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**EU REFERENDA IN THE BALTICS:
UNDERSTANDING THE RESULTS AT THE REGIONAL LEVEL**

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Abstract

The papers analyses regional differences in EU referenda results in Estonia, Latvia, and Lithuania. In each of the three countries, other things being equal, high income regions were significantly more pro-European than low-income ones, while regions with a high share of ethnic minorities were significantly more opposed to the enlargement than other regions. The ethnic effect was strongest in Latvia and weakest in Estonia. These findings clearly indicate necessity of stronger efforts both in integration of the Baltic societies and in the promotion of reliable EU information, especially in less developed regions. On the other hand, we confirm the findings from earlier referenda that support from EU membership does not come primarily from regions and groups that are likely to benefit from EU-wide redistribution. In Latvia and Estonia the regions bordering with Russia or Belarus were substantially less in favour of EU membership than other regions (controlling for ethnic composition and economic factors). In Latvia, regions on the borders with EU accession countries were significantly more pro-European than other regions.

Keywords: European Union, European integration, cross-border development, ethnic minorities, regional income differentials.

JEL Categories: D72, J15, P52, R1.

Introduction

National voting in the Baltic states on joining the European Union revealed substantial differences both between countries and between the regions within each of the three countries. Latvian citizens were the most active (the Latvian turnout was 72.5% as compared with 63-64% in Estonia and Lithuania), while Lithuanian voters, with 91% voting Yes, were, on average, much more pro-European than voters in Estonia and Latvia, where one out of three voted No.

Table 1 summarises the break-down of the results by regions (15 counties and two largest cities in Estonia, 7 main cities and 26 districts in Latvia, 60 municipalities in Lithuania)¹. The biggest regional variation is found in Latvia, from a clear No (just 31% of votes in favour of enlargement in the second largest city, Daugavpils) to a firm Yes (more than 75% votes for enlargement in as many as 17 regions, with a maximal result of 83%). In Estonia results fluctuate between a definite, yet not overwhelming, Yes of 57% in Ida-Viru county to 72.6% in the city of Tartu. The two *least* pro-European Lithuanian municipalities (Visaginas with 78% voting Yes and Vilnius district with 81%) would be at the top of the Estonian list and almost as much in favour of enlargement as the most pro-European Latvian districts; the top result in Lithuania was as high as 95%. In both Estonia and Lithuania the gap between the highest and the lowest result is smaller than in Latvia but still substantial at 15 to 16 percentage points.

What are the reasons behind the regional differences in attitudes towards joining the EU? Why, for instance, did Latgale (which includes eight NUTS 4 regions in the east of Latvia) vote against (only 48% Yes on average), while the rest of Latvia 70% voted in favour of the EU? Is it because of the high proportion of ethnic Russians and other non-Latvians in Latgale (54% compared to 37% elsewhere), or is it because of relatively low wages and high unemployment rates? Did closeness to the Russian border play a role? More generally, to what extent have attitudes driven by rational (or irrational?) expectations of economic gains and losses, by geography and by political sentiments?

Potential explanations

In Latvia the 'Russian factor' is popularly regarded as an important cause of the regional difference in voting outcomes. The ethnic composition of population may matter for several reasons. Firstly, the occupational (especially in Lithuania) and sectoral (especially in Latvia

¹ These correspond to the NUTS 4 regions in the Baltic states. NUTS is the EU acronym for different territorial/administrative levels and stands for 'Nomenclature des Unites Territoriales Statistiques'. Each of the Baltic states corresponds to a NUTS 2 region at the European level.

and Estonia) composition of employment for ethnic minorities is not the same as for the majority ethnic groups (see Table 2). Secondly, current political tensions around the forthcoming language reform of secondary education in Latvia, together with the still far from completed naturalisation process in both Latvia and Estonia, might result in a ‘protest vote’ against the EU just because of the government campaign in favour (such plans were explicitly announced by some organisations in Latvia). Thirdly, the different language groups in each country have been exposed to different information concerning their prospects after accession. In Latvia, for instance, most of the Russian language printed media were clearly campaigning against. On the other hand, some of the best information (e.g. the materials prepared by the Bank of Latvia) were either not distributed in Russian or it was done in the very last moment. Finally, arguments in favour of the EU based on a potential threat from Russia, that were intensively used by the Latvian political elite, were emotionally unappealing to ethnic Russian voters.

As to economic factors, regional differences in prosperity may generate different expectations. Wage levels and unemployment rates may correlate with expectations, but the direction of these effects is not clear a priori: depressed regions stand to benefit most from the European structural funds, while the advantages of the single market, at least in the short run, are more likely to be exploited by the successful regions. On top of this, residents of depressed regions might be less inclined to vote “as the government wants.”

Finally, there may be special factors at work in border regions. Regions bordering with existing EU or new member states may anticipate that accession will generate more beneficial cross-border activities; on the other hand, some groups of border and custom staff stand to lose illegal income. In regions bordering with Russia and Belarus people should expect that the border will become even “harder”.

Econometric analysis

Econometric analysis permits the isolation of the effects of ethnic, economic, demographic and geographic factors on voting behaviour. Here we report the results of multivariate econometric analysis of the determinants of both voting results and turnover by region in each of the three Baltic countries.

Table 3 summarises the key variables used in the analysis. All three countries feature strong regional variation in the ethnic composition of population, income and unemployment rates. The share of the “minority” population (non-Estonians, non-Latvians, non-Lithuanians) in some regions reaches 80% in Estonia, 83% in Latvia and 90% in Lithuania. Maximum income exceeds minimum by a factor of 2 in Estonia and by 2.5 in Latvia and Lithuania (range of log income 0.6 and 0.9 respectively). Regional unemployment rates vary from 8% to 21% in Estonia, from 4% to 28% in Latvia and from 4% to 20% in Lithuania².

The results of the analysis are presented in Tables 4-6. In each of the three countries, regions with high proportions of minority population were significantly less in favour of joining the EU, other things being equal, and also featured lower voter turnout. The ethnic effects were strongest in Latvia, where a 10 percentage point difference between districts in the proportion of non-Latvians resulted in a 5 to 7 percentage point difference in voting results, while in Estonia such a difference in ethnic composition led to a 0.5 to 0.8 point difference in results. In Latvia Russians were more opposed to the enlargement than other minorities; other minorities, however, were less active than Russians, especially in the cities. In Lithuania a 10 percentage point difference in the share of ethnic Russians (respectively, Poles) resulted in a 2.7 (respectively, 1.2 to 1.3) percentage points lower proportion of Yes votes; other minorities did not significantly affect the results.

In all three countries income had a positive and highly significant effect both on voting results and on turnout. In Estonia a 10 percent higher regional income implies, other things being equal, a 2 percentage point higher proportion of votes in favour for EU; in Lithuania this effect is only half as strong, while in Latvia it was slightly stronger than in Estonia (2.5 points).

Unemployment effects are less robust and differ across countries. In Estonia (respectively, Latvia) a 10 percentage points higher unemployment rate implied, other things being equal, about a 5 percentage points higher (respectively, 2 percentage points lower) proportion of Yes votes, but these effects were significant only at a 10% level and in Lithuania the

² The income and unemployment measures used in the analysis differ slightly across countries. Only registered unemployment rates are available at the NUTS 4 level in Latvia and Lithuania (these rates refer to the month before the referendum), while for Estonia we have Labour Force Survey rates from 2001 (later data were not available at county level). For Estonia average disposable income per household member was used as the income variable, while for Latvia and Lithuania average gross monthly wages were used. Hereafter these indicators are referred to as “unemployment” and “income” for all countries.

unemployment effect was not significant at all. In Latvia unemployment also had a significant (negative) effect on turnout.

Population density or share of urban population was controlled for in most of the models, but only in Lithuania this was a significant determinant of turnout and voting results (more urbanised regions were more active and more pro-European, but the size of the effect was small).

Border region effects are quite interesting. In Estonia and Latvia, after accounting for economic and demographic factors, regions having land border with Russia or Belarus showed 4 to 5 percentage points less votes in favour of enlargement than regions without borders with foreign countries. However, regions bordering with Baltic neighbours (and in the event of positive referendum results, bordering with the EU) in Latvia gave 2 percentage points more Yes votes. In Estonia counties on the Latvian border did not vote differently from the inner counties, while in Lithuanian districts on the Latvian border the positive vote was 1.8 percentage points lower than elsewhere, other things being equal. This is a curious result – are Lithuanians less eager to join Latvians than Latvians to join Lithuanians? Given that cross-border flows of people and goods from Latvia (and, implicitly, from Estonia) to Lithuania were directed towards EU, customs and border-guards had somewhat asymmetric roles on the two sides of the border, and there could be more people on the Lithuanian side expecting loss of legal and/or illegal border-related income.

Lithuanian districts on the borders with Poland and Belarus, taken separately, did not differ significantly from the inner districts, but when all border regions (including the ones on the Latvian border but excluding the ones next to the Kaliningrad oblast of Russia) are taken together, they appear to be significantly (1.6 percentage points) less pro-European than the other municipalities.

In each of the countries we have found some regions where the behaviour of voters was significantly different from the general pattern. The most striking example is the city of Liepāja in Latvia, where, depending on the other controls used, turnout was 3.5 to 5 percentage points higher and the vote in favour of the EU was 17 to 19 percentage points higher than elsewhere. Is it chance or has the fact that Liepāja is the home city of current Latvian Prime-Minister, Einarš Repše, played a role? In Estonia, Tartu County delivered about 4.5 percentage points above expected proportion of votes in favour, most likely because

of the large population of students in the city of Tartu. Ignalina district, the location of Lithuania's nuclear power station, has the highest average earnings in Lithuania, but the proportion of Yes votes was one of the lowest in the country (10 percentage points below expected). In Vilnius, the Lithuanian capital, the results were much the same as the national average, while the high wages in the capital city should have generated a 3 percentage point higher vote.

Concluding remarks

The main results of the analysis are that in each of the three Baltic Countries, other things being equal, high income regions were significantly more pro-European than low-income ones, while regions with a high share of ethnic minorities were significantly more opposed to the enlargement than other regions. The ethnic effect was strongest in Latvia and weakest in Estonia. These findings clearly indicate necessity of stronger efforts both in integration of the Baltic societies and in the promotion of reliable EU information, especially in less developed regions. In Latvia and Estonia the regions bordering with Russia or Belarus were substantially less in favour of EU membership than other regions (controlling for ethnic composition and economic factors). In Latvia, regions on the borders with EU accession countries were significantly more pro-European than other regions.

By accounting for ethnic and geographic factors our analysis extends the results of Doyle and Fidrmuc (2003) for Poland, Czech Republic, Hungary, and Estonia. We have confirmed their finding that the support for EU membership does not come primarily from regions and groups that are likely to benefit from EU-wide redistribution.

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**Table 1. Referendum on joining the EU in the Baltic countries:
Results by regions**

		Percent				
		National Average	Unweighted Mean	Std. Dev.	Min	Max
Estonia	Turnout	64.1	62.5	3.4	55.9	69.0
(15 counties and Tallinn)	Yes vote	66.8	65.3	4.0	57.0	70.5
Latvia	Turnout	72.5	70.9	5.5	60.2	81.4
(26 districts and 7 cities)	Yes vote	67.0	69.4	13.3	31.0	83.1
Lithuania	Turnout	63.4	63.3	5.7	37.3	79.8
(60 municipalities)	Yes vote	91.1	90.4	3.5	78.4	95.2

Source: Author's calculation based on official results (<http://web.cvkk.lv>; <http://www.vrk.lt>; <http://vvk.ee>.)

**Table 2. Occupational and sectoral composition of full-time employees
in the Baltic Countries, 2000: dissimilarity index^a
between the main ethnic group and minorities**

	Estonia	Latvia	Lithuania
Ethnic groups by occupations ^b	0.15	0.11	0.29
Ethnic groups by economic activities ^c	0.26	0.21	0.14

Notes: ^a Dissimilarity index is a number between 0 and 1, with 0 indicating equal distribution of ethnic groups among occupations (resp. activities), and 1 indicating complete segregation. It shows the minimal proportion of minority employees which have to change occupation (resp., sector of activity) in order to make occupational (sectoral) distributions of the two groups equal.

^b Nine major groups of occupations according to ISCO. ^c 15 broad sectors (A, B,...,O) according to NACE.

Sources: Labour Force Survey data and author's calculations.

**Table 3. Variation of selected demographic, socio-economic and geographic indicators
by NUTS 4 regions in the Baltic Countries**

Estonia (16 regions)					Latvia (33 regions)				Lithuania (60 regions)			
	Std.				Std.				Std.			
	Mean ^a	Dev.	Min	Max	Mean ^a	Dev.	Min	Max	Mean ^a	Dev.	Min	Max
minority pop., %	16.9	20.1	1.6	79.9	31.4	18.8	8.0	83.9	11.4	20.0	0.4	89.6
Russian pop., %					20.9	14.5	3.3	55.1	4.1	7.7	0.24	52.4
Other min. , %					10.5	6.6	3.7	28.8				
Polish pop., %									4.9	13.9	0.02	79.5
income ^b (log)	10.2	0.17	9.9	10.5	4.8	0.17	4.5	5.4	6.7	0.15	6.5	7.4
unempl. rate ^c , %	12.7	3.9	7.8	20.5	11.6	6.5	4.3	28.0	10.8	4.3	3.9	20.2
urban pop., %	48	22	15	100	49	30	6	100	50	26	4	100
density	183	623	10	2517	325	675	6	2465	278	701	14	3225
border regions with	Russia				Latvia				Lithuania			
number of regions	3				4				10			
	Russia				Latvia				Lithuania			
	3				4				10			

Notes: ^a Unweighted means. ^b Estonia: Average disposable income per household member in 2002, EEK; Latvia and Lithuania: Average gross monthly wages (LVL, 2000 and LTL, 2001 respectively). ^c Estonia: LFS data, 2001; Latvia and Lithuania: registered unemployment (September 1 and July 1, 2003 respectively).

^dEstonia. ^e Russia. ^f Belarus. ^g Lithuania. ^h Poland.

Sources: Statistical Office of Estonia (2003), Central Statistical Bureau of Latvia (2003a, 2003b), Statistical Department of Lithuania (2003a, 2003b), www.nordregio.se/nordregio_maps_regional, and author's calculations.

Table 4. Determinants of voting results and turnout in Estonia
(standard errors in parentheses)

	Yes vote, %			Turnout, %	
minority ^a population, %	-0.083** (0.035)	-0.057*** (0.015)	-0.052 (0.033)	-0.054** (0.018)	-0.050*** (0.016)
income ^b (log)	30.31** (10.27)	19.92** (7.93)	17.22*** (5.17)	10.60 (6.30)	19.52*** (3.04)
unemployment rate ^c , %	0.65* (0.35)	0.55* (0.28)	0.50* (0.25)	-0.07 (0.24)	0.10 (0.20)
border with Russia ^d		-4.40*** (1.30)	-4.66*** (1.163)	-1.97 (1.15)	
Tartu		4.34*** (0.98)	4.68*** (1.38)	-1.32 (0.82)	
population density (log)	-0.87 0.99	-0.41 (0.53)		0.84* (0.42)	
urban population, %			-0.018 (0.041)		
constant	-247.12** (105.72)	-141.46 (82.87)	-113.90* (55.10)	-45.88 (65.98)	-136.58*** (32.98)
Observations	16	16	16	16	16
R-squared	0.665	0.868	0.867	0.852	0.800
Std. error of estimate	2.682	1.862	1.866	1.689	1.682

Notes: ^a Non-Estonians. ^b Average disposable income per household member in 2002, EEK.

^c Labour Force Survey data, 2001. ^d 1 for counties having land border with Russia, 0 otherwise.

*, **, *** - coefficients different from zero at 10%, 5%, 1% significance level respectively.

Source: Author's calculations based on socio-economic data by 15 counties and city of Tallinn (Statistical Office of Estonia, 2003) and official referendum results (Estonian National Electoral Committee, 2003)

Table 5. Determinants of voting results and turnover in Latvia
(standard errors in parentheses)

	Yes vote, %			Turnout, %	
Russian population, %	-0.73*** (0.07)	-0.68*** (0.11)	-0.74*** (0.04)	-0.18* (0.10)	-0.08** (0.04)
other minority ^a population, %	-0.46*** (0.13)	-0.46*** (0.13)	-0.45*** (0.08)	-0.30*** (0.09)	0.04 (0.04)
average wage ^b (log)	23.65*** (3.35)	24.26*** (3.57)	25.05*** (1.63)	9.11*** (3.05)	8.72*** (2.31)
unemployment rate ^c	-0.21* (0.12)	-0.26* (0.15)		-0.10 (0.16)	-0.22** (0.09)
border with Russia or Belarus ^d			-4.95*** (1.03)		
border with EU ^e			2.22** (1.00)		
Liepaja	18.17*** (1.54)	19.07*** (2.50)	17.48*** (0.89)	3.57** (1.72)	5.04*** (1.00)
Riga region (excl. Riga) ^f				8.15*** (1.31)	7.11*** (1.38)
population density (log)		-0.6 (1.02)		1.72** (0.83)	
urban population, %	-0.01 (0.03)				0.16*** (0.04)
(urban population %)× (other minority pop. %)					-0.0067*** (0.0017)
constant	-20.83 (15.43)	-22.40 (15.31)	-30.75*** (7.57)	28.55** (14.89)	28.64** (11.57)
Observations	33	33	33	33	33
R-squared	0.96	0.96	0.98	0.80	0.86
Std. error of estimate	3.04	2.94	2.26	2.80	2.40

Notes: ^a Non-Latvians. ^b Average gross monthly wages in year 2000, LVL; results with year 2002 public sector wages are similar.

^c Registered unemployment in September 2003. ^d 1 for districts having land border with Russia or Belarus longer than border with Estonia or Lithuania, 0 otherwise.

^e 1 for districts having land border with EU accession countries – Estonia or Lithuania, 0 otherwise.

^f 1 for Riga district and Jurmala, 0 otherwise.

*, **, *** - coefficients different from zero at 10%, 5%, 1% significance level respectively.

Source: Author's calculations based on socio-economic data by 7 main cities and 26 districts (Central Statistical Bureau of Latvia, 2003a, 2003b) and official referendum results (Central Election Commission of Republic of Latvia, 2003).

Table 6. Determinants of voting results and turnout in Lithuania
(standard errors in parentheses)

	Yes vote, %				Turnout, %
Russian population, %	-0.27*** 0.02	-0.27*** 0.02	-0.27*** 0.02	-0.27*** 0.015	-0.52*** 0.08
Polish population, %	-0.13*** 0.01	-0.12*** 0.01	-0.12*** 0.01	-0.10*** 0.01	-0.10*** 0.04
average wage ^a (log)	9.71*** 1.72	9.47*** 1.94	9.37*** 1.80	9.55*** 1.85	
unemployment rate ^b	-0.015 0.049	-0.010 0.042			
border with Latvia ^c	-1.76** 0.64	-1.81*** 0.58	-1.82*** 0.58		
border ^d				-1.73*** 0.54	
Vilnius	-2.85*** 0.80	-3.06*** 0.80	-2.99*** 0.72	-3.48*** 0.74	
Ignalina district	-10.78*** 1.40	-10.58*** 1.55	-10.54*** 1.49	-9.18*** 1.51	5.60*** 0.95
Kaunas district	3.38*** 0.34	4.76*** 0.36	4.78*** 0.33	4.69*** 0.33	4.43*** 0.89
urban population, %		0.04*** 0.01	0.04*** 0.01	0.04*** 0.01	0.06** 0.03
population density (log)	0.59*** 0.18				
constant	24.13** 11.14	25.80** 12.55	26.33*** 11.77	25.24** 12.11	62.6*** 1.41
Observations	60	60	60	60	60
R-squared	0.845	0.869	0.869	0.87	0.60
Std. error of estimate	1.53	1.41	1.40	1.37	3.76

Notes: ^a Average gross monthly wage in year 2001, LTL. ^b Registered unemployment on April 01, 2003.

^c 1 for districts having land border with Latvia, 0 otherwise.

^d 1 for districts having land border with Latvia, Poland or Belarus, 0 otherwise.

*, **, *** - coefficients different from zero at 10%, 5%, 1% significance level respectively.

Source: Author's calculations based on socio-economic data by 60 municipalities (Statistical Department of Lithuania, 2003a, 2003b) and official referendum results (Central Electoral Committee, Republic of Lithuania, 2003).