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POLITICAL REGIME DURABILITY, DEVELOPMENT AND GOVERNANCE: THE ROMANIA'S CASE

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Abstract

The paper analyzes empirically, in Romania's case, the relationships between political regime durability (dependent variable) and economic development & form of government (independent variables). The analysis is based on the construction of a linear "Probit Model" and the data set is covering the period 1926-2007.

The main results show that, in Romania, the political regime longevity is one in which the democratic system is very strong, the economic development is high and the state is organized in the form of monarchy. By exception, a political regime may have longevity even if the political system is dictatorial, the economic development is insignificant and the state organization (monarchy or republic) has minimal influence.

Key words: regime durability, economic development, governance, probit analysis
JEL classification: H10, H11, O10, C35

1. Introduction

According to Marshall & Jaggers [2009, 16], the political regime durability represents the number of years since the most recent regime change or the end of transition period defined by the lack of stable political institutions. Moreover, the researches of the causal relationships between "political regime durability and economic development & form of government" are not conclusive; some of them claim the connexions of the same sign and other authors of the contrary sign.

In such a context, this scientific approach is intended to analyze the relationship between political regime durability and its determinant factors of economical and political nature. Based on the mentioned premise, all the theoretical elements presented allow us to formulate a series of theoretical working assumptions, which consider two of the approaching coordinates of political regime durability: an economical one and another one political.

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2. Theoretical fundaments

The field literature offer contradictory results about the sign and the sense of the relationship between form of political regime durability, governance and development.

Lipset [1959, 69-105] argues that the economic development ensures the democratization, more precisely "development first and democracy later". He considers that broadly based economic development is conducive to a democracy. Diamond [1988, 3] believes that if regime durability varies with economic performance, and dictatorships are more able to channel resources to accumulation and the creation of wealth rather than consumption, democratic regimes are more vulnerable to economic performance setbacks and political turmoil than their authoritarian counterparts.

In the same note, Almond [1991, 467-474] reviews key works of some scholars and explains, statistically, the significant correlation between economic development and democratic institutions (the accentuation of economic development generates an increase of state democratization). Przeworski [1991, 32] considers that "To evoke compliance and participation, democracy must generate substantive outcomes: it must offer all the relevant political forces real opportunities to improve their material welfare". Moreover, they suggest that economic development fosters democracy and promotes political stability.

Resler and Kanet [1993, 5-22] consider that democracies build their legitimacy on institutionalized procedures and constitutional guarantees of political rights and freedoms, while the primary means through which dictatorships establish their legitimacy is good economic performance. In this context, economic setbacks are more likely to create instability in dictatorships than in democracies.

Preworski and Limongi [1997, 155-183] show that the sustainable development can support the democracy survive, even if the countries are poorer. Pei [1999, 2] considers that the economic development will transform social structure and create a large enough middle class as the social basis of democracy. Przeworski, Alvarez, Cheibub and Limongi [2000, 78-88] develop their previous research and conclude: the economic development does not generate democracies, but democracies are much more likely to survive in wealthy societies.

Chen [2007, 16-22], after he made a review of the field literature, explains that the states with high economic growth are strong democracies, having the highest level of development. Moreover, he formalized the idea that the economic development is growing, as the democratization is increasing and vice-versa.

Finally, Robinson [2006, 1], analyzing the economic effects of development on democracy, concludes that the application of techniques adopted from best-practice econometrics shows no evidence that economic development has a causal effect on democracy. More, neither does it support the idea that economic development influences the probability of coups but not democratizations.

Therefore, the researches on the causal relationship's sign between "political regime durability and economic development & form of government" are not conclusive; some of them claim the connexions of the same sign and other authors of the contrary sign.

This scientific approach is intended to analyze the relationship between political regime durability and its determinant factors of economical and political nature. According to the mentioned premise, all the theoretical elements presented allow us to formulate a series of theoretical working assumptions, which consider two of the approaching coordinates of political regime durability: one economical and another political one.

The hypotheses are:

H1: The level of political regime durability is growing as the development is higher.
H2: The level of political regime durability is growing as the democracy is stronger or the autocracy is weaker.

In summary, the meanings of the hypothesis' work relations are:

Table no.1 - The sense („the sings") of the hypothesis' work relations

The trend of political regime durability	The determinant factors of political regime durability	The trend of determinant factors of political regime durability
+	1. Development	+
+	2. Form of government - Democracy	+
+	3. Form of government - Autocracy	-

The fundamental assumption is that political regime durability represents a complex phenomenon determined by a couple of factors, such as: economic development and form of governance (democracy or autocracy). The linkages are in the same sense for the economic development and democracy (not autocracy).

3. Methods and results

Starting with the theoretical argues shown, the paper analyzes empirically, in Romania's case, the relationships between political regime durability (dependent variable) and economic development & form of government (independent variables). The analysis is based on the construction of a linear "Probit Model" and the data set is covering the period 1926-2007.

1) The political regime durability (Regime Durability Score - D) is quantified by Marshall & Jaggers [2007] and represents the number of years since the most recent regime change or the end of transition period defined by the lack of stable political institutions.
2) The economic development (per capita GDP - GC) is quantified by Madison [2003] and International Monetary Fund [2009] and suggests the level of economic development as GDP per capita (1990 International Geary-Khamis dollars).
3) The form of government (Combined Polity Score - PR) is taken from Marshall & Jaggers [2007] and the score scale ranges are from +10 (strongly democratic) to -10 (strongly autocratic).

In this study, the value of the independent variables "D score" becomes PD - Probability of Political Regime Durability (the probability that the political regime durability can exceed 4 years or not). PD values are 1 - when the political regime durability is greater than 4 years and 0 - if durability is less than 4 years.

Because the considered independent factors (GC and PR) have different scales of measurement, for a comparative analysis, the levels of variables were normalized:

$$GC,\ PR_{Normalized} = \frac{GC,\ PR_{Max} - GC,\ PR}{GC,\ PR_{Max} - GC,\ PR_{Min}} \quad (1)$$

$$GC_{Normalized} \in [0,1] \quad (2)$$

$$PR_{Normalized} \in [-1,0] \quad (3)$$

In this case, GC=0 indicates a very high level of GDP per capita and 1 an extremely small one. PR= -1 is the level that corresponds to the strongly democratic states and 0 to the ones which have a strongly autocratic regime.

Based on the normalized illustrated variables, the sense of changes existing between probability of political regime durability and its determinant factors, according with theoretical assumptions made above, is as follows:

Table no.2 - The expected sense („the sings") of the relations between PD - GC and PR according to working hypothesis

The probability of political regime durability	The determinant factors of political regime durability	The trend of determinant factors of political regime durability
+	GC	-
+	PR	-

Moreover, I entered a dummy variable - T, which reflects the type of the state (monarchy or democracy). If the state is a monarchy, the dummy is 1, and if the state is a republic, dummy is 0 (in Romania, in the considered sample, the monarchic period covers the interval 1926-1947).

According to Dougherty [2007, 262], in probit estimation, *F(Z)* - the standardized cumulative normal distribution, gives the probability of the event occurring for any value of *Z*:

$$p_i = F(Z_i) \tag{4}$$

Maximum likelihood analysis is used to obtain estimates of the parameters. The marginal effect of x_i is $\frac{\delta p}{\delta x_i}$, which is best computed as:

$$\frac{\delta p}{\delta x_i} = \frac{\delta p}{\delta Z} x \frac{\delta Z}{\delta x_i} = f(Z) x \beta_i \tag{5}$$

where *x* represents the independent variables (GC, PR and T) and β the independent variables coefficients.

In this case, the marginal effect of *Z* on the probability, which will be denoted *f*(*Z*), is given by the derivative of this function with respect to *Z*:

$$f(Z_i) = \frac{1}{\sqrt{2\pi}} e^{-\frac{1}{2}Z^2} \tag{6}$$

As with logit analysis, the marginal effect of any variable is not constant. It depends on the value of *f(Z)*, which in turn depends on the values of each of the explanatory variables. To obtain a summary statistic for the marginal effect, the usual procedure is parallel to that used in logit analysis, basing of the mean values of the explanatory variables.

In the considered case, the Z is:

$$Z_i = PD_i = \alpha + \beta_1 x GC_i + \beta_2 x PR_i + \beta_3 x T_i \tag{7}$$

where α are the intercept term and *i* is the period of time (years 1926-2007).

From 82 included PD observations, 32% is 0 (the political regime durability is less then 4 years) and 67% is 1 (the political regime durability is more then 4 years):

Table no.3 - The PD frequencies in 1926-2007 periods

Dependent Variable: PD
Method: ML - Binary Probit (BHHH)
Date: 06/05/09 Time: 20:25
Sample: 1926 2007
Included observations: 82
Frequencies for dependent variable

Value	Count	Percent	Cumulative Count	Percent
0	27	32.00	27	32.93
1	55	67.00	82	100.00

The econometric tests of the "Probit model" are:

Table no.4 - The econometric tests of the "Probit model PD - GC, PR and T"

Dependent Variable: PD
Method: ML - Binary Probit (BHHH)
Date: 06/05/09 Time: 20:25
Sample: 1926 2007
Included observations: 82
Estimation settings: tol= 0.00010
Initial Values: C(1)=-1.70655, C(2)=-2.05023, C(3)=0.46344
Convergence achieved after 73 iterations
QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
GC	-2.131737	0.623889	-3.416853	0.0006
PR	-2.315238	0.522454	-4.431466	0.0000
T	0.497454	0.411948	1.207565	0.2272

Mean dependent var	0.670732	S.D. dependent var	0.472840
S.E. of regression	0.436112	Akaike info criterion	1.165287
Sum squared resid	15.02527	Schwarz criterion	1.253337
Log likelihood	-44.77676	Hannan-Quinn criter.	1.200638
Avg. log likelihood	-0.546058		

Obs with Dep=0	27	Total obs	82
Obs with Dep=1	55		

The tests of model show the following:

- the absolute values of the standard errors corresponding to the coefficients of the function are lower than the values of the coefficients, witch sustains the correct estimation of these coefficients (a conclusion reinforced by the low values of the probabilities);
- the value of the correlation coefficient - 67.07%, shows a significant statistical correlation between the dependent variable - PD and the independent variables - GC, PR and T;
- the Hannan-Quinn criterion (with a resulting value under the critical point of 2) shows that the residual variables are low autocorrelated.

In base of the model, the expectation-prediction values are:

Table no.5 - The expectation-prediction values of PD in the base of the model

Dependent Variable: PD
Method: ML - Binary Probit (BHHH)
Date: 06/05/09 Time: 20:25
Sample: 1926 2007
Included observations: 82
Prediction Evaluation (success cutoff C = 0.5)

	Estimated Equation			Constant Probability		
	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total
P(Dep=1)<=C	11	0	11	0	0	0
P(Dep=1)>C	16	55	71	27	55	82
Total	27	55	82	27	55	82
Correct	11	55	66	0	55	55
% Correct	40.74	100.00	80.49	0.00	100.00	67.07
% Incorrect	59.26	0.00	19.51	100.00	0.00	32.93
Total Gain*	40.74	0.00	13.41			
Percent Gain**	40.74	NA	40.74			

The estimated model correctly predicts 80.49% of the observations (40.74% of the Dep=0 and 100% of the Dep=1 observations). Overall, the estimated equation is 13.41% points better at predicting responses than the constant probability model.
In conclusion, the model may be considered representative to describe, in Romania, the connection between PD and GC, PR & T.

4. Conclusions

The method for identifying the effect of the GC, PR and T on the probability of PD consists in calculating the marginal effect at the mean value of the explanatory variables. The next table shows the marginal effects, calculated by multiplying *f(Z)* by the estimates of the coefficients of the probit regression.

Table no.6 - The marginal effects of the "Probit model PD - GC, PR and T"

Variable	Mean	β	Mean × β	f(Z)	β x f(Z)
GC	0.739593	-2.13174	-1.57662	0.363592	-0.77508
PR	-0.8094	-2.31524	1.873963	0.363592	-0.8418
T	0.268293	0.497454	0.133463	0.363592	0.18087
Total Z (PD)			0.430809		

Starting from the marginal effects measured on the "probit model" built, we can identify the following remarks:

- an one-point increase in the *GC*, degreases with 77.5% the probability of political regime durability to be more than 4 years;
- an one-point increase in the *PR*, degreases with 84.1% the probability of political regime durability to be more than 4 years;
- an one-point increase in the *T*, increases with 18.08% the probability of political regime durability to be more than 4 years.

We can observe that the results confirm the conclusions of Diamond [1988], Przeworski and Limongi [1991], Resler & Kanet [1993] and Chen [2007], but are in disaccord with the remarks of Robinson [2006]. A novelty is the existence of a significant impact of the type of state (monarchy or republic) on the political regime durability.

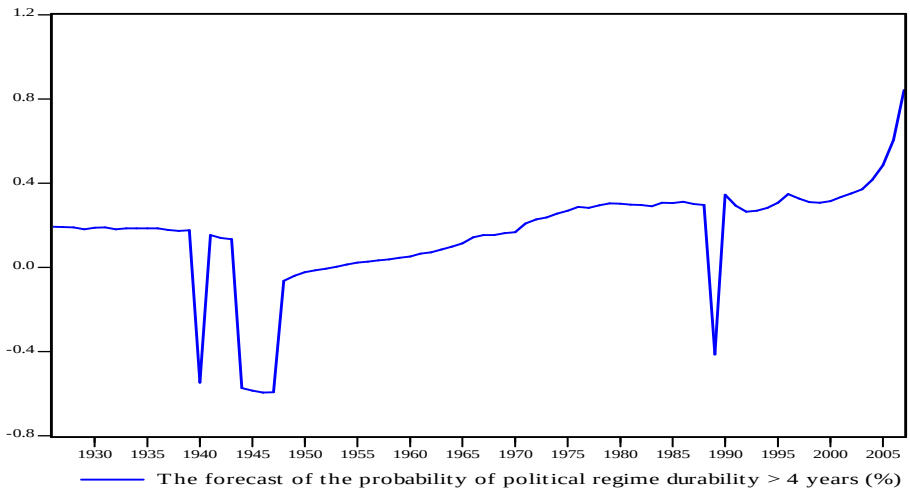
For the analyzed period, in Romania, an augmentation in the level of economic development (GDP per capita) and an increase of the degree of democratization, on a monarchical base, increases the probability of political regime durability to be more than 4 years. Per a contrario, a diminution in the level of economic development (GDP per capita) and an increase of the degree of autocratization, on a republican base, decreases the probability of political regime durability to be more than 4 years.

Between the three determinant factors (GC, PR and T), the most important is the degree of democratization, followed, with a small difference, by the level of economic development and state type (monarchy or republic). We can note that the political stability depend primarily on the political factors and than on the economical determinants ones.

In Romania, political regime longevity is one in which the democratic system is very strong, the economic development is high and the state is organized in the form of monarchy.

According to the econometric results, it appears that only a high level of social welfare, combined with a constitutional monarchy and strong representative democracy, allows premises to ensure a stable political regime. In the same context, political regime instability is treated as a level of reduced social welfare, generated in the republican period, the full power of the state being concentrated in the hands of a single person (autocracy).

The forecast of the probability of the political regime durability to be more then 4 years, in the 1926-2007 period, in Romania, is illustrated in the follow graphic:



Graphic 1. The forecast of the probability of political regime durability > 4 years (%)

Based on the obtained forecast probability, we can observe the existence of the „strong negative shocks" (the probability of the political regime durability to be more then 4 years is practically impossible) in the years: 1940 - the authoritarian King Carol II has abdicated and was succeeded by the National Legionary State, in which power was taken by Ion Antonescu; 1944 - Antonescu was toppled and arrested by King Michael I of Romania; 1947 - the communists forced King Michael I to abdicate and to leave the country, and proclaimed Romania a republic and 1989 - popular uprising against the Ceausescu regime and his fall.

A "strong positive shock" is observed in 1996, in which a coalition of right took the power. From this year, the probability of the political regime stability to be more then 4 years is rapidly growing and culminates in the last year of analysis. Very interesting is the high level evolution of the probability of the political regime stability to be more then 4 years in the communist period, the fact explained by the PR as a form of autocratic-dictatorial government.

The main results show that, in Romania, the political regime longevity is one in which the democratic system is very strong, the economic development is high and the state is organized in the form of monarchy. By exception, a political regime may have longevity even if the political system is dictatorial, the economic development is insignificant and the state organization (monarchy or republic) has minimal influence.

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