Economic Development and Political Cycles in Romania

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Abstract: Political business cycle theory is one of the more controversial issues of modern economic theory. According to economic theory, economic policy adopted by each government before elections, is an expansionary one, leading to lower taxes and unemployment and to increase consumption per capita, GDP and the subsidies granted by government. After each election the government adopts a restrictive policy. This paper presents main models used to describe and analyze political and economic cycles. The final part of our paper analyzes Romanian political and there influence on economic development based on regression models. Analyzing 1990-2008 periods we conclude that Romanian’s economy was affected by political decisions especially in election periods.

Key-Words: development, political cycle, GDP, econometric model, unemployment, inflation

1. Introduction

We can define cycle as any phenomenon that is repeated at relatively regular intervals. Generally, we found cycles any situations which may be associated time numerical measures. Edward R Dewey, the founding member of the Foundation for the Study of Cycles, claims that "everything that has been studied has been found to have cycles present." If a system is removed from its equilibrium condition, "inertia" forces work backwards and try to bring the system in its original state, forming a cycle. Although the cycles make their presence felt wherever, they never appear with perfect regularity and deployment length varies from one cycle to another. Oscillating nature of the universe is attested by all modern scientific theories and is offering many research opportunities by analyzing how one movement is affecting.

Researchers have observed and studied during the last decades a phenomenon considered at least interesting for many countries: the correlation between schedule elections and the evolution of business cycles. This phenomenon shows that before the elections, economic policy adopted by government is an expansionist policy, lowering taxes and unemployment and increasing GDP growth, subsidies and consumption per capita. Immediately after the election period is chosen a contraction type of policy. This observation is the starting point of a phenomenon called political business cycle.

We suppose that the ordinary voters decide who to give their vote depending on their vision of the economic situation in a relatively short time horizon, and therefore their decision is directly influenced by the social welfare level. On the other hand, the government wasted considerable time to influence population welfare and exploiting it to create a favourable atmosphere before the elections.

In our study we analyze how government changes and election schedule systematically influence the dynamics of unemployment, inflation or GDP growth in Romania.

2. Literature

We can observe two distinct time periods in which researchers have studied political and economical cycles. During the first period we may notice the work of Nordhaus [15] and Lindbeck [13] that have studied on “opportunistic” cycles and also the paper of Hibbs [12] on “partisan”
political cycles. These researches involved Phillips curve and pre-rational expectations economic models. Nordhaus [15] have proved that governments tend to adopt a series of expansionary macroeconomic policies in the period before elections in order to reduce unemployment and increase the chances of being re-elected, but the cost of this policy is represented by an increasing inflation, which is visible only after elections. Hibbs’s partisan political cycle model involves permanent and systematic differences in terms of inflation-unemployment combination chosen by different political parties.

The second phase addresses the theory of political cycles in terms of game theory. Reference works such as those of Cukierman, Meltzer [6], Rogoff [17], Sibert [20], Persson and Tabellini [16] propose rational opportunistic models, while Alesina [2] offers a rational partisan model of political cycles.

The models developed in the second phase differ from their predecessors by at least two different assumptions:

- Assumption of economic agents rationality leads to the idea that real economic activity is not influenced by monetary policy;
- Voter rationality implies that the voters can not be systematically fooled.

The model developed by Rogoff [17] is the first that implies the presence of political cycles as a result of asymmetric information traveling between the public and politicians. Rogoff shows that if governments are proven to have a high competence level, they tend to adopt an expansionary policy in the period before elections.

Among the theoretical models, the empirical ones sought to determine if there is indeed a tool to formalize the change in the economic parameters in time of the election. The results are not equivocal and vary from one country to another and from one period to another. For example, Alesina, Cohen and Roubini [4] studied the elections effect on economic variables among OECD member countries during 1960-1987. Their results reject Nordhaus assumption that unemployment is falling and GDP is increasing before the elections.

In 1987, Beck [5] claimed that there is a political cycle of the money supply in the United States, but this not the case of monetary policy. This is because FED is adapting fiscal policy before the election, thus creating a cycle of monetary liability that arises from the bank's desire to avoid large swings in interest rates.

Moreover, Drazen [8] showed existence of a monetary cycle in the United States based on the growth of M1 during 1961-1980, but like Beck, he did not found any conclusive aspect of central bank deposits influence on economic cycles.

Heckelman and Berument [10] adopt a different approach showing that some election campaigns are endogenous (for example, governments prefer not influence macroeconomic variables before elections instead of organizing anticipated elections, if economic signals are positive enough). To sustain this viewpoint authors have showed that the average innings was lower than the length of innings established the law in most OECD countries. Also their studies proof the existence of a political inflationist cycle in Great Britain and a political monetary cycle in Japan.

3. Models of political business cycles

3.1 Nordhaus model

Nordhaus’s model basic assumptions are:

A.1. Phillips curve that describe our economy is:
\[ u_t = \bar{u} + \alpha u_{t-1} + \gamma (\pi_t + \pi^e_t) + \epsilon_t; \quad 0 < \alpha < 1; \quad \gamma < 0. \]  
(1)

Where \( u \) represent unemployment rate, \( \pi \) is inflation and \( \pi^e \) expected inflation, and \( \epsilon_t \) is the white noise (random variable of zero mean); \( \alpha \) and \( \gamma \) are equation parameters. NAIRU are normalized to 0. We can also rewrite this equation from Okun’s law, starting on GDP rate instead of unemployment rate.

A.2. Inflation expectation is adaptive:
\[ \pi^e_t = \pi_{t-1} + \lambda (\pi^e_{t-1} - \pi_{t-1}); \quad 0 < \lambda < 1. \]  
(2)


A.4. We has “opportunistic” politicians: they try to win elections and they don’t have “partisan” objectives.

A.5. Voters are “retrospectives” They evaluate governments performances depending on economic evolution in past elected government office.

A.6. Election Schedule is exogenous.

Starting on these assumptions, Nordhaus tested some hypothesis:

- Every government use same policy;
Until mandate end, the government stimulates the economy in order to take advantage of favourable short-term issues; Inflation rate increase around elections periods as result of expansionary policies. Later this model was developed including the rationality role and being used for the second generation models.

3.2 Rational business political cycles models

Persson and Tabellini [16] propose a simple model that modify Nordhaus model. They keep assumptions A.1, A.3, A.4 and A.6 and replaced A.2 and A.5 such follows:

A.2’. \( \pi_t^e = E (\pi_t / I_{t+1}) \) (Rational expectations assumption).

A.2”. \( I_{t+1} \) includes all relevant information, less those defining government competencies levels.

A.5’. Voters choose the candidate that rational assure the maximum utility, if he/she is elected.

A.5”. There are not different utility functions of different voters.

Taking advantage of the situation of information asymmetry and trying to appear as proficient as possible before the election, politicians adopt the behaviour described in Nordhaus's political business cycle model. Given the rationality of voters and politicians vigilance, the latter are limited in their opportunistic behaviour. In this way, cycles lasting results are somewhat lower and less regular than in Nordhaus's model.

Rogoff and Sibert [18] include competencies levels in their model and take account of budget balance instead unemployment/inflation problem, but they keep the same hypothesis on information distribution.

3.3 Hibbs's partisan theory [11], [12]

Hibbs’s model is based on non-rational expectations mechanism taking the assumptions A.1, A.2, A.3 and A.6, replacing A.4 and A.5 as:

A.4’: Politicians are "partisans": different political parties seek to maximize different objective functions. The left-wing party attaches greater importance to unemployment than inflation, unlike right-wing parties.

A.5’: Each voter knows partisan differences and vote for the party that proposes a policy closer to its goal.

Assumption A.5’ shows that in periods with large unemployment rate, reduced growth rate and inflation, the middle class revenues increase and lower classes revenues decrease as Hibbs points in his model.

Thus, the present model implies that different political parties choose different points on the Phillips curve's output; growth and inflation should be permanently higher and unemployment lower if the party in government is a left-wing orientation unless a right-wing government guidance. We can observe that the Nordhaus’s political business cycle model and Hibbs's partisan theory can coexist. If we assume that politicians are both opportunistic and partisan, and voters are retrospective as it involves the assumption A.5, we get a little more relaxed form of partisan model that includes elements of pre-electoral opportunistic behavior in addition (see Frey and Schneider [9] model).

3.4 Alesina “partisan” theory

Alesina [2], [3] presents a new model of political business cycle. So he takes assumptions A.1, A.2’, A.3, A.4’, A.5’ and A.6 and modify parties objective functions as:

\[
W^i = \sum_1^T \delta_t \left[ - (\pi_t - c^i)^2 - b^i (u_t - K^i)^2 \right], \quad 0 < \delta < 1; \quad (3)
\]

Where I = L,R indicates left wing party and right wing party, and t goes from zero to T.

The model generates a political cycle if we suppose that employment contracts are signed at discrete time intervals (not coincide with mandates) and election payoffs are due on income shocks arising from preferences of voters or their participation rates in elections. The basic idea of the model is that, given the slow wage adjustments, changes associated with changes in inflation regimes generate temporary deviations of real economic activity from its natural course.

So, his model basic assumptions are:

- at the start of a right -wing government orientation - (respectively left-wing orientation output growth rate - is the under (over) its potential level and
unemployment is above his natural level (respectively below);

- under rational expectations, prices and wages are adjusted, output and unemployment return to their natural level; after this period of adjustment, the level of economic activity should be independent of the orientation of the governing party;

- Inflation rate should still register a higher level during the mandate of a left-wing government. Thus, a constant inflation rate (but sub-optimal) retain a higher level for left-wing parties, even after the economic activity returns to its normal course.

4. Political business cycles in Romania

In this paragraph our aim is to analyse if political cycles in Romania influence unemployment rate, inflation or GDP growth.

We analyze 1991-2008 period, due on young experience of Romanian democracy, started after 1990.

The variables taken into account are represented by inflation rate (monthly data), unemployment rate and GDP growth rate (monthly data). We also include a dummy variable indicating political influence. This variable will take value 1 with N month (in the models we have developed, N is 2, 4 and 8) before elections and 0 otherwise.

Our data source is represented by Romanian Statistical Yearbook edited by National Institute for Statistics.

4.1. The model

We use an order p autoregressive multifactor model (AR(p)):

$$y_t = a_0 + a_1 y_{t-1} + a_2 y_{t-2} + \ldots + a_p y_{t-p} + a_{p+1} PDUMMY + \epsilon_t$$

(4)

Where $y_t$ represent our date vector (with GDP series, unemployment series or inflation series);

PDUMMY is a dummy variable that include political influence on analyzed series and $\epsilon_t$ represent residual variable. Our PDUMMY variable takes value 1 before election moment and 0 otherwise. Conclusions regarding the nature of the cycle depend on significance level of this variable.

We examine three possible options: with 2 month before election moment, 4 month before elections and 8 months before elections (see table 1).

We discover that the best autoregressive model that can be used for Romanian data was an AR (1) model.

4.2. Inflation rate evolution

We test if the main political cycle hypothesis regarding inflation is validated for Romania’s economy, so that before elections Romanian government had an expansionist policy followed by a restrictive policy after elections.

Figure 2 shows monthly inflation evolution in Romania during 1991-2008. We can observe a decreasing trend due to stabilization efforts and inflation targeting performed by National Bank on Romania.

Analyzing the evolution of real GDP depending on inflation rate and political dummy variables, we noticed that the inflation rate recorded in the pre-elections significantly differs at a significance level $\alpha$ of 5%, from the level recorded immediately after the elections for N = 4.

![Inflation dynamics in 1991-2008 period](image)

**Fig. 1.**

We have tested also for N=4 and N=8 if inflation levels are significantly different (for...
α=5%) in pre-election periods from the post-election periods and we obtained the same results as in N=2 case. However, the most powerful correlation remains for N = 2 (see table 2).

Table 2. Estimating inflation dependency

<table>
<thead>
<tr>
<th>INFL(N)</th>
<th>Intercept b.e. period</th>
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<th>( \hat{\beta}_0 ) estimator b.e. period</th>
<th>( \hat{\beta}_1 ) estimator a.e. period</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=2</td>
<td>2.4052</td>
<td>0.9992</td>
<td>0.3759</td>
<td>0.7624</td>
</tr>
<tr>
<td>N=4</td>
<td>2.4645</td>
<td>1.5858</td>
<td>0.3577</td>
<td>0.5447</td>
</tr>
<tr>
<td>N=8</td>
<td>1.4868</td>
<td>3.2669</td>
<td>0.6085</td>
<td>0.2241</td>
</tr>
</tbody>
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b.e. period – before election period  
a.e. period – after election period

We have analysed the regression lines characterizing the observed periods (pre and after the election) and we have found that they differ significantly. Thus, applying the Student test on data set for N = 6 months, we noticed that the registered unemployment rate in the pre-election is significantly different at a significance level of 5% from the level of unemployment rate recorded immediately after elections. (see table 2).

This is proving that in Romania there is a strong correlation between government policies and election schedules.

Table 3. Estimating unemployment dependency

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<th>UN(N)</th>
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<td>0.9521</td>
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<td>N=4</td>
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<td>0.9731</td>
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<td>N=8</td>
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One conclusion is that in Romania governments try to influence voters before elections by intermediary of an expansionary policy.

4.3. Political cycle’s influence on unemployment

By studying unemployment rate we can observe that labour market was affected by serious disequilibrium during 1991-2008. The most important disequilibria still remains that between active population and inactive population. The classical business cycle theory indicating negative correlation between unemployment rate and GDP growth rate was verified in Romania. But an important impact on unemployment rate (that diminish this rate after 2007) was the migratory tendency of Romanian population. Some sources indicate that about 10% of active Romanian population emigrates in E.U. countries for economic reasons.

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5. Conclusions

Political business cycle theory is one of the more controversial issues of modern economic theory. According to economic theory, economic policy adopted by each government before elections, is an expansionary one, leading to lower taxes and unemployment and to increase consumption per capita, GDP and the subsidies granted by government. After each election the government adopts a restrictive policy. In this article we verify if these theoretical elements are checked for the Romanian economy over the past 20 years.

In Romania, there were 2 complete economic cycles during our analysis period, with depression periods in 1992 and 1999 years and economic booms in 1996 and 2008. Romania's economic growth accelerated sharply in 2000-2008 time period and the dynamics of GDP (up from 8.3 percent) is far better than the original target of 5.5 percent. Economic growth was mainly based on domestic demand. In our paper we have examined the influence of the electoral cycle on economic cycles based on three indicators, namely GDP, unemployment and inflation.

Studying the differences recorded between regression lines constructed for the periods leading up to elections and for the after election periods, it
has been observed that for both inflation and the unemployment rate there are significant differences, suggesting that in Romania we can speak about the existence electoral cycles.

Thus, elections in 2000, 2004 and 2008 were preceded by a period of expansion, characterized by a significant increase in GDP (especially in 2004 and 2008). The cost of expansionist policies adopted by government was, however, that inflation reached very high levels compared to other EU countries.

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