COALITION GOVERNMENTS AND INFLATION IN CENTRAL AND EASTERN EUROPE COUNTRIES

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Abstract
This paper deals with the political-economic relationships of the coalition governments in the countries of Central and Eastern Europe. The benefit 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 percentage points 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.

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.

Key words: Coalition governments; Central and Eastern European Countries; Economic policy; Inflation Monetary policy; Panel data; Government ideology.

JEL Classification: E52; E58; D72; C23.

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. Study [8] and [25] dedicated their effort to this topic. However, even in those works little attention has been paid to the political orientation and the structure of coalition governments.

The previous works focus on the influence of general politics on inflation [24] or the influence of hyperinflation on welfare [18]. Study [14] analysed inflation as the objective of left-wing and right-wing political parties’ economic policy. There has yet to be found a study primarily concerning with the influence of coalition governments on inflation.

The influence of political parties’ on inflation is divided into the roles of the parties of conservative or social democratic groups. Study [14] even mentions price stability as being the highest goal of economic policy for conservative political parties. On the contrary, left-wing parties aim 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 (see [21]; [1]; [10]). These studies tested whether the governments utilize economic policy tools 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 [9]. The most recent findings concerning interest rates reveal 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.” [3]. They mention also the discussion about central bank independence and channels of transmission and they also provide 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.

Political parties can easily influence policies through their ministers in the government. The official coalition bargaining is much more difficult. That is why political parties prefer the particular portfolios, which are closest to the interests of their voters. This approach is important from both the point of view of the office-seeking concept and the policy pursuit concept of coalition governments. The difference is important and causes coalition bargaining not as a zero-sum game, but as a game with a positive effect on all the political parties included. It makes it possible to apply game theory as a special case with several preconditions from the general theory of coalition bargaining.

Inflation reduces economic growth and destabilizes a country by people’s attempts to avoid losing their welfare by chasing foreign currency. This has a bad outcome for the domestic economy, as it shifts daily attention away from production, investment and frugality towards
hoarding and exchanging. However, as the study [18] shows, it does not bring the fall of democracy or signal the arrival of authoritarian rule. It also found the same result as [13] in the sense that inflation and huge deficits harm economic growth. In addition, study [23] adds that unanticipated inflation appears to increase income inequality.

Study [18] proposes that targeting inflation by the independent central bank may improve economic outcomes. It also proposes using this approach of independent authorities in other fields of life not only in the field of monetary policy.

Study [24] analyses the influence of politics on inflation and unemployment in the United States. That work confirmed attempts to influence the economy, especially during the election years in the United States. The analysis included 8 election years 1946-1976.

Study [20] tests the influence of macroeconomic development on the political behaviour of voters and its influence on elections in the case of Canada. It concluded that only one economic variable, unemployment, is statistically significant. Thus, inflation was statistically insignificant in the study. This was a surprising result, although the inflation rate increased the most rapidly between years 1972 – 1974 in Canada. Study [5] concludes that 15.2 percent of the electorate in the 1974 Canadian election based their vote on inflation targeting. The authors also found that just a few voters were prepared to credit the incumbent party for the economic policy in the field of inflation in 1984, although inflation in 1984 was quite low in comparison to previous years in Canada.

What are the ideological positions of political parties in governments like? Are they able to sustain their political views even if they are in a coalition with other partners (with diverse views on political issues)? Study [8] shows that conservative parties in a coalition government in Western Europe usually give up their political ideologies more easily than the socialist parties. The religious parties are in a similar position as the conservative parties. Liberal parties sometimes join the coalitions with social democratic parties and thus they leave their ideology behind. This is consistent with [14] definition of political parties’ preferences in economic policy. Socialist and labour political parties’ two main economic goals are full employment and equal distribution of income. For conservative parties only price stability ranks highest and even centre parties do not have specific goals at the same level. It enables centre and conservative parties to manoeuvre and make compromises when negotiating economic policy.

Study [16] points out that the left-wing parties have used governmental power to correct market outcomes according to their political ideology and values. Thus, societies move to a welfare state. Christian political parties have been the second strongest political force attracting working and lower-middle class voters. The authors also add that a strong need for revision of the welfare state appeared in the 1990s. Study [1] adds that the right-wing parties were more likely to cut benefits, not just raise them less, or cut them more than other political parties during the 1970s.

Study [8] argues that governments with socialist parties are more stable than bourgeois governments. Ideological divisions among bourgeois parties are potentially greater than those among parties of the left. Others [11] mention that the right-wing parties are fragmented by religious, secular, agrarian, nationalist and other issues.

The above-mentioned studies clearly show that governments do not behave purely ideologically; instead, they use a combination of policies, as they believe they are able to cope with problems that they come across. This may cause a methodological problem in the statistical methods in this paper. Approach used in [14], derived according to the positioning of political parties concerning their economic policy goals, is a bit static. For the purpose of
this paper, the methodologies of [17] and [19] are used. The methodology used in [17] is more flexible at comprehending the possibility to choose the economic policy according to the actual situation and the positions of competitors on the political market.

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 in chapter 3) is very demanding on the quality and extent of data. The analysed data set covers 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.

In some cases, there might be a problem for the statistical analysis in the case of caretaker governments and short-lived governments. Similar problems with data analysis of short-lived governments appeared in other studies (e.g. [20]). The problem of short-lived governments, usually with duration of less than 2 months, was solved by not including the relevant data of such governments. It was possible just in the case of the governments, which did not last for longer than two months due to the quarterly nature of the data in the analysed sample.

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. More detailed data, e.g. adjusted to the monthly data sets, do not allow a more precise econometric analysis to be carried out because of monthly time-series are incomplete and some variables are missing altogether. The delays in implementing economic policy are between a quarter of a year or a year, rarely for a shorter period. Thus, adjusting data to shorter periods does not produce a more precise analysis. An analysis on the quarterly data in the political-economic cycle analysis is also used in the works of [21], [1], [10]. Our choice of data frequency is in accordance with the previous research. For example, [6] used just ten annual observations for 1994 – 2003 in their econometric analysis, since the data for the Central and Eastern European Countries and the period before 1989 was unusable and that before 1994 was incomplete and unreliable.

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 [19] 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.\footnote{Based on www.parties-and-elections.de; http://elections.online.fr and web sites of national parliaments and governments.}

The methodology of collecting political data is the same as in [26], 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 does not 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 [17]. 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. Study [17] 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. According to [17] it was simply a particular strategic adjustment by conservatives who returned to a right-wing position in the 1960s. But it shows the more flexible and changeable position of a particular political party in the left-right scale in comparison to the [19] classification.

The methodology derived in [17] includes not only economic variables, but also international and human rights questions in its left-right positioning of the governments.

To collect information concerning the dates of the beginning and termination of the governments and numbers of political parties in governments was much easier. This type of information does not vary across information sources.

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:

$$\text{INF} = f(\text{GRO, UNP, FOR, POW, NUM, (CAR1, DCAR1 or CAR2, DCAR2 or TOG), TIM, PREM, AFTER})$$

(1)

where
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. It is measured as a weighted rate based on the [19] classification. This indicator describes the weighted average of the parties included by:

$$CAR = \sum_{i=1}^{n} \frac{P_i}{\sum P_i} PFi,$$

where $i$ indicates $i^{th}$ party of $n$ parties in the coalition government, $PF_i$ indicates the appropriate political group, whose political programme is closest to the $i^{th}$ 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 $CAR_1$ variable. This variable determines the political heritage of the previous government.

$$DCAR_1 = CAR_1(t) - CAR_1(t-1),$$

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 alternative measure of political character of the government. It is measured as a weighted rate based on the [17] classification. Using the [17] methodology, 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.

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2 This source respects the situation after the elections, but it was necessary to adjust the variables POW and CAR to the real situation in Parliament as some coalitions were created or were split up during the incumbency.
DCAR2 is derived from the CAR2 variable in a same way as DCAR1.

EXP denotes the percentage of the government expenditure related to GDP in a particular country and yearly quarter.

TOG is a set of 5 dummy variables (to avoid dummy variable trap) and indicates the last alternative measure of government type according to the [19] classification:

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).

TIM controls for duration of the government. 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. Such a split is also based on [17] hypothesis that parties in Central and Eastern European Countries would demonstrate two major swings (liberalization and then “social democratisation”) in the first decade following the regime change.

All qualitative variables passed common test for their stationarity. We used panel data regression modelling with fixed effect as proposed by [12] to be able to control for the differences between countries. Discrete variables were handled as dummy variables.

4   Results and discussion

The final model (see equation (1)) is presented in Table 1. 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, see [3]. The overall quality of model is sufficient; the adjusted R-squared is 0.55 which is comparable with other similar studies. Furthermore, Durbin-Watson statistics is 2.15 and indicates there is no problem with autocorrelation of residuals. According to the F-test, we can reject the null hypothesis that all the country effects are zero.
**Tab. 1: The final model for the inflation as dependent variable**

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<tr>
<td>TOG1</td>
<td>-3.78</td>
<td>1.52</td>
<td>-2.48</td>
<td>0.014</td>
<td>BUL--C</td>
<td>12.6</td>
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<td>TOG2</td>
<td>-2.22</td>
<td>1.17</td>
<td>-1.90</td>
<td>0.059</td>
<td>CZ--C</td>
<td>14.8</td>
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<td>POW</td>
<td>-0.22</td>
<td>0.10</td>
<td>-2.16</td>
<td>0.031</td>
<td>EST--C</td>
<td>14.0</td>
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<td></td>
<td>HUN--C</td>
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<td>LIT--C</td>
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<td></td>
<td>SLO--C</td>
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<tr>
<td>Economic var.</td>
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<td>SVK--C</td>
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<td>EXP</td>
<td>0.32</td>
<td>0.12</td>
<td>2.72</td>
<td>0.007</td>
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<td>GRO</td>
<td>1.32</td>
<td>0.05</td>
<td>26.74</td>
<td>0.000</td>
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<td>Auxilliary variables</td>
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<td>S3</td>
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<td>2.16</td>
<td>-9.19</td>
<td>0.000</td>
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<td>S4</td>
<td>-18.45</td>
<td>2.31</td>
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<td>AR(1)</td>
<td>-0.13</td>
<td>0.06</td>
<td>-2.04</td>
<td>0.042</td>
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</table>

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

Notes:

S is a seasonal component according to the first quarter of the year. Thus, S2 means the second quarter, S3 the third quarter and S4 the last quarter of a year. S1 was used as a reference category.

Source: IMF, OECD, own calculation using Eview 6 econometric software.

Model reveals that public sector expenditure (EXP) is statistically significant 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 (GRO). A growing economy is connected with increasing price levels. These conclusions fit the mainstream economic theoretical assumptions.

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) significantly influenced the inflation (see coefficient -3.78 and -2.22 respectively).
Conclusion

Some interesting economic relationships were derived from the study of socio-economic data for Central and Eastern Europe countries. We focused on the structure of government and inflation.

The most interesting result concerns the relationship between the incumbent government 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 there is a statistically significant tendency of increasing parliamentary majority to lower the rate of inflation.

We checked the relationships for the other theoretically relevant variables (public expenditure and economic growth). Growth in public expenditure usually causes a growth in inflation and the same is true for the higher economic growth.

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Literature


Ing. Oto Potluka, Ph.D.; Doc. Ing. Stanislav Klazar, Ph.D.
KOALIČNÍ VláDY A INFLACE V ZEMÍCH STŘEDNÍ A VÝCHODNÍ EVROPY

Článek se zabývá politicko-ekonomickými vazbami koaličních vlád v zemích střední a východní Evropy.

Analýza dat odhalila statisticky významný vliv politické většiny na pokles inflace o 0,22 procentních bodů (za každé 1 % většiny vlády v parlamentě). Vlády sestavené z jedné strany a vlády minimální vítězné koalice (všechny strany ve vládě jsou nezbytné pro vytvoření většiny v parlamentu) statisticky významně ovlivnily inflaci ve srovnání s jinými typy vlád. V takovém případě byl pokles inflace přibližně o 3 procentní body.

KOALITIONSREGIERUNGEN UND INFLATION IN DEN LÄNDERN MITTEL- UND OSTEUROPAS

Der Artikel befasst sich mit den politischen und wirtschaftlichen Bindungen der Koalitionsregierungen in den Ländern Mittel- und Osteuropas.

Die Datenanalyse hat einen statistisch bedeutsamen Einfluss der politischen Mehrheit auf den Inflationsrückgang um 0,22 Prozentpunkte (für jedes 1 % der Regierungsmehrheit im Parlament) entdeckt. Im Vergleich mit anderen Regierungsorten haben die von einer einzigen Partei gebildeten Regierungen sowie Regierungen einer knapp siegenden Koalition (alle Regierungsparteien sind für die Parlamentsmehrheit unentbehrlich) die Inflation statistisch bedeutsam beeinflusst. In einem solchen Fall beträgt der Inflationsrückgang 3 Prozentpunkte.

RZĄDY KOALICYJNE I INFLACJA W KRAJACH EUROPY ŚRODKOWEJ I WSCHODNIEJ

Artykuł dotyczy powiązań polityczno-gospodarczych rządów koalicyjnych w Europie Środkowej i Wschodniej.

Analiza danych wykazała statystycznie znaczący wpływ większości politycznej na spadek inflacji o 0,22 punkty procentowe (dla każdego 1 % większości rządu w parlamencie). Rządy utworzone przez jedną partię polityczną oraz rządy koalicji minimalnie zwycięskich (wszystkie partie polityczne w rządzie są niezbędne do stworzenia większości w parlamencie) miały statystycznie znaczący wpływ na inflację w porównaniu z innymi typami rządów. W takim przypadku spadek inflacji wynosił około 3 puntków procentowych.