001, Block 2002, Vergne 2009, Katsimi and Sarantides 2012, Brender and Drazen 2013].

Additionally, previous research already argued that political budget cycles are not uniform across countries. The older literature suggests that election cycles emerge predominantly in new democracies and low-income countries as voters are less experienced with the electoral system in these countries [Schuknecht 1996, Shi and Svensson 2002, 2006]. However, a number of more recent studies contradict this conclusion as they show that electoral manipulation also takes place in EU and OECD countries [Buti and Van den Noord 2004, Mink and De Haan 2006, Tujula and Wolswijk 2007, Efthyvoulou 2012,

Enkelmann and Leibrecht 2013]. One possible explanation is that the occurrence of election cycles is actually more country-specific rather than country-group-specific [Klomp and De Haan 2013a, 2013b]. According to Pesaran et al. [1999], neglecting the parameter instability in a pooled panel estimation procedure can produce inconsistent and misleading estimates.

The contribution of this study is to combine the notion of targeting specific public spending categories and the occurrence of country-specific PBCs. In more detail, we explore whether there are country-specific election cycles in aggregate spending and ten different expenditure categories in 28 EU countries in the period 1995–2015. Our results indicate that election cycles vary substantially across countries and among spending categories. In about 77% of our estimates there is a significant election effect present. Two thirds of these observed significant effects indicate increased spending in pre-election period.

The outline of the paper is as follows. The next section sets out a description of the material and research methods used. Posterior section presents the empirical findings and the final section offers our conclusions.

## DATA AND RESEARCH METHODS

We use an annual panel dataset covering 28 European Union countries in the period 1995–2015. The public spending data are taken from the AMECO database collected by the European Commission, while the election data come from the Database of Political Institutions reported by the World Bank. However, there is always the trade-off between pooling the data and thereby increasing the efficiency of the estimate and the bias of not controlling for sample heterogeneity [Baltagi 1995]. Therefore we use a so-called semi-pooled model in which we balance the efficiency gains obtained using a pooled model, however, the impact of the elections differs across countries. The used OLS-FE model is specified as follows:

$$\ln spend_{it} = \alpha_i + \beta \ln spend_{it-1} + \gamma X_{it-1} + \lambda elec_{it} + \sum_{n=1}^{n=1} \eta_n (elec_{it} \times \delta_i) + \varepsilon_{it} \quad (1)$$

A detailed description of all control variables used and their sources are presented in Table 1.

The variable *spend* is the amount of public expenditure per capita (taken in natural logarithms) and refers either to the total spending or one of ten expenditure categories by government functions in country *i* in year *t*. We consider the following specific spending categories: general public services, defence, public order and safety, economic affairs, environmental protection, housing and community amenities, health, recreation, culture and religion, education, and social protection. In order to make the value of public spending comparable over time, we have converted them into constant EUR (in 2010 prices). To control for autoregressive tendencies and policy smoothing, we include the lagged dependent variable. By using country-specific intercepts  $\alpha_i$ , we control for time-invariant unobserved and observed characteristics and place the emphasis of the analysis on the identification of the within country variation over time.

The variable *elec<sub>it</sub>* is an election variable developed by Franzese [2000]. It is computed as  $M/12$  in election year and  $(12-M)/12$  in pre-election year, where *M* stands for a month of election. In all other years the value of the election indicator is set to zero. For countries classified in the Database of Political Institutions as a parliamentary system, we consider parliamentary elections, while for the remaining countries we concentrate on presidential elections. Besides, we only include elections if the government has sufficient time to change its fiscal policies. When there are, for instance, elections shortly after the fall of a cabinet, the government may have little opportunity to change fiscal policy or face capacity constraints in extracting additional resources. An election is therefore only included if it is held on the fixed date (year) specified by the constitution rules, or if the election occurs in the last year of a constitutionally fixed term for the legislature. Also when an election is announced more than one year in advance, it is taken up in the analysis.

The interactions between our election indicator and the series of country-specific dummies  $\delta_i$  capture whether there is a significant deviation in the election effect in country *i* from the reference country. Moreover, the vector  $X_{it-1}$  contains (lagged) control variables suggested by previous studies [Shi and Svensson

**Table 1.** Variables used – description and sources

Variable	Description	Source
$gdp_{it}$	GDP per capita taken in natural logarithms in constant EUR from 2010	AMECO database
$gdp\_growth_{it}$	real GDP growth rate	Eurostat
$deficit\_rule_{it}$	dummy variable that stands for one when we observe an excessive budget deficit (greater than 3.5% of GDP)	Eurostat
$openess_{it}$	sum of export and import per capita taken in natural logarithms in constant EUR from 2010	AMECO database
$cpi_{it}$	consumer price index (CPI) in percentage points	World Bank
$dependency_{it}$	total dependency ratio measured as a sum of two generally inactive groups (i.e. under 15 years of age and aged 65 and over), compared to the number of people of working age (i.e. 15–64 years old)	AMECO database
$urban_{it}$	urban population rate measured as percentage of total population	World Bank
$unemployment_{it}$	unemployment rate	Eurostat
$eu\_member_{it}$	dummy variable that stands for one if a country is a member of the European Union	European Union
$emu\_member_{it}$	dummy variable that stands for one if a country is a member of the European Economic and Monetary Union	European Union

Source: Own elaboration.

2006, Klomp and De Haan 2013a, b]. To be more precise we consider the following control variables: real GDP per capita, growth rate of GDP, trade openness, age-dependency ratio, urban population share, unemployment rate, EU and EMU membership dummies. Finally, the parameter  $\varepsilon_{it}$  is an error term. To test whether the election effect differs between countries, we use the following marginal effect.

$$\frac{\partial \ln spend}{\partial elec} = \lambda + \eta_n \delta_i \quad (2)$$

When the marginal effect significantly different from zero, there is an election effect present in public spending in country  $i$ . This is tested using a joint  $F$ -test with the null hypothesis that the estimated coefficients are jointly equal to zero.

## RESULTS

Table 2 reports the estimation results for existence of PBCs in EU countries. The findings suggest that on average, EU governments increase their public spend-

ing by 2% when elections are upcoming. However, the electoral manipulation might differ between spending categories as switching might take place.

Specific spending categories go up at the expenses of others. The results reported in Table 2 confirm that some targeting takes place in EU countries. However, the additional spending in the targeted categories is not financed through switching, but by an increase in the public deficit as in none of the considered expenditure categories, there is a significant negative election effect. In more detail, pre-election manipulation positively affects five out of 10 spending categories, i.e. general public services, public order and safety, housing and community amenities, recreation, and education (Table 3).

However, as indicated by Klomp and De Haan [2013b], election cycles could be really country-specific rather than a common effect or group-specific. Focussing only on the aggregate masks this significant heterogeneity across countries. To verify the existence of country-specific election cycles in aggregate spending and the 10 specific categories, we report in the remaining of the table the results of the semi-pooled

**Table 2.** Estimation results for political budget cycle in the European Union – pooled election effects

Specification	Results
Total	0.020** (-2.59)
Public services	0.031* (-1.77)
Defence	0.004 (-0.24)
Order, safety	0.030*** (-3.65)
Economic affairs	0.037 (-1.06)
Environment protection	0.001 (-0.04)
Housing	0.041* (-1.75)
Health	0.007 (-0.83)
Recreation	0.030*** (-2.91)
Education	0.010* (-1.92)
Social protection	0.007 (-1.58)
Observations	526
Countries	28

Note: the table shows the election effects in total public expenditure and ten spending categories.

\*/\*\*/\*\* denote significance at the 10, 5 and 1% respectively.

Source: Own calculations using STATA based on: AMECO database, Eurostat, World Bank, and Database of Political Institutions.

**Table 3.** Estimation results for political budget cycle in the European Union Member States – country-specific election effects

Specification	Total spending	Public services	Defence	Order, safety	Economic affairs	Environment protection	Housing	Health	Recreation	Education	Social protection	Positive election effects	Negative election effects
Country	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	+	-
Austria	NS	1.8%	-1.8%	NS	-11.3%	9.7%	-2.4%	0.9%	2.4%	1.9%	1.4%	6	3
Belgium	-2.8%	NS	NS	-1.5%	-10.9%	-13.5%	1.7%	-2.1%	2.8%	NS	-0.8%	2	5
Bulgaria	6.3%	15.1%	-3.0%	14.0%	18.0%	NS	9.4%	-1.8%	2.1%	1.2%	NS	6	2
Croatia	2.4%	5.8%	2.6%	8.6%	7.6%	6.2%	NS	2.5%	2.7%	NS	-4.1%	7	1
Cyprus	-3.2%	8.4%	-3.9%	NS	-20.6%	-7.6%	NS	NS	NS	-4.8%	-6.5%	1	5
Czech Republic	NS	NS	10.3%	8.5%	NS	19.0%	NS	5.6%	13.4%	5.1%	3.9%	7	0
Denmark	0.6%	NS	-1.1%	NS	4.3%	2.4%	-20.0%	NS	0.9%	1.3%	0.7%	5	2
Estonia	-0.6%	5.5%	-8.7%	2.8%	-2.5%	NS	NS	6.2%	2.1%	-0.9%	-2.3%	4	4
Finland	NS	-3.1%	-8.1%	-2.7%	3.2%	-8.2%	-7.6%	-1.6%	-2.9%	1.1%	NS	2	7
France	NS	5.4%	7.5%	NS	-6.1%	-5.1%	NS	NS	NS	NS	NS	2	2
Germany	1.6%	-1.7%	6.0%	1.2%	9.9%	4.6%	5.3%	-0.7%	2.6%	-1.4%	1.4%	7	3
Greece	-5.2%	NS	18.5%	NS	-35.8%	NS	NS	-4.1%	NS	1.0%	3.1%	3	2
Hungary	3.6%	6.0%	10.1%	2.6%	6.1%	33.8%	-14.4%	1.3%	-6.9%	NS	2.8%	7	2
Ireland	13.0%	-5.6%	1.5%	NS	66.1%	-4.7%	8.8%	-2.8%	NS	-0.6%	NS	3	4
Italy	1.7%	7.8%	-3.3%	NS	-4.1%	-2.6%	19.7%	2.7%	NS	3.1%	-1.8%	4	4
Latvia	6.3%	2.6%	2.5%	4.8%	13.6%	-6.4%	16.3%	8.9%	9.4%	5.9%	2.8%	9	1
Lithuania	10.2%	36.3%	4.7%	7.4%	-3.6%	-6.5%	31.3%	-4.6%	17.6%	NS	1.3%	6	3
Luxembourg	3.2%	3.9%	-15.0%	5.3%	3.2%	1.9%	-11.7%	6.6%	10.1%	1.9%	3.2%	8	2
Malta	3.4%	NS	-23.4%	4.4%	15.9%	NS	36.1%	NS	-5.3%	NS	2.8%	4	2
Netherlands	4.4%	NS	NS	4.4%	13.6%	NS	16.3%	9.4%	NS	-2.3%	1.9%	5	1
Poland	1.0%	-8.3%	-11.9%	2.2%	10.6%	11.1%	-7.6%	NS	7.8%	4.4%	0.8%	6	3
Portugal	1.4%	1.5%	9.3%	-3.9%	NS	NS	3.9%	4.0%	6.7%	5.6%	0.7%	7	1
Romania	0.5%	-4.2%	-2.8%	9.4%	11.2%	NS	NS	-7.1%	2.8%	NS	2.2%	4	3
Slovakia	2.4%	3.1%	12.1%	9.8%	3.6%	-4.8%	NS	3.9%	5.2%	-4.5%	3.2%	7	2
Slovenia	2.3%	NS	-7.5%	1.3%	16.9%	5.1%	9.4%	NS	-2.5%	0.7%	2.2%	6	2
Spain	-0.8%	-2.3%	NS	NS	NS	-4.8%	NS	NS	3.0%	1.4%	-1.4%	2	3
Sweden	1.3%	1.6%	1.1%	2.2%	4.8%	-3.0%	-1.3%	1.1%	7.5%	3.6%	-0.3%	7	3
UK	-1.4%	-5.5%	NS	NS	-17.7%	-9.6%	7.0%	NS	-4.8%	2.7%	1.5%	3	4
Positive election effects	18	14	12	16	16	9	12	12	17	15	17	sum of positive effects: 140	
Negative election effects	6	7	12	3	9	12	7	8	5	6	7	sum of negative effects: 76	

Note: the table only reports the significant election effects based on a joint *F*-test for equation (2), NS – not significant effect.

Source: Own calculations using STATA based on: AMECO database, Eurostat, World Bank, and Database of Political Institutions.

model. The two final columns and rows in Table 3 indicate the number of significant positive and negative marginal effects for each country and spending category. An election-induced significant increase in total spending is observed in 18 countries, while a decrease appear in six EU Member States. The most visible election-induced increase in aggregate expenditure is observed in Ireland (13.0%), Lithuania (10.2%), Bulgaria (6.3%), Latvia (6.3%), and Greece (5.2%). Meanwhile, we find that electoral manipulation negatively affect total spending in four EU Member States as a result of too much switching as the reduction in some of the categories is higher than the increase in spending in other categories. In case of Austria, the Czech Republic, Finland and France there are observed no pure PBC (aggregate spending effect) but switching within specific expenditure categories.

When we split the total public spending into 10 categories, we find that elections significantly affect expenditure in 77% of cases (216 out of 280 cases) of which about two thirds represent increased spending. Regarding nine out of 10 analysed expenditure categories election-manipulated increased spending occurs more often than a decrease in expenditure in 28 EU Member States. In case of social protection, recreation, public order and safety, and economic affairs the increase in pre-election spending is observed in at least 16 countries. Environmental protection is the only one category where we report decreased expenditure more frequent in analysed countries.

## CONCLUSIONS

The paper shows that election cycles vary substantially across EU countries and spending categories. We first find that total government spending and five out of 10 expenditure categories are on average subject to an election cycle. Exploring more the country-specific effects, about 77% the estimates report a significant election effect and about two thirds of them indicate increased spending in pre-election period. Regarding nine out of 10 spending categories, pre-election extra-spending is more frequent than an election-manipulated expenditure decrease in EU countries. In this paper we extend the literature by testing a hypothesis that election cycles are country-specific. Explaining the

drivers and mechanisms of country-specific PBCs in EU Member States is a challenge for future research.

## REFERENCES

- Baltagi, B.H. (1995). *Econometric Analysis of Panel Data*. John Wiley & Sons, Hoboken NJ.
- Block, S.A. (2002). Political business cycles, democratization, and economic reform: the case of Africa. *Journal of Development Economics*, 67, 205–228. DOI: 10.1016/S0304-3878(01)00184-5
- Brender, A. (2003). The effect of fiscal performance on local government election results in Israel: 1989–1998. *Journal of Public Economics*, 87, 2187–2205. DOI: 10.1016/S0047-2727(02)00045-2
- Brender, A., Drazen, A. (2008). How do budget deficits and economic performance affect reelection prospects? *American Economic Review*, 98 (5), 2203–2220. DOI: 10.1257/aer.98.5.2203
- Brender, A., Drazen, A. (2013). Elections, leaders, and the composition of government spending. *Journal of Public Economics*, 97 (1), 18–31. DOI: 10.1016/j.jpubeco.2012.08.011
- Buti, M., Van den Noord, P. (2004). Fiscal discretion and elections in the early years of EMU. *Journal of Common Market Studies*, 43, 737–756. DOI: 10.1111/j.0021-9886.2004.00527.x
- Drazen, A., Eslava, M. (2010). Electoral manipulation via voter-friendly spending: theory and evidence. *Journal of Development Economics*, 92, 39–52. DOI: 10.1016/j.jdeveco.2009.01.001
- Efthymou, G. (2012). Political budget cycles in the European Union and the impact of political pressures. *Public Choice*, 153, 295–327. DOI: 10.1007/s 11127-011-9795-x
- Enkelmann, S., Leibrecht, M. (2013). Political expenditure cycles and election outcomes: Evidence from disaggregation of public expenditures by economic functions. *Economics Letters*, 121, 128–132. DOI: 10.1016/j.econlet.2013.07.015
- Franzese, R. (2000). Electoral and partisan manipulation of public debt in developed democracies, 1956–1990. [In:] R. Strauch, J. Von Hagen (eds.), *Institutions, Politics and Fiscal Policy*. Kluwer Academic Press, Dordrecht, 61–83.
- Garmann, S. (2017). Political budget cycles and fiscally conservative voters. *Economics Letters*, 155, 72–75. DOI: 10.1016/j.econlet.2017.03.023
- Katsimi, M., Sarantides, V. (2012). Do elections affect the composition of fiscal policy in developed, established

- democracies? *Public Choice*, 151, 325–362. DOI: 10.1007/s11127-010-9749-8
- Klomp, J., De Haan, J. (2013a). Political budget cycles and election outcomes. *Public Choice*, 157, 245–267. DOI: 10.1007/s11127-012-9943-y
- Klomp, J., De Haan, J. (2013b). Do political budget cycles really exist? *Applied Economics*, 45 (3), 329–341. DOI: 10.1080/00036846.2011.599787
- Kneebone, R., McKenzie, K., (2001). Electoral and partisan cycles in fiscal policy: an examination of Canadian provinces. *International Tax and Public Finance*, 8 (5), 753–774. DOI: 10.1023/A:1012895211073
- Mink, M., De Haan, J. (2006). Are there political budget cycles in the euro area? *European Union Politics*, 7, 191–211. DOI: 10.1177/1465116506063706
- Nordhaus, W.D. (1975). The Political Business Cycle. *The Review of Economic Studies*, 42 (2), 169–190.
- Peltzman, S. (1992). Voters as fiscal conservatives. *Quarterly Journal of Economics*, 107, 325–345. DOI: 10.2307/2118475
- Pesaran, M.H., Shin, Y., Smith, R., (1999). Pooled mean group estimator of dynamic heterogeneous panels. *Journal of the American Statistical Association*, 94, 621–634.
- Rogoff, K. (1990). Equilibrium Political Budget Cycles. *The American Economic Review*, 80, 21–36.
- Schuknecht, L. (2000). Fiscal policy cycles and public expenditure in developing countries. *Public Choice*, 102, 115–130. DOI: 10.1023/A:1005026806998
- Shi, M., Svensson, J. (2002). Conditional political budget cycles. CEPR Discussion Paper 3352.
- Shi, M., Svensson, J. (2003). Political Budget Cycles: A Review of recent Developments. *Nordic Journal of Political Economy*, 29, 67–76.
- Shi, M., Svensson, J. (2006). Political budget cycles: do they differ across countries and why? *Journal of Public Economics*, 90, 1367–1389. DOI: 10.1016/j.jpubeco.2005.09.009
- Tujula, M., Wolswijk, G. (2007). Budget balances in OECD countries: what makes them change? *Empirica*, 34, 1–14. DOI: 10.1007/s10663-006-9015-y
- Vergne, C. (2009). Democracy, elections and allocation of public expenditures in developing countries. *European Journal of Political Economy*, 25 (1), 63–77.

## ZJAWISKO POLITYCZNEGO CYKLU BUDŻETOWEGO – WYCHODZĄC POZA ŚREDNIĄ

### STRESZCZENIE

Celem artykułu była weryfikacja hipotezy traktującej o występowaniu politycznych cykli budżetowych w Unii Europejskiej, specyficznych dla danego kraju (ang. *country-specific*). Wykorzystując dane panelowe dotyczące wszystkich 28 państw członkowskich UE za lata 1995–2015, wykazano, że przedwyborcza manipulacja fiskalna skutkowałą wzrostem wydatków sektora instytucji rządowych i samorządowych ogółem oraz wzrostem wydatków związanych z działalnością ogólnopaństwową, bezpieczeństwem i porządkiem publicznym, gospodarką mieszkaniową i komunalną, rekreacją i edukacją. Badanie stanowi nowatorskie połączenie koncepcji ukierunkowanych na poszczególne kategorie wydatków publicznych i występowanie specyficznych dla danego kraju cykli budżetowych w UE. Wyniki wskazują, że cykle wyborcze różnią się znacznie w poszczególnych państwach UE. Statystycznie istotny efekt wyborczy zaobserwowano w około 77% badanych przypadków, z których dwie trzecie reprezentuje wzrost wydatków w okresie przedwyborczym.

**Słowa kluczowe:** polityczny cykl budżetowy, PBC, cykl wyborczy, wydatki sektora instytucji rządowych i samorządowych, Unia Europejska, specyficzne dla danego kraju polityczne cykle budżetowe