

POLITICAL BUDGET CYCLES IN EU

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Abstract

The research on political budget cycles becomes especially relevant during economic recessions because as the elections are approaching the politicians have other interests than addressing to serious economic problems. As EU countries are depended on each other in political and economic terms, the decisions of one country may have an impact on other countries. Political budget cycles also tend to descend. The objective of this paper is to investigate if there were significant signs of political budget cycles in all EU member states during 1995 – 2009; what are the countries where fiscal indicators are changing the most during election periods. The results showed that politicians of many EU countries rely on a number of fiscal indicators as a means of manipulation during election periods, seeking opportunistic goals. However, in developed EU countries budget cycle is a more common phenomenon than in developing countries. In addition, the manipulation of the expenditures is a more popular tool among politicians than the manipulation of revenue during election periods.

Key words: budget, cycle, government

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Introduction

Economics and policy is always interrelated and any discussion on economic issues is not complete without policy questions. Macroeconomics theory agrees that economies are cyclical even though the explanation and reasoning of business cycles is quite poor. The role of policy and politicians in economy business cycles was always the topic of discussions. While the traditional theories argued about the possibility and necessity of a government to control and manage economy business cycle, the results of recent research suggest that government decisions and policy may contribute and change the nature of economy business cycles. The close relation between economy and political cycles (political cycle indicates the period between elections) was proven (e.g.: Alt & Lassen, 2006).

In EU formation of political budget cycles is restricted by the Stability and Growth pact and Maastricht Treaty. But on the other had the fiscal instruments is the only instruments to affect the electorate left for governments. The research on political budget cycles becomes especially relevant during economic recessions because as the elections are approaching the politicians have other interests than addressing to serious economic problems. As EU countries are depended on each other in political and economic terms, the decisions of one country may have an impact on other countries. Political budget cycles also tend to descend. So the formation of the cycles may burden the coordination of single macroeconomic policy in EU. Identification of political budget cycles in EU is even more relevant.

Despite that the research on political budget cycles in EU countries are quite new there are some academics working in this field. The empirical findings are contradictory. Andrikopoulos, Loizides & Prodromidis (2004) failed to find cycle regularities in fiscal indicators in 14 EU member states during 1970 – 1998. But research on more recent period of 1998 – 2004 like Mink & de Haan (2006) find no significant importance of Stability and Growth Pact on fiscal indicators in the same EU member states. Only Efthyvoulou (2012) aims to investigate Political budget cycle in „new member states“ and his data includes 27 EU members. Though, the newest member states are still left aside from empirical consideration. As more similar countries are included in the research there arises the possibility to compare them. The significant differences in political budget cycles in EU member states might help to explain recent economic issues.

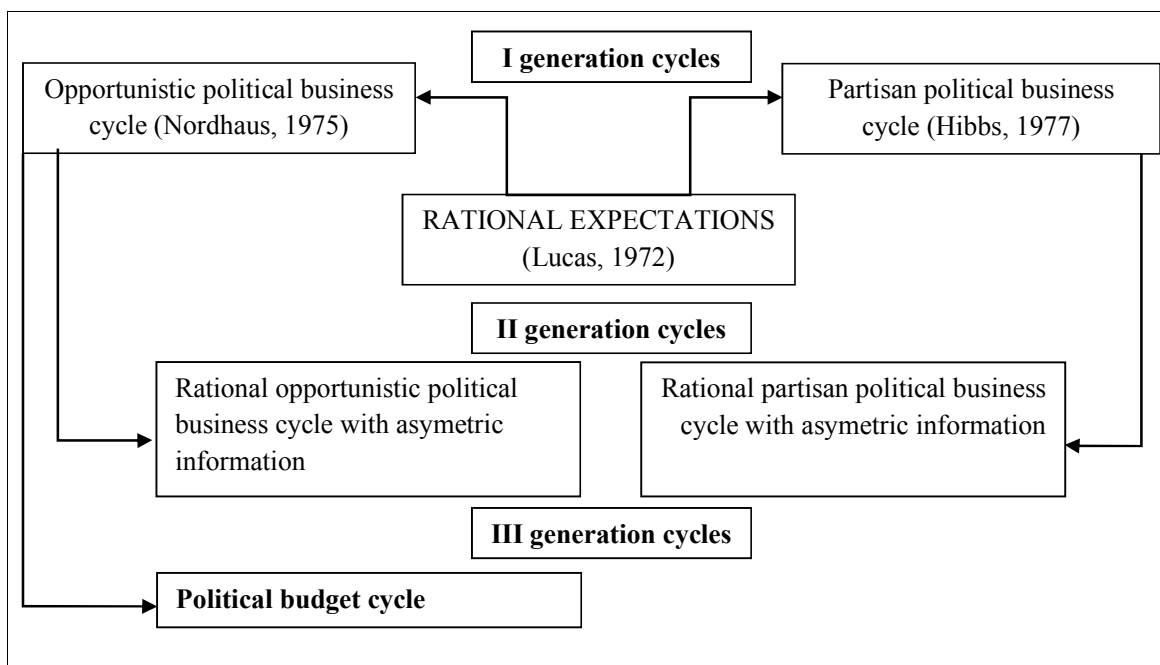
The **objective** of this paper is to investigate if and how politicians of EU countries manipulate the instruments of fiscal policy in election periods, thus leading to political budget cycles. The paper aims to survey the main principles of political budget cycles theory and to systemize the main empirical research in this area; to describe the methodological background of the research on political budget cycles in EU and to present the results.

1 Political business cycle theories

The idea that politicians and their decisions can create political cycles in economy can be founded in works of Schumpeter, Kalecki, Downs (Breuss, 2008). Though, the main empirical research and sudden development of theories accelerated only at the end of XX century. That caused the founding of the *New political macroeconomics* as an interrelation among macroeconomics, social choice and game theories (Snowdown & Vane, 2005).

In general, all political business cycle theories can be grouped into two generations. First generation theories were created before the hypothesis of rational expectations. They suggest that the causes of political business cycle are that (Snowdown, Vane, 2005): 1. all the politicians want to be reelected so they choose policies that could help to achieve their aim (opportunistic theory; Nordhaus, 1975) or 2. Different parties have different ideologies, so after elections the political trend may change (partisan theory; Hibbs, 1977). The theories of first generation were based on the adaptive expectations hypothesis and that was their main criticism when the rational expectations hypothesis was introduced. The followers of rational expectations hypothesis argued that people are future orientated and they take into account all the information and experience form their past. So the politicians cannot manipulate and fool their electorate for always (Suzuki, 1992; Alesina & Sachs, 1988). These new political business cycle theories that are based on rational expectations hypothesis were called second generation theories.

Fig. 1: The development of political business cycle theories



The development of the second generation political business cycle theories follows opportunistic theory or partisan theory. The developers of rational opportunistic business cycle theory turned from analysis of macroeconomic and monetary indicators to fiscal indicators. They started to investigate how the politicians manipulate fiscal instruments when aiming to favorite their electorate. This was the background for political budgetary cycle that

is named as the third generation theory of political business cycles. All the theories and their interrelations are showed in figure 1.

Political budget cycles (or political fiscal cycles) are periodical fluctuations in fiscal policy that are caused by election cycles (Shi & Svensson, 2006). The need to analyze fiscal indicators directly arises because of constantly increasing fiscal deficits and public debts. Aiming to convince the opponents of political cycles, traditional research of macroeconomic indicators turned towards analysis of fiscal policies and their results, cycles in fiscal indicators. As G. Tellier (2006) argues, the first empirical research on political budget cycles was by Tufte in 1978 who analyzed public expenditure in USA. He revealed that federal transfer payments for individuals were constantly higher during the year of elections.

Research on political budget cycles aims to prove the relation between government or president elections and unexpected movements in fiscal policy. Most often (like in Sakurai & Menezes-Filho, 2011) public balance and its fluctuations are analyzed. Some of the research (like in Schneider, 2010) concentrates on cyclical fluctuations in government expenditure. It can be taken as an aggregate or of different types and aims. And only few research aims to analyze budget income as a way to manipulate fiscal indicators before elections.

2 Methodological background

Recent empirical research on political budget cycle ranges from investigation of the efficiency of the cycles, the importance of country development level on budgetary cycles, to analysis of separate regions in a country and the influence of institutional factors on the cycles. Depending on the aim empirical research on political business cycles involves different econometric techniques. Typical linear regression as in Ergun (2000) includes fiscal indicators (y) as depended factor, artificial variables (d) and monthly seasonal dummies (s):

$$y_t = \alpha + \sum_{i=1}^n \beta_i y_{t-i} + \delta_t d_{kt} + \sum_{i=1} s_i + \varepsilon_i \quad (1)$$

Artificial variables are constrained in order to measure the period of elections. A. C. Peters (2010) suggests including not only lagging indicators (ELE) but also factors of after-election period (ELEPOST) instead:

$$y_{it} = \alpha_t + \sum_{j=1}^k \theta_j y_{i,t-j} + x\omega_{it} + \beta_1 ELE_{it} + \beta_2 ELEPOST_{it} + u_{it} \quad (2)$$

Some of the authors (like Andrikopoulos, Loizides & Prodromidis, 2004) include specific dummies (d_{Mt} and d_M^*) for capturing the impact of the Treaty of Maastricht on fiscal variables in a regression:

$$devz_{it} = \alpha_i devz_{i,t-1} + \sum_{p=1}^q \beta_p d_{ipt} + \gamma d_{Mt} + \delta d_M^* + \varepsilon_{it} \quad (3)$$

This paper first of all aims to investigate if there is a manipulation of aggregate fiscal indicators in EU countries during election period. So as typical research on cyclical fluctuations we need to identify the cyclical and trend components of every variable that is included in the econometric analysis. For this purpose we apply HP (Hodrick-Prescott) filter. Some of the previous research suggests applying other detrending procedures, like Baxter and King (BK) filter and other. Different detrending methods extract different types of information from original time series. So the obtained data on business cycle differs. Aiming our results to be comparable with other research and we could identify changes if political budget cycle we choose HP filter for detrending of data series as it is the most common technique.

HP filter derives a smoothed trend τ_t from data series z_t . In this case z_t stands for a fiscal or any other determining variable that will be included in the research. After a smoothed trend τ_t is derived, any deviation of actual data z_t from its trend indicates the cycle component $devz_t$. As our data series is not in percentage form HP filter considers logarithm of a data series z_t where $t=1, \dots, T$. The smoothed trend τ_t is obtained from the solution of the convex minimization problem:

$$\min_{\tau_t} \sum_{t=1}^T (z_t - \tau_t)^2 + \lambda \sum_{t=2}^{T-1} [(\tau_{t+1} - \tau_t) - (\tau_t - \tau_{t-1})]^2 \quad (4)$$

$$\lambda > 1$$

Lagrange coefficient (λ) is also called penalty parameter and in our case it is equal to 100. It is advised to use $\lambda=100$ if data series is at annual frequency.

The first step of research – application of HP filter – gives us cycle series of each fiscal indicator. The derived data series now can be used for construction of regression model. That is the second step of the research. For regression analysis we choose the simplified version of A. Andrikopoulos, I. Loizides & K. Prodromidis (2004) model which was presented previously. As we are not aiming to define the impact of the Treaty of Maastricht on fiscal indicators, we remove the corresponding dummy variables. So we construct the following regression:

$$devz_{it} = \alpha_1 devz_{i,t-1} + \sum_{p=1}^q \beta_p d_{ipt} + \alpha + \varepsilon_{it} \quad (5)$$

$devz_{it}$ – indicates cyclical deviations of each fiscal indicator z_{it} where i stands for EU country included in the research, $i = 1, \dots, 27$; $devz_{i,t-1}$ is non-political variable that indicates the persistence of the cycle. Both of these variables were derived by using HP filter. d_{ipt} is a political dummy which denotes the pre- and post- election year.

Political dummy variables (d_e) depend on the month when elections took place in a country:

$$d_e = \frac{1}{12} \times \text{month of elections} \quad (6)$$

Periods (years) before elections and after elections (d_n) are determined:

$$d_n = 1 - d_e \quad (7)$$

During other periods (years) the dummy takes value of 0 (if d_e) or 1 (if d_n).

There are nine fiscal indicators chosen for testing the cyclical deviations. That is public balance, gross public income, direct public income, indirect public income, gross government expenditure, government consumption, subsidies, public expenditure for capital formation, and transfer payments. Testing different fiscal indicators gives the results about possible aims the governments have before elections and the ways they want to favorite their electorate.

Our empirical analysis includes all 29 EU member states. It is based on a sample of 15 annual observations covering 1995 – 2009. The period was determined by two factors. First, we need long enough time series so the results to be significant. Second, we exclude the recent economic recession in order to avoid extraordinary deviations of fiscal indicators that might cause incorrect results. All the necessary data was collected from European statistical database Eurostat.

3 Empirical results

The empirical results indicate that during 1995 – 2009 the political budget cycle was observed in 17 EU member countries (see Table 1). It suggests that most of the politicians in EU implement expansionary fiscal decisions during the year of elections. The manipulation of fiscal indicators is more common in Southern European countries and Baltic region. The identification of regions may also suggest that political budget cycle tends to pass on neighboring countries. As politicians in many countries manipulate fiscal indicators aiming to be reelected and political budget cycles very often transfer to other countries, there is a high risk for fiscal stability in EU.

Secondly, we group all EU countries in consideration in accordance to their GDP per capita (development). We make two groups: developed countries (GDP per capita is higher than EU average) and developing countries (GDP per capita is less than EU average). There are 12 countries in the first group and 15 countries in the second group. Our aim is to test the hypothesis that political budget cycle is more common in developing countries than in developed countries. The possible explanation of this suggestion is that in developing countries people are often shortsighted, orientated towards short-term results so this is a better background for political manipulations of fiscal indicators compared with developed countries.

Tab. 1: Regression coefficients for electoral cycle of fiscal variables

| | Public balance | Gross public expenditure | Gross public income | Subsidies | Transfer payments | Gross capital formation | Final consumption | Indirect public income | Direct public income |
|-------------------------|----------------|--------------------------|---------------------|-----------|-------------------|-------------------------|-------------------|------------------------|----------------------|
| Ireland | 0.588 | 0.622 | 0.559 | 0.285 | 0.804* | 0.456 | 0.466 | 0.524 | 0.552 |
| Austria | 0.327 | 0.207 | 0.314 | 0.096 | 0.401 | 0.345 | 0.698** | 0.238 | 0.225 |
| Belgium | 0.465 | 0.499 | 0.448 | 0.598 | 0.669** | 0.332 | 0.651** | 0.379 | 0.320 |
| Bulgaria | 0.320 | 0.398 | 0.292 | 0.404 | 0.554 | 0.633 | 0.465 | 0.113 | 0.436 |
| Czech Republic | 0.528 | 0.386 | 0.494 | 0.257 | 0.283 | 0.527 | 0.302 | 0.550 | 0.369 |
| Denmark | 0.415 | 0.403 | 0.434 | 0.368 | 0.531 | 0.416 | 0.472 | 0.378 | 0.407 |
| Estonia | 0.284 | 0.637 | 0.658** | 0.537 | 0.804* | 0.568 | 0.567 | 0.275 | 0.377 |
| Greece | 0.499 | 0.605 | 0.219 | 0.621 | 0.772* | 0.315 | 0.459 | 0.309 | 0.408 |
| Spain | 0.513 | 0.813* | 0.500 | 0.552 | 0.696** | 0.415 | 0.830* | 0.584 | 0.440 |
| Italy | 0.310 | 0.433 | 0.301 | 0.053 | 0.657** | 0.396 | 0.640 | 0.469 | 0.449 |
| UK | 0.497 | 0.713** | 0.407 | 0.538 | 0.659** | 0.053 | 0.766* | 0.361 | 0.482 |
| Cyprus | 0.274 | 0.365 | 0.277 | 0.363 | 0.580 | 0.270 | 0.494 | 0.247 | 0.432 |
| Latvia | 0.506 | 0.625 | 0.464 | 0.210 | 0.735** | 0.402 | 0.317 | 0.354 | 0.177 |
| Poland | 0.413 | 0.552 | 0.573 | 0.456 | 0.620 | 0.539 | 0.734** | 0.349 | 0.596 |
| Lithuania | 0.273 | 0.583 | 0.439 | 0.159 | 0.775* | 0.348 | 0.548 | 0.210 | 0.258 |
| Luxembourg | 0.372 | 0.439 | 0.443 | 0.558 | 0.419 | 0.110 | 0.582 | 0.317 | 0.353 |
| Malta (d _e) | 0.217 | 0.301 | 0.460 | 0.440 | 0.581 | 0.374 | 0.190 | 0.230 | 0.440 |
| Malta (d _n) | 0.192 | 0.292 | 0.444 | 0.431 | 0.572 | 0.357 | 0.192 | 0.217 | 0.462 |
| Netherlands | 0.271 | 0.453 | 0.148 | 0.572 | 0.580 | 0.463 | 0.636 | 0.235 | 0.399 |
| Portugal | 0.375 | 0.541 | 0.279 | 0.274 | 0.564 | 0.649** | 0.625 | 0.495 | 0.447 |
| France | 0.320 | 0.795* | 0.390 | 0.356 | 0.713** | 0.234 | 0.703** | 0.436 | 0.279 |
| Romania | 0.679** | 0.707** | 0.597 | 0.516 | 0.736** | 0.597 | 0.470 | 0.302 | 0.580 |
| Slovakia | 0.242 | 0.201 | 0.531 | 0.487 | 0.369 | 0.396 | 0.179 | 0.492 | 0.360 |
| Slovenia | 0.234 | 0.213 | 0.355 | 0.309 | 0.408 | 0.532 | 0.279 | 0.152 | 0.346 |
| Finland | 0.224 | 0.677** | 0.055 | 0.062 | 0.422 | 0.312 | 0.613 | 0.237 | 0.096 |
| Sweden | 0.393 | 0.495 | 0.439 | 0.779* | 0.484 | 0.486 | 0.342 | 0.204 | 0.496 |
| Hungary | 0.541 | 0.393 | 0.546 | 0.408 | 0.578 | 0.296 | 0.492 | 0.505 | 0.436 |
| Germany | 0.566 | 0.419 | 0.660** | 0.535 | 0.589 | 0.588 | 0.505 | 0.272 | 0.626 |

Comment: ** - 0,05significance; * - 0,01 significance.

Malta is marked twice in the table as we obtained different results during pre election (d_e) and post election (d_n) period.

In developed EU countries we observe statistically significant political budget cycle much more often than in developing EU countries. So, our results contradict the hypothesis and economic theory. But these findings support the results of G. Efthyvoulou (2012) and A. P. Barreira and R. N. Baleiras (2006). In general we can state that high risk of fiscal instability in EU is mainly caused by developed EU countries where GDP per capita is higher than EU average. These countries are also more important economically in EU as they create more than a half of EU GDP. So their political budget cycle is even of more importance.

Finally, the empirical results indicates that as elections are approaching politicians of EU countries more often choose to manipulate public expenditure than budget income. The most popular fiscal instrument is transfer payments. In this case the significant political budget cycle was observed in 11 EU member states. This suggests that politicians are rational aiming to favor the most vulnerable part of society and to get some extra votes during elections.

Conclusion

In this paper we aimed to search opportunistic political budget cycle in 27 EU member states during 1995 – 2009. First of all we applied filtering procedure to generate cyclical variables and then we performed regression analysis. Our empirical results suggest that political budget cycle existed in most of EU member states. These findings support the recent results of G. Efthyvoulou (2010) who applied different econometric techniques. The probability that politicians can manipulate fiscal indicators aiming to be reelected puts a high risk on fiscal stability of EU. Especially in the case when political budget cycle is more common in developed EU countries than in developing.

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