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Structure of Governments and Inflation in CEE Countries

Abstract

This paper deals with the political-economic relationships of the coalition governments in the countries of Central and Eastern Europe. The added value of this paper is in its approach to testing the relationship of the political and economic characteristics in the whole region of Central and Eastern Europe, especially for coalition governments. This approach has rarely been applied in recent literature.

We used panel regression with fixed effect. Data revealed that the level of the incumbent government's majority in parliament is statistically significant and that the estimates showed a tendency of inflation to decrease by 0.22 pp in the case when the majority of the coalition increases by 1 percent. Single-party government and government with a minimal winning coalition (all parties in the government are necessary to form a majority in parliament) statistically significantly influenced the inflation even more and in comparison with other types of government, decrease the inflation by approximately 3 pp.

There were also statistically significant estimates for public expenditure and economic growth. The inflation estimate increased in the case of an increase in public expenditure or an increase in economic growth in Central and Eastern European Countries. Both relationships are predictable using economic principles.

The number of political parties did not appear statistically significant in any of the tested models. The same situation appeared in the case of the variable concerning the prime minister belonging to the strongest political party in the coalition government.

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Key Words

coalition governments, Central and Eastern European countries, economic policy, inflation monetary policy, panel data, government ideology

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Introduction

The relationship between various economic and political issues is widely discussed. This paper tries to add something concerning the role of coalition governments' influence on monetary stability (inflation). The paper focuses on Central and Eastern European countries, which witnessed a transition and then joined the European Union. The main objective of the paper is to answer the question whether coalition governments had any influence on economic performance in Central and Eastern European Countries.

The paper is organized as follows. The first part is dedicated to economic policy and politics' influence on inflation. Then there is a description of data collection. Special attention is paid to this, as the data and methodology are crucial for the plausibility of the results. The third chapter concerns the model and methodology of statistical data processing. The following chapter discusses the results. The final chapter concludes.

1. Politics and inflation

The usual approach is to view coalition governments from the political science aspect. To see them from the economic perspective is quite rare. [3] and [12] dedicated their effort to this topic. However, even in those works little attention has been given to the political orientation and the structure of coalition governments.

The influence of political parties' on inflation is divided into the roles of the parties of conservative or social democratic groups. [8] even mentions price stability as being the highest goal of economic policy for conservative political parties. On the contrary, left-wing parties are aimed at fighting against unemployment. Thus, those two groups differ in their approach and it can be expected that empirical analysis will prove the influence of political parties' right – left leanings on inflation.

The influence of economic policy on economic performance (including price stability) and on election results was studied using the political-economic cycle approach in the last couple of decades [for example see [11]; [1]; [6]. These studies tested whether the governments utilize economic policy tools to try to trade-off (mainly) between inflation and unemployment in the short term. According to these studies the non-central bank subjects can play the significant role in the influencing of inflation. For the potential role of central bank see [4]. The most recent findings concerning interest rates are that the key role is the independence of central bank. Leftist governments have lower short-term nominal interest rates in case the central bank independence is low. In contrast, short-term nominal interest rates are higher under leftist governments when central bank independence is high." [2]. They mention also the discussion of Central Bank Independence and channels of transmission and also for the excellent overview of empirical tests of partisan monetary policy from 1995 to 2009. The role of central bank is not the main theme in our paper, however.

2. Data

This study focused on the influence of governmental political characteristics in parliamentary democracies on the monetary stability. We study the Central and Eastern European Countries (Bulgaria, Czech Republic, Estonia, Hungary, Lithuania, Poland, Slovakia and Slovenia). Those countries passed through a transitional period during the 1990s and started to behave as standard democratic systems afterwards. There are two main groups of data used in this paper – the political one and the economic one.

The statistical analysis used in this paper (described below) is very demanding on the quality and extent of data. The analysed data set covers 13 years (beginning in 1993). The data set covers the transitional and post-transitional periods for all countries in question. The data for countries such as Poland, Hungary and the former Yugoslavia before 1993 might be interesting, but incomparable with other countries in the region. The data for the succession states in the former Yugoslavia was not included into the research as many of them were at war and in an unstable situation and the question of the economic situation was definitely not top of the list of political importance. There is also a problem with the data concerning the fluctuations and stability of party systems in Central and Eastern European Countries.

2.1 Data concerning economic situation

The economic data is based on quarterly information, as it makes it possible to take into account the precise timing of cyclical fluctuations in relation to elections. As relevant economic variables were chosen the quarterly data for the consumer price index (as inflation, INF), the economic growth (GRO, measured as a percentage difference of the GDP per capita in relation to the previous quarter of the year), the unemployment rate (UNP), the balance of payments (FOR) and the relative change of the "government expenditure to GDP" ratio. To ensure comparability of all economic data and the same methodological approach for all data, the International Monetary Fund (IMF), OECD data and the European Statistical Office data were used. The main part of the data is of IMF origin.

2.2 Data concerning the political situation

The second group of data represents political data. There are more methodological complications with political data in comparison with economic data. The data on political coalitions and the proportion of power in the parliaments are based on several sources.

There are two main sources of political data concerning the left-right position of the governments used in this paper. The first data sample is based on the analysis by [10] of the governments in Central and Eastern European democracies. The countries for which the political-economic situation is tested in this paper are included in this data set. Those countries are: Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. Finally Latvia and Romania were not used in the analysis in this paper, as the economic data for those two countries was incomplete. This data was compared and supplemented by missing data, especially the data set for 2003 – 2005. That additional period is the period when the governments in question were still ruling until the end of 2005. The political character of coalition governments was based on the information gathered from several sources [5]. The methodology of collecting political data is the same as in [5], although the most crucial information concerning the political character of particular parties participating in governments is

missing. This type of positioning of political parties on a left – right scale doesn't change in the long-term and is more static than the following one.

The second methodology used for positioning of governments in the left-right space is taken from [9]. This methodology is based on the approach that many countries witnessed a situation in which political parties' positions changed. Such a situation was also described in the case of Western countries. [9] shows that considering elections from 1945 to 1959 in Great Britain, the normally rightist conservatives moved from right of centre in 1945 to well within the left in 1955.

3. Econometric model

The main aim of this analysis is to analyse whether common economic and political variables are able to explain the variance of our key explained variable – inflation. The attention is focused on political variables, especially the type of government. We tested the following econometric model:

$$INF = f \left(\begin{matrix} GRO, UNP, FOR, POW, NUM, CAR1, DCAR1, \\ CAR2, DCAR2, TOG, TIM, PREM, AFTER \end{matrix} \right), \quad (1)$$

where: INF is the inflation rate (CPI); GRO is the gross domestic product (per capita) growth. It is a percentage of the difference of the GDP per capita in relation to the previous quarter of the year; UNP is the unemployment rate. It is measured as a percentage of unemployed people in the given economy's workforce; FOR is the balance of payments; POW is indicator of government majority power. The numbers above 50 % indicate majority governments, below 50 % indicate minority ones. This value is measured by the number of seats in Parliament, not by the share of votes in the elections; NUM is the number of political parties taking part in the ruling government; CAR1 is the political character of the government. The value of this variable ranges from 1 (Communist parties) to 14 (Single – issue parties). See appendix for details; DCAR1 is derived from the CAR1 variable. This variable determines the political heritage of the previous government. It uses the following form: $CAR2 = CAR(t) - CAR(t - 1)$. Thus, this variable is below (above) zero in the situation when the previous government was more to the right (left) on the left-right scale in comparison to the incumbent government. This variable is equal to zero in the case of the same government (consistent with the previous government). CAR2 is the complex political character of the government focusing on the level of planned economy, market economy, welfare,... (see appendix for more details). DCAR2 is derived from the CAR2 variable (compare with DCAR1 and see appendix). Thus, this variable decreases (increases) in a situation when the previous government was more to the right (left) on the left-right scale in comparison to the incumbent government. This variable is equal to zero in the case of the same government (consistent with the previous government). EXP denotes the percentage of the government expenditure (capital and noncapital) related to GDP in a particular country. TOG indicates the type of government according to the [10] classification. This variable was used as a dummy variable. In fact there are six variables TOG1 – TOG6 according to the situation of the government in question (e.g. if the government was a

single-party majority government, the TOG1=1, TOG2 to TOG6 are then equal to 0). TOG6 was used as a reference category [7]. For more details see appendix. TIM is used to control for the influence of time elapsed since the election. It is measured by quarters after the nomination of the government. For example, the value for the first quarter (0 – 2nd months) is 0, for the second quarter (3rd – 5th months) the value of this variable equals to 1, etc. PREM denotes the situation when the strongest political party in the ruling coalition occupies the seat of the prime minister (0 means that the prime minister is a member of another political party other than the strongest one in the coalition government, 1 denotes that the strongest party occupies the seat of the prime minister). AFTER is a variable used for differentiating transitional and post-transitional periods. It is 0 for 1993 – 1999 and the value is 1 for the period 2000 – 2005. Such a split is also based on [9].

All qualitative variables passed common test for their stationarity. We used panel regression with fixed effect as proposed by [7] to be able to control for the differences between countries. The final model is presented in the next table. To improve the quality of model we employed some "auxiliary variables" – the autoregressive term (AR1), and to deal with the seasonality we utilized the standard procedure based on the seasonal dummy variable. The overall quality of model is sufficient, the R2 is 0.55 (which is comparable with other similar studies) and Durbin-Watson stat. (2.15) indicates there is not a problem with autocorrelation of residuals. According to the F-test we can reject the null hypothesis that all the country effects are zero. The autocorrelation of residuals was tested by Durbin-Watson statistics. The results of regression are showed in table 1.

Tab. 1 The final model for the inflation as dependent variable

Variable	Coeff.	Std. Error	t-Statistic	Prob.	Fixed Effects	Coeff.
Political variables					BUL--C	12.6
TOG1	-3.78	1.52	-2.48	0.014	CZ--C	14.8
TOG2	-2.22	1.17	-1.90	0.059	EST--C	14.0
POW	-0.22	0.10	-2.16	0.031	HUN--C	12.8
					LIT--C	16.5
Economic variables					POL--C	15.7
EXP	0.32	0.12	2.72	0.007	SLO--C	13.3
GRO	1.32	0.05	26.74	0.000	SVK--C	14.8
Auxiliary variables						
S3	-19.83	2.16	-9.19	0.000		
S4	-18.45	2.31	-7.99	0.000		
AR(1)	-0.13	0.06	-2.04	0.042		
Diagnostic tests						
R-squared			0.65	Mean dependent var		2.64
Adjusted R-squared			0.55	S.D. dependent var		13.74
Durbin-Watson stat			2.15	Prob(F-statistic)		0.00

Source: own calculation using Eviews 6.

It reveals that statistically significant, are public sector expenditure (EXP), with estimates showing a positive relationship between inflation and public expenditure. It seems there is also a statistically significant influence of seasonally adjusted economic

growth. A growing economy is connected with increasing price levels. These conclusions fit the mainstream economic theoretical assumptions.

Conclusions

The most interesting result concerns the relationship between the incumbent government (POW) having a majority in parliament and inflation. Regression estimates show that a higher majority is connected with lower inflation. In more detail, the regression estimates show a tendency of increasing parliamentary majority leading to decreasing inflation. The estimates of the relationship show that if the majority increases by one percentage point, the estimated inflation decreases by 0.22 percentage points. Single-party government (TOG1 – just one party holds the majority in parliament necessary for ruling the country and also holds all the seats in the cabinet) and government with the minimal winning coalition (all parties in the government are necessary to form a majority in parliament) statistically significantly influenced the inflation (see negative coefficient). Other statistically significant estimates fit economic theories. In particular those are the relationships of public expenditure (EXP) and inflation and economic growth (GRO) and inflation. Growth in public expenditure usually causes a growth in inflation and higher economic growth is connected with higher inflation.

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Annex – List of variables

- GRO is the economic growth measured as the difference between two quarters in the country in question. It is a percentage of the difference of the GDP per capita in relation to the previous quarter of the year.
- INF is the inflation rate in a particular country and quarter of the year. It is measured by the consumer price index.
- UNP is the unemployment rate in a particular country and quarter of the year. It is measured as a percentage of unemployed people in the given economy's workforce.
- FOR is the balance of payments measured quarterly.
- POW is a variable indicating what kind of majority had the ruling coalition. It is measured as a percentage of the whole legislature in parliament. The numbers above 50 % indicate majority governments, below 50 % indicate minority ones. This value is measured by the number of seats in Parliament, not by the share of votes in the elections. A majority is important, as a coalition usually needs a majority in Parliament for a vote of confidence.
- NUM is the number of political parties taking part in the ruling government.
- CAR1 is the political character of the government. This indicator describes the weighted average of the parties included by: $CAR = \frac{\sum_{i=1}^n P_i}{\sum P_i} PFi$, where i indicates ith party of n parties in the coalition government, PFi indicates the appropriate political group, whose political programme is closest to the ith party. The value of this variable ranges from 1 (Communist parties) to 14 (Single – issue parties). Categories 13 (Regionalist parties) and 14 are rare, thus the usual value of this variable ranges from 1 to 12 (Right-wing and nationalist parties).
- DCAR1 is derived from the CAR1 variable. This variable determines the political heritage of the previous government. $CAR = CAR(t) - CAR(t - 1)$. Thus this variable is below (above) zero in the situation when the previous government was more to the right (left) on the left-right scale in comparison to the incumbent government. This

variable is equal to zero in the case of the same government (consistent with the previous government).

- CAR2 is the political character of the government. Using this approach, a government's policy position is the weighted mean score of parties in government on each of the six policy scales covered in this methodology: Left-Right, planned economy, market economy, welfare, international peace, and EU scales. Weights are the proportion of parliamentary seats held by each party in the government. The few governments identified as non-partisan are reported as missing data. It includes not only economic variables, but also variables concerning military and peace positions, human rights questions and others.
- DCAR2 is derived from the CAR2 variable in a same way as DCAR1. This variable determines the political heritage of the previous government. Thus, this variable decreases (increases) in a situation when the previous government was more to the right (left) on the left-right scale in comparison to the incumbent government. This variable is equal to zero in the case of the same government (consistent with the previous government).
- EXP denotes the percentage of the government expenditure related to GDP in a particular country and yearly quarter.
- TOG indicates the type of government: 1) Single-party government (just one party holds the majority in parliament necessary for ruling the country and also holds all the seats in the cabinet). 2) Minimal winning coalition (all parties in the government are necessary to form a majority in parliament). 3) Surplus coalition (coalition governments exceeding the minimal winning criterion, which is met in type 2). 4) Single-party minority government (the party in government does not have the majority of the seats in parliament, but has all the seats in the cabinet). 5) Multi-party minority government (similar situation to 4, including 2 or more parties in the government, which do not have the majority of seats in parliament). 6) Caretaker government (these governments are temporary or they are governments with support across the whole political spectrum for a pre-agreed period). This variable was used as a dummy variable to avoid using a discrete variable in the model. In fact there are six variables TOG1 – TOG6 according to the situation of the government in question (e.g. if the government was a single-party majority government, the TOG1=1, TOG2 to TOG6 are then equal to 0).
- TIM classifies the regression value of the time during which the government rules. It is measured by quarters after the nomination of the government. For example, the value for the first quarter (0 – 2nd months) is 0, for the second quarter (3rd – 5th months) the value of this variable equals to 1, etc. The beginning of the government is determined by the nomination of the prime minister, not the vote of confidence vote in Parliament.
- PREM denotes the situation when the strongest political party in the ruling coalition occupies the seat of the prime minister (0 means that the prime minister is a member of another political party other than the strongest one in the coalition government, 1 denotes that the strongest party occupies the seat of the prime minister).
- AFTER is a variable used for differentiating transitional and post-transitional periods. It is 0 for 1993 – 1999 and the value is 1 for the period 2000 – 2005.