Financial crisis, political instability and economic growth

Luděk Kouba, Ladislava Grochová
Mendel University in Brno
Department of Economics
Zemědělská 1, 61300 Brno,
Czech Republic
e-mail: kouba@mendelu.cz; ladislava.grochova@mendelu.cz

Abstract
The new political economics growth theory defines some factors that are necessary for economic growth among which political (in)stability. There are distinguished two types of political instability – elite and non-elite – in topical literature. While non-elite political instability concerns about violent coups, riots or civil wars, elite political instability is represented with "soft changes" such as government breakdowns, fragile majority or minority governments. Recent financial and economic crisis bringing serious features of political instability in many European countries is a challenge to verify and possibly redefine some theoretical concepts. The aim of our paper is to discuss these issues on the example of CEE countries. The paper uses a single-equation model to reject a hypothesis that elite political instability is an insuperable obstacle to economic development. The model has a form of augmented production function and includes growth rates of capital, exports, and labour as independent variables and government changes as an elite political instability dummy variable.

Keywords: new political economy, elite political instability, production function, single equation, Baltic states
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1. Introduction

The growth theory of new political economy considers political stability to be a necessary condition for economic growth. However, we claim that individual countries or even whole regions can experience fast growth rate in politically unstable environment even in the long-run period. It significantly depends on perception of the term *political instability*.

In our opinion, we have to consistently distinguish two types of political instability – elite and non-elite. While non-elite political instability concerns about violent coups, riots or civil wars, elite political instability is represented with "soft changes" such as government breakdowns, fragile majority or minority governments. There is no doubt that successful economic development is not compatible with situation of civil war or anarchy. Nevertheless, the 20-years-lasting experience of the Central and Eastern European (CEE) transition countries confirms that dynamic economic development is achievable also within context of political and institutional transition and frequent government changes.

For our purpose – the study of the relationship between political stability and economic growth, in particular the Baltic states are a remarkable laboratory. The political environment in the Baltic states was highly unstable during the whole transition period even in comparison with most of other CEE countries. Exploring the durability of the Baltic governments, we can see that during the period 1993-2008, Estonia and Lithuania experienced 11 different governments and Latvia no fewer

than 16 different governments. Thus we can claim that the Baltic States suffered from considerable features of political instability. On the other hand, the growth rates in the Baltic states were high. According to United Nations Statistics Division, during the period 1990-2008, the average growth rate in Estonia was 5.1 %, in Latvia 4.9 % and in Lithuania 3.4 %. In addition to that, this period includes the extraordinary deep transition recession in the early 1990s. For comparison, the whole group of industrialized countries grew, on average, only by 1.8 % in the same period. The course of financial and economic crisis in the Baltic states is another very specific story because they were among the most affected countries in Europe. In particular, Latvia entered an economic slump (by 4.6 in 2008 and 18 % in 2009) and the country was forced to draw international financial aid. This begs the question – how has the financial and economic crisis impacted on traditionally unstable political environment in the Baltic states?

Therefore the aim of this paper is to explore and test the relationship between political instability and economic growth by using the case of the Baltic states that is very topical in this context.

2. Growth theory of new political economy

After initial development in the 1980s, a strong wave of new political economy growth theory occured in the first half of the 1990s. These papers especially focused on questions about an importance of political regime and political (in)stability for successful economic development. These topics were not only discussed within new political economy but they were popular among mainstream economists as well. These questions were particularly topical because of geopolitical changes that were connected with break-up of Soviet Union and with follow-up in social and economic transformation of Eastern European countries.

However, this line of research gradually showed to have serious methodological bottlenecks related to mutual causality. A. Przeworski a F. Limogni (1993) mention 21 empirical studies focusing on a relationship between political regimes and economic growth. Their results say: eight studies emphasized advantages of democracy, eight studies point out contributions of autocracies and five studies did not uncover significant differences. It became obvious that vague distinguishing between political regimes is not efficient. Previous problems could hardly help to explain what a real character of political and institutional environment is. Using H. Chang´s terminology (2006), democracy is the only possible form, nevertheless, this form does not automatically guarantee an accomplishment of desirable functions.

The development of the growth theory of new political economy can be shown on texts by D. Rodrik, one of the main proponents of this approach. "Democracy and Economic Performance" that was written in 1997 still deals almost exclusively with the relationship between democracy and economic performance. In the paper from 2000 "Institutions for High-Quality Growth: What They Are and How to Acquire Them", Rodrik calls democracy a metainstitution that ensures a high-quality growth. This paper, however, documents Rodrik´s thematic shift to new institutional economics. The author no longer argues for the significance of institutions because it is indisputable, but answers the questions about what institutions are crucial and how to acquire them. The paper from 2002 "Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development" written with A. Subramanian and F. Trebbi is already fully in the spirit of new institutional economics. The title of this paper implies positively its substance. The authors emphasize the significance of the institutional growth hypothesis. Although they admit the influence of geographical factors and economic integration as well, the quality of institutions is overriding.

As a proof of the evolution of new political economy from the theme in the first half of 1990s to the wider scope of new institutional economics, we can refer to the surveys by J. Aron (2000) and J. Jütting (2003). Their papers present a summary of growth theory contributions whose authors are thematically found at the frontier of both mentioned lines of thought. The other authors who focus on political factors of economic growth are A. Alesina, Ch. Clague, P. Keefer, S. Knack, M. Olson, R. Perotti, T. Persson or G. Tabellini. We especially recommend the remarkable texts by Mancur Olson.

We claim that the significance of the original topics of growth theory of new political economy decreased within wider contemporary economics. Despite it, this line of research still exists.

For example, P. Lindert (2002) asserts that recent research of the relationship between political regimes and economic performance makes important mistake of omitting history. Lindert based his research on broad historical consequences and implies that average democracy is better for economic development than average autocracy. The crucial transmission mechanism is the human capital instead of the property rights and their enforcement.

J. Krieckhaus (2006) adds another extension of the topic. He says that is necessary to integrate the economic growth into regional context. The implementation of democracy would decelerate growth in these regions where social groups traditionally require a substantial redistribution of incomes (Latin America) or where the governmental elites are determined to support a fast industrialization (parts of Asia). From our point of view, similar generalizations at the level of continents are not very convincing. Similarly, we do not agree with Krieckhaus´s claim that a discussion about economic importance of political regime is an important contemporary subject.

H. Doucouliagos and M. Ulubasoglu (2007) use similar methodological approach as Lindert, nevertheless with different results. Besides conventional conclusions (democracy don´t hamper growth, democracy doesn´t have direct effects on growth, however has indirect effects) authors speak about region-specific democracy growth effects. Be in contrast to Lindert´s paper, Doucouliagos and Ulubasoglu find stronger growth effect in Latin America and weaker in Asia.

The second main topic, and from our point of view more perspective issue, of the new political economy the growth theory concerns political instability. First contributions to this theme emerged in the second half of the 1980s, e.g. Vanieris and Gupta (1986). However, the main wave of papers came in the 1990s. Alesina, Ozler, Roubini and Swagel (1996) use in their classical paper a sample of 113 countries from the period 1950-1982. They show that economic growth is lower in countries with high probability of government collapse. Barroand Lee (1994) came to the same conclusion by using data on 116 countries within 1965 to 1985. Similarly, recent papers by Aisen and Veiga (2010) or Qureshi, Ali and Khan (2010) find negative relationship between political instability and economic development. The former uses a sample covering 169 countries, the latter the case of Pakistan.

As far as methodology is concerned, Jong-A-Pin (2006, 2009) offers a survey how to measure political instability and its impact on economic growth. Using a factor analysis, he distinguishes four dimensions of political instability: civil protest, politically motivated aggression, instability within regime and instability of the political regime. Jong-A-Pin questions credibility of political instability single proxies as cabinet changes and call for using of broader indexes of political stability.

Nevertheless, in this paper, we deal with one dimension of political instability that we call elite political instability (it is compatible with Jong-A-Pin´s term instability within regime). Thus, we can mention papers by Aisen and Veiga (2010), Gyimah-Brempong and Dapaah (1996) and Fosu (1992) that use from our point of view equivalent terminology and methodology. On the other hand, all these three papers also end with conventional conclusions: political instability has negative impact on growth.

Aisen and Veiga (2010) test their hypothesis by estimating dynamic panel data models for GDP per capita growth by using a sample covering 169 countries between 1960 and 2004. They describe in detail six explanatory variables – initial GDP per capita, investment (% GDP), primary school enrolment, population growth, trade openness, cabinet changes and two additional variables – inflation rate, government (% GDP). Aisen and Veiga work with both simple proxy (cabinet changes that means elite political instability) and indexes of political instability.

Gyimah-Brempong and Dapaah (1996) and Fosu (1992) use identically with us a single equation model. The methodology using with Gyimah-Brempong and Dapaah differs from ours only in details – they quantify capital as percentage of GDP. Fosu´s methodology is the same as ours (see next chapter). Nevertheless, main general difference of these papers from that ours is that both Gyimah-Brempong and Dapaah (1996) and Fosu (1992) work with a sample of African countries. Therefore it is obvious that they deal especially with non-elite political instability. Moreover, Gyimah-Brempong and Dapaah speak about weakness of the studies that measure political instability as elite or executive change. Whereas we focus on elite political instability that can be observed also in European countries, like in our case.

3. Data and methodology

The econometric analysis is based on nine-year and twelve-year quarterly data (2000Q1–2008Q4 and 2000Q1–2011Q2) collected from Eurostat – European Statistical Office, Conrad and Golder (2010) and the World Bank. The data comprise GDP, investments, exports, number of graduates from a secondary school, fraction of seats held by the government (in the lower house) and number of years that has the chief executive been in office in the Baltic states – Estonia, Latvia, and Lithuania. Our data start in 2000Q1 since not all data before 2000Q1 are disposable and we continue with two time periods in order to distinguish the impact of financial crisis.

Our model is based on augmented production function framework feasible for an investigation of the effects of elite political instability on economic growth. As contemporary thematic literature omits the distinguishing between elite and non-elite political instability, we based our previous research on this papers from the 1980s and 1990s. We follow the ideas of Feder (1983), Fosu (1992), Krueger (1980), Ram (1987) and Aisen and Veiga (2010) including GDP, investments, exports, number of graduates from a secondary school, and various dummy variables as a *proxy* for political instability as independent variables into the growth equation. For example, in Grochová and Kouba (2011), we used the number of government changes as a dummy variable. However, under this condition the long-run effects of elite political instability represented with a dummy (examined with co-integration analysis) cannot be estimated.

Therefore for our purposes, it is convenient to use a continuous political variable in order to employ it in a co-integration analysis. Probability of a government fall is then obtained from an estimation of a probit regression that has a following form:

$$PI_{it}^* = \beta_0 + \beta_1 \, yrsoff_{it} + \beta_2 govratio_{it} + e_{it} \qquad (1)$$

Where *yrsoff* represents a number of years that has the chief executive been in office, *govratio* stands for a fraction of seats held by the government(in the lower house), and *e* is a stochastic error term. Once obtained elite political instability variable, i.e. probability of a government fall, we can continue with an estimation of effects of this variable on economic growth. For this purpose we use augmented production function of the following form:

$$y_{it} = \alpha_0 + \alpha_1 k_{it} + \alpha_2 l_{it} + \alpha_3 x_{it} + \alpha_4 PI_{it}^* + \varepsilon_{it} \, , \qquad (2)$$

where*y*, *k*, *l*, and *x* are GDP, investments, labour, and exports respectively; *PI* is an elite political instability obtained from probit model, α_0 is an intercept, and ε is a stochastic error term.

Since k, l, and x are normal inputs, positive signs are expected. In particular, as for investments (k) a positive coefficient is expected. Mankiw et al. (1992) demonstrated that greater investments are positively correlated to GDP growth. Next determinant of GDP in our model are exports (x). The role of exports seems to be predominantly positive in most studies (Feder, 1983; Krueger, 1980; Tyler, 1981). According to the growth theory (for example Mankiw et al., 1992), the accumulation of human capital is an important contributor to economic growth. A number of graduates from a secondary school (l) can be seen as a *proxy* for human capital accumulation, so again a positive sign of the parameter should result. Inspiring us by recent literature focused on the impact of political instability on economic development (Aisen and Veiga, 2010; Fosu, 1992 who use cabinet changes as a *proxy* for elite political instability), we extend this approach calculating the probability of a cabinet change obtaining so a continuous political variable to assess its impact on economic growth. In contrast with majority literature (Alesina et al., 1996; Darby et al., 2004; Jong-a-Pin, 2009) in our case we expect no impact of elite political instability, hence, elite political instability in our point of view cannot prevent from economic development, other factors being more important for economic growth.

The data are tested for panel for unit root and co-integration, consequently we apply the DOLS method with Newey-West standard errors for estimation.

4. Results and discussion

First, we need to estimate the probabilities of a government fall for all periods. For this purpose, probit regression is estimated as reported in Table 1.

Table 1: Probit regression - probability of a government fall

PI	coefficient
yrsoff	-0.034 (0.025)*
govratio	1.533 (1.053)
intercept	-1.609 (0.866)*

Once having obtained the political variable, we can continue with the analysis of an impact of elite political instability on economic growth.

Generally, using time series that are not stationary may lead to spurious results (Enders, 1995). To control for stationarity we apply the Augmented Dicky-Fuller test. Our time series are I(1) processes resulting from the fact that the null hypothesis of no stationarity (a variable contains a unit root) cannot be rejected at 1% level. Nevertheless, the data are stationary in the first differences (see Table 2).

Table 2: Unit root test for unitary panels

Country	Variable	Levels		1st differences	
		ADF	Critical value (1%)	ADF	Critical value (1%)
Estonia	y	-1.767	-3.682	-18.715	-3.689
	k	-1.855		-7.889	
	l	-3.346		-7.531	
	x	-1.691		-10.841	
	PI*	-2.488		-6.376	
Latvia	y	-2.832	-3.682	-8.554	-3.689
	k	-2.680		-6.219	
	l	-6.519		-15.399	
	x	-1.678		-6.959	
	PI*	-2.317		-6.236	
Lithuania	y	-1.456	-3.682	-6.048	-3.689
	k	-2.419		-6.086	
	l	-2.487		-5.799	
	x	-1.506		-7.098	
	PI*	-1.963		-2.788	

Examining more countries, it is convenient to make a panel analysis.[1] The presence of a unit root in the series may foreshadow a panel unit root. This is verified with several panel unit root tests as Multivariate augmented Dickey-Fuller (MADF), Levin-Lin-Chu (LLC), Im-Pesaran-Shin (IPS) panel unit root test, Hadri panel stationarity test. Optimal lag length order is chosen according to Akaike information criterion (AIC). This information criterion seems to be appropriate because the probability of under estimated the true order is the lowest one among other information criterions for whatever size of sample (Liew, 2004).

In order to test stationarity, we perform the multivariate augmented Dickey-Fuller (MADF) panel unit root test (Sarno and Taylor, 1998). It generalizes Abuaf and Jorion´s test (1990) estimating a single autoregressive parameter over the panel. The MADF tests the null hypothesis that all time-series in the panel are I(1) processes. The MADF allows for higher order serial correlation in the series

[1] Among advantages of panel analysis can be considered more variability, less collinearity, more degrees of freedom that give more efficient estimates, information about individual dynamics and time-ordering analysis, possibility to control for individual unobserved heterogeneity (Brüderl, 2005).

and allows the sum of autoregressive coefficients to vary across panel units under the alternative hypothesis (Baum, 2001).

Then the Levin, Lin, Chu (LLC) test (Levin, Lin and Chu, 2002) is employed that is considered as a pooled augmented Dickey-Fuller test when lags are included (these allow for serial correlation in the errors). It allows heterogeneity of individual deterministic effects and heterogeneous serial correlation structure of the error terms assuming homogeneous first order autoregressive parameters (Barbieri, 2005). The model providing two-way fixed effects being part of two parameters that allow for heterogeneity. However, the test suffers from the fact that independence across units of panel is supposed while a cross sectional correlation may be present across units of panel. Another weakness can be seen in autoregressive parameters that are assumed to be identical across the panel (Barbieri, 2005).

The latter limitation inspired Im, Pesaran, and Shin (2003) to extend the LLC test allowing heterogeneity (the lagged dependent variable differs among individuals). Assuming balanced panel (i.e. the same length of the series across individual countries) it tests under the alternative that only a fraction of a panel contains unit roots (in contrast to previous tests that all series are stationary being the alternative).

Finally, the Hadri test (2000) is performed. In contrast to all previous tests, Hadri test has the null of stationarity, i.e. variance of the random walk equals to zero. It allows to test heterogeneous panel data. The error process may be assumed to be homoskedastic across the panel, or heteroskedastic across units. Serial dependence in the disturbances can also be taken into account using a Newey-West estimator of the long run variance.

As shown in the Tables 3 and 4, all variables except for l are non-stationary in levels and stationary in the first differences which is confirmed by the abovementioned unit root tests.

Table 3: Panel unit root tests for non-stationarity

	MADF				LLC				IPS			
	Critical value (5%)	levels	Critical value (5%)	1st difference	Critical value	levels	Critical value	1st difference	Critical value (1%)	levels	Critical value (1%)	1st difference
y	24.699	7.917	25.065	24.699	0.90690	-1.613 (0.8178)	-6.89766	-10.969 (0.0000)	-2.430	-1.136 (0.771)	-2.430	-5.758 (0.000)
k		12.769		142.974	-0.58598	-2.692 (0.2789)	-8.83351	-11.451 (0.0000)		-1.564 (0.466)		-6.280 (0.000)
l		61.908		362.438	-1.73725	-4.335 (0.0412)	-4.52846	-8.261 (0.0000)		-2.395 (0.045)		-4.611 (0.000)
x		8.744		194.990	-0.83014	-3.110 (0.2032)	-1.90050	-7.061 (0.0287)		-1.729 (0.343)		-3.909 (0.000)
PI*		15.286		99.707	-1.12492	-3.583 (0.1303)	0.40734	-6.587 (0.6581)		-2.046 (0.155)		-3.513 (0.000)

p-values in parentheses

Table 4: Hadri test for stationarity

		Hadri			
		levels		1st difference	
		Z(mu)	Z(tau)	Z(mu)	Z(tau)
y	homoskedastic disturbances across units	31.511 (0.0000)	15.659 (0.0000)	-1.160 (0.8769)	-1.936 (0.9736)
	heteroskedastic disturbances across units	30.104 (0.0000)	7.389 (0.0000)	-1.248 (0.8939)	-1.977 (0.9760)
	controlling for serial dependence in errors	6.620 (0.0000)	4.612 (0.0000)	0.303 (0.3809)	0.095 (0.4621)
k	homoskedastic disturbances across units	24.019 (0.0000)	17.136 (0.0000)	-0.454 (0.6750)	-1.452 (0.9268)
	heteroskedastic disturbances across units	23.856 (0.0000)	10.352 (0.0000)	-0.288 (0.6132)	-1.204 (0.8856)
	controlling for serial dependence in errors	5.126 (0.0000)	4.754 (0.0000)	1.121 (0.1311)	0.613 (0.2700)

l	homoskedastic disturbances across units	6.143 (0.0000)	15.228 (0.0000)	-0.510 (0.6949)	-1.058 (0.8551)
	heteroskedastic disturbances across units	5.256 (0.0000)	9.180 (0.0000)	-0.985 (0.8377)	-1.541 (0.9384)
	controlling for serial dependence in errors	0.770 (0.2208)	3.445 (0.0003)	0.341 (0.3665)	0.709 (0.2391)
x	homoskedastic disturbances across units	34.401 (0.0000)	13.387 (0.0000)	-1.190 (0.8830)	-1.487 (0.931)
	heteroskedastic disturbances across units	33.490 (0.0000)	11.461 (0.0000)	-1.127 (0.8702)	-1.477 (0.9302)
	controlling for serial dependence in errors	7.045 (0.0000)	3.212 (0.0007)	-0.307 (0.6206)	0.271 (0.3932)
PI*	homoskedastic disturbances across units	20.151 (0.0000)	6.682 (0.0000)	-0.012 (0.5049)	-0.116 (0.5460)
	heteroskedastic disturbances across units	15.877 (0.0000)	5.053 (0.0000)	-0.400 (0.6554)	-0.357 (0.6393)
	controlling for serial dependence in errors	4.582 (0.0000)	1.730 (0.0418)	0.665 (0.2529)	1.147 (0.1256)

p-values in parentheses

If the variables involved are integrated of order one – I(1), i.e. non-stationary – valid inferences can be drawn only if these relations are co-integrating ones, otherwise spurious results would follow (Christopoulos and Tsionas, 2004). Even if differencing data is a useful transformation preventing from spurious results (Enders, 1995) long-run information may be lost. This is a motive why we continue with co-integration analysis. It is based on the idea that even if time series are non-stationary, linear combinations of these series might be stationary. So information about a presence of co-integrating vector is necessary for a study of long-run relationships.

First we employ Westerlund error-correction-based panel co-integration test (see Table 4) which has good small-sample properties and high power relative to popular residual-based panel co-integration tests (e.g. Pedroni, 2004). It comprises the four panel co-integration tests (Westerlund, 2007) that are able to accommodate serially correlated error terms, country-specific intercept and trend terms, and country-specific slope parameters. The G statistics regard the null hypothesis of no co-integration for all cross-sectional units against the alternative that there is co-integration for at least one cross-sectional unit and the P statistics relate to the null of no co-integration for all cross-sectional units against the alternative of co-integration for all cross-sectional units (Persyn and Westerlund, 2008). As reported in Table 5, the null of no co-integration can be rejected implying existence of co-integrating vector for the period of 2000Q1-2008Q4. The second time period deos not result to be co-integrated implying no long-run relationship among included variables.

Table 5: Westerlund error-correction-based panel co-integration test
H0: no co-integration

statistics			
Gt	Ga	Pt	Pa
-3.149 (0.024)	-14.923 (0.110)	-5.235 (0.027)	-13.930 (0.032)

p-values in parentheses

In the first case, the presence of a co-integration vector is verified so we can continue with an estimation of a long-run relationship among the variables in a panel framework.

It is demonstrated that the OLS estimation of co-integration regression is biased due to serial correlation and endogeneity (Aslan, 2008). The panel OLS estimator is asymptotically normal but with a non-zero mean. For this reason, Kao and Chiang (2000) proposed to use fully modified (FMOLS) or dynamic (DOLS) estimators in panel data estimation. While FMOLS is used to non-parametric correction of the endogeneity and serial correlation to the OLS estimator, the DOLS employs „the future and past values of the differenced explanatory variables as additional regressors" (Aslan, 2008). Both approaches consider the potential endogeneity of involved variables. Kao and Chiang (2000) revealed that DOLS is superior to OLS and FMOLS for panels up to N = 60 and T = 60. This is the reason why we continue with DOLS (see Table 6).

Table 6: Dynamic ordinary least square model

y	Coefficient
k	0.319 (0.960)***
l	0.533 (3.457)***
x	0.319 (2.159)***
PI	0.100 (0.946)***
Wald chi2	1122.72 (0.0000)[a]
R-squared	0.8836
Observations	108

Standard errors in parentheses
** significant at 10%; ** significant at 5%; *** significant at 1%*
[1] p-value in parentheses

As we can see from the Table 6, all dependent variables result as expected, i.e. with positive signs which confirm positive contribution of secondary educated population, investments and exports to economic growth. The elite political instability variable has only a minor impact on economic growth. Considering, however, very high standard errors, the results cannot be interpreted without problems. High standard errors and high R-squared can be caused by a multicollinearity problem which is confirmed with multicollinearity statistics (see Table 7):

Table 7: Multicollinearity Diagnostics

Variable	VIF	Tolerance	R-squared
y	27.76	0.0360	0.9640
k	5.29	0.1891	0.8109
l	11.87	0.0843	0.9157
x	4.51	0.2216	0.7784
PI	1.60	0.6242	0.3758
Mean VIF	10.21		

Because of problems with standard errors we perform also Wooldridge test for autocorrelation the null hypothesis being that of no first order autocorrelation. Wooldridge test yields F-statistics F(1, 2) = 24.277 that rejects the null at 5% of statistical significance.

Last, but not least, test concerning about heteroskedasticity must be performed. First, we employ the test for heteroskedasticity only and then we augment it with an assumption of previously revealed autocorrelation. Likely-hood-ratio test is performed. The null hypothesis that the models assuming homoskedasticity and heteroskedasticity are not identical cannot be rejected implying heteroskedasticity in our panel data. Heteroskedasticity and autocorrelation make the previous estimation inconsistent.

Hence the standard errors are non-standard, it is not appropriate to use them for hypothesis testing. To deal with the efficiency problem, in order to correct the standard errors we

use heteroskedastic and autocorrelation consistent (HAC) standard errors, i.e. Newey-West standard errors (see Table 8). The Newey-West variance estimator represents an extension performing consistent estimations when heteroskedasticity and autocorrelation are present (Newey and West, 1987).

Table 8: Dynamic ordinary least square regression with Newey-West standard errors

y	Coefficient
k	0.323 (0.031)***
l	0.533 (0.024)***
x	0.332 (0.025)***
PI	0.122 (0.036)***
constant	0.029 (0.128)
F-value	635.000 (0.0000)[a]
Observations	108

Newey-West standard errors in parentheses
** significant at 10%; ** significant at 5%; *** significant at 1%*
[1] p-value in parentheses

Dynamic ordinary least square regression with Newey-West standard errors deals with the previously identified problems. The resulting parameters remain almost the same as in the previous estimation. An improvement can be noticed in (Newey-West) standard errors that are much smaller confirming lower variability between individuals when it is controlled for heteroskedasticity and autocorrelation.

Consistent with expectations, the coefficients of k, l, and x are all positive and all statistically significant at 1% level implying positive and significant contribution of these variables in economic growth. The impact of independent variables on economic growth is approximately the same as in Aisen and Veiga (2010), Fosu (1992), Gyimah-Brempong and Dapaah (1996) or Jon-A-Ping (2008). More importantly, elite political instability results to have only a minor (and even) positive contribution to economic growth as described in our hypothesis, i.e. elite political instability only negligibly accelerates economic growth. In other words, we show that effects of elite political instability on economic growth, if any, cannot be generalized and exaggerated emphasizing and preferring them to other more influential factors of economic development (e.g. productivity of labour). Since our results demonstrate that elite political instability cannot be considered as a barrier to economic growth, we cast a doubt on the generality of other studies´ conclusions that elite political instability is a necessary condition to economic development. We also emphasize the necessity of distinguishing elite and non-elite political instability, hence non-elite political instability may imaginarily intensify the effects of elite political instability that are, in fact, negligible.

5. Conclusion

Political instability is a traditional topic of the new political economy growth theory. The thematic literatures usually distinguish two kinds of political instability: non-elite political instability (violent coups, riots, revolutions, civil wars) and elite political instability (cabinet changes, government crises, instability because of minority governments). Our literature review shows that both non-elite and elite political instability is often argued to be a serious obstacle to economic development. We don´t question the importance of general political stability, nevertheless, we don´t agree that – elite – political instability is an insuperable obstacle to prosperity. To demonstrate that the elite political instability is not an essential condition for economic growth was the purpose of the paper.

Our argumentation is based on following assumptions about the extent of political stability within the group of successful transition countries. The Visegrad states, Slovenian and the Baltic states are stable and safe democratic countries without threats of civil wars or violent coups. Nevertheless, they suffer from different kinds of elite political instability much more intensively than Western countries. Despite it, they have grown extraordinarily fast since 1990. All these assumptions are

significantly valid in case of the Baltic countries where we could observe especially high growth rates during the last two decades, moreover, in an environment of very frequent government changes.

Focusing on the Baltic states, we used a single-equation model based on augmented production function including GDP on the left handside of the equation and investments, exports, a number of graduates from a secondary school, and the probability of government fall as independent variables. The data were tested for stationarity. Being non-stationary it was continued with long-run analysis employing co-integration analysis. Because of problems with heteroskedasticity, multicollinearity and autocorrelation we used dynamic ordinary square panel regression with Newey-West variance estimator. The estimation confirms standard contributions of secondary educated population, investments and exports to economic growth, and more importantly we provide the evidence that the elite political instability is not the crucial problem that hampers economic development.

For the future research we suggest to focus on political variable since it is less statistically significant (10% level) which we see as a key for the study of the period 2000Q1–2011Q2.

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