

# Addendum

Communism, Federalism and Ethnic Minorities:  
Explaining Party Competition Patterns in Eastern Europe  
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The published version of the article includes a minor inconsistency between the described operationalization of the control variable *speed of transition* (referred to as ‘year free’ in the Supporting Material) and the actual values used in the estimations presented in the Supporting Material.

This document presents results of all the affected analyses reported in the Supporting Material reanalyzed 1) using the operationalization of *speed of transition* precisely as described in the article text, as well as 2) using another alternative operationalization. The alternative operationalizations presented here have minimal effect on the estimated coefficients, and on the figures presented in the article. These alternative operationalizations do not alter the substantive findings of the study in any way.

## Operationalizations of the *speed of transition*

Table 1: Operationalizations of *speed of transition* – ‘year free’

	In models in Supporting Material	Alternative Operationalization 1 in models below*	Alternative Operationalization 2 in models below**
Bosnia	2010	2010	2010
Bulgaria	1992	1991	1997
Croatia	2000	2000	2000
Czech Rep.	1990	1990	1990
Estonia	1991	1991	1991
Hungary	1990	1990	1990
Latvia	1991	1991	1991
Lithuania	1991	1991	1991
Macedonia	2010	2010	2010
Poland	1990	1990	1990
Romania	1996	1996	1996
Serbia	2003	2002	2000
Slovakia	1998	1994	1998
Slovenia	1991	1991	1991

\*AO1 is the year a country was rated ‘free’ by Freedom House

\*\*AO2 is the year a country was rated ‘free’ by Freedom House, illiberal regimes free only after their watershed elections

The article describes the operationalization of the control variable *speed of transition* as “the year a country was rated ‘free’ by Freedom House.” (p.685)

The results presented in the Supporting Material however use a slightly altered operationalization. Alternative Operationalization 1 (AO1) thus reruns all the relevant analyses using strictly the definition “the year a country was rated ‘free’ by Freedom House.”<sup>1</sup>

This definition may have limited validity, due to the fact that a number of east European countries were considered as ‘illiberal regimes’ even after, or may have experienced significant political liberalization prior to, being rated ‘free’<sup>2</sup>. Consequently, Alternative Operationalization 2 (AO2) considers illiberal regimes free after their watershed elections – that is after “the elections in which illiberal elites that have monopolized power since the end of communism lose power decisively, and are forced to leave office.”<sup>3</sup> The dates of these elections are taken from Vachudova (2006).<sup>4</sup> This affects the values of Bulgaria, Serbia, and Slovakia. Table 1 summarizes the different operationalizations.

Below are the results of all the analyses presented in the Supporting Material that include the control variable *speed of transition*, reanalyzed using Alternative Operationalization 1 and 2.

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<sup>1</sup>Freedom House. n.d. Freedom in the World Data. At [www.freedomhouse.org /report-types/freedom-world#.U4NDY146Hwl](http://www.freedomhouse.org/report-types/freedom-world#.U4NDY146Hwl), accessed May 26, 2014.

<sup>2</sup>see Vachudova, Milada Anna. 2005. *Europe Undivided: Democracy, Leverage, and Integration after Communism*. New York, N.Y.: Oxford University Press.

<sup>3</sup>Vachudova, Milada Anna. 2006. *Democratization in Postcommunist Europe: Illiberal Regimes and the Leverage of International Actors*. Center for European Studies Working Paper Series #139. At <http://aei.pitt.edu/9023/>, accessed September 23, 2014. pp.2-3

<sup>4</sup>ibid. p.3

## Re-estimations using Alternative Operationalization 1

Table 4 of Supporting Material predicting left- and right-wing party ethnic minority support reanalyzed using AO1

	OLS with cluster SE Ethnic Minority Support	HLM Ethnic Minority Support
Left-Right Placement	0.340** (0.126)	0.340*** (0.100)
Minority from Communist Federal Center	4.219** (1.409)	4.219*** (1.033)
Left Right * Minority	-0.921*** (0.280)	-0.921*** (0.187)
National Communism	0.687* (0.354)	0.687 (0.810)
Patrimonial Communism	-0.554 (0.323)	-0.554 (1.084)
Year Free	0.033 (0.031)	0.033 (0.041)
GDP per capita PPP	-0.000 (0.000)	-0.000 (0.000)
District Magnitude	-0.007*** (0.002)	-0.007 (0.005)
Constant	-60.759 (61.254)	-60.759 (81.485)
Observations	195	195
$R^2$	0.139	
Number of groups		14

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Partial slopes:

Left-right in countries with minorities from federal center: -0.580\*\* (0.253)

Left-right in countries with other minorities: 0.340\*\* (0.125)

Supporting statistical evidence for figure 2 in the article, including replication using a hierarchical linear model (HLM).

Table 5 of Supporting Material estimating socio-cultural party positions, re-analyzed using AO1

	OLS Socio-cultural placement (liberal-conservative)	HLM Socio-cultural placement (liberal-conservative)
Ethnic minority support	-0.618*** (0.145)	-0.535*** (0.077)
Religious Principle	0.315** (0.106)	0.418*** (0.077)
Ethnic * Religious	0.059** (0.024)	0.045*** (0.013)
Economic Left-Right	-0.321*** (0.052)	-0.345*** (0.037)
National Communism	-0.121 (0.307)	-0.258 (0.634)
Patrimonial Communism	-0.240 (0.662)	-0.414 (0.917)
Year Free	-0.005 (0.026)	0.001 (0.030)
GDP per capita PPP	-0.000 (0.000)	-0.000 (0.000)
District Magnitude	0.000 (0.002)	0.001 (0.004)
Constant	17.732 (52.826)	5.777 (59.229)
Observations	194	194
$R^2$	0.790	
Number of groups	14	14

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Supporting statistical evidence for figure 3 in the article, including replication using a hierarchical linear model (HLM). *Socio-cultural placement* (dependent variable), *ethnic minority support*, *religious principles*, and *economic left-right* are all measured on 0-10 scales. OLS model includes cluster corrected standard errors in parentheses. HLM model includes standard errors in parentheses.

Table 6 of Supporting Material predicting the Axis of Competition, reanalyzed using AO1

	OLS with cluster SE Axis slope	HLM Axis slope
Right-Left Difference in Ethnic Minority Support	0.302** (0.103)	0.302*** (0.085)
National Communism	-0.617** (0.253)	-0.617 (0.521)
Patrimonial Communism	-2.719*** (0.668)	-2.719*** (0.815)
Year Free	-0.044 (0.025)	-0.044 (0.029)
GDP per capita PPP	-0.000*** (0.000)	-0.000*** (0.000)
District Magnitude	-0.006 (0.004)	-0.006 (0.004)
Constant	93.828* (49.780)	93.828 (58.440)
Observations	25	25
$R^2$	0.601	
Number of groups	14	14

Robust standard errors in parentheses

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Supporting statistical evidence for figure 4 in the article, including replication using a hierarchical linear model (HLM). See section 6 of Supplementary Material for details concerning parties included in Right-Left difference calculation.

Table 10 of Supporting Material Robustness Checks of Analyses of H1, reanalyzed using AO1

	(1)	(2)
	Ethnic minority support	Ethnic minority support
Economic Left-Right	0.268** (0.122)	0.260** (0.125)
Minority from Communist	5.177*** (0.950)	5.097*** (1.020)
Left Right * Minority	-1.037*** (0.166)	-1.024*** (0.175)
National Communism	0.768** (0.296)	0.472 (0.504)
Patrimonial Communism	0.319 (0.312)	-0.293 (0.612)
Year Free	-0.027 (0.023)	-0.036 (0.023)
GDP per capita PPP	-0.000 (0.000)	-0.000 (0.000)
District Magnitude	-0.005** (0.002)	-0.004* (0.002)
Constant	58.132 (46.231)	76.789 (46.892)
Observations	186	186
$R^2$	0.194	
Number of groups	14	14

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Replication of analyses of H1 presented above, with observations (parties) weighted by their vote share.

Partial slopes:

Left-right in countries with minorities from federal center: -0.769\*\*\* (0.112)

Left-right in countries with other minorities: 0.268\*\* (0.122)

Table 9 of Supporting Material Robustness Checks of Analyses of H5, reanalyzed using AO1

	(1)	(2)	(3)
	Axis Slope	Axis Slope	Axis Slope
Right-Left Difference in Ethnic Minority Support	0.358*** (0.095)	0.290** (0.115)	0.180** (0.076)
National Communism	-0.277 (0.277)	-0.623* (0.308)	-0.087 (0.497)
Patrimonial Communism	-2.183*** (0.525)	-2.523*** (0.767)	-0.834 (1.004)
Year Free	-0.031 (0.027)	-0.054 (0.036)	-0.059* (0.029)
GDP per capita PPP	-0.000*** (0.000)	-0.000*** (0.000)	-0.000 (0.000)
District Magnitude	-0.010* (0.004)	-0.005 (0.005)	-0.003 (0.003)
Constant	67.363 (53.965)	113.687 (70.705)	119.104* (58.235)
Observations	25	23	19
$R^2$	0.602	0.664	0.725

Robust standard errors in parentheses

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Replication of analyses of H5 presented above, using OLS with cluster SE. Model 1 considers ethnic support difference between only *major* left and right parties. See section 6 of Supplementary Material for details. Models 2 and 3 use same ethnic support difference measure as original analyses. Model 2 excludes Croatia, due to its switch in axis sign between 2007 and 2010. Model 3 excludes Croatia, as well as the observations with the steepest axes: Hungary in 2010, Slovenia in 2006 and 2010, and Serbia in 2007. Note that all models exclude all 2002 observations due to missing data on ethnic minority preferences in that year.

## Re-estimations using Alternative Operationalization 2

Table 4 of Supporting Material predicting left- and right-wing party ethnic minority support reanalyzed using AO2

	(1) OLS with cluster SE Ethnic minority support	(2) HLM Ethnic minority support
Economic Left-Right	0.339** (0.126)	0.339*** (0.100)
Minority from Communist	4.201** (1.503)	4.201*** (1.051)
Left Right * Minority	-0.917*** (0.289)	-0.917*** (0.187)
National Communism	0.662* (0.350)	0.662 (0.806)
Patrimonial Communism	-0.676* (0.371)	-0.676 (1.089)
Year Free	0.036 (0.040)	0.036 (0.049)
GDP per capita PPP	-0.000 (0.000)	-0.000 (0.000)
District Magnitude	-0.008** (0.003)	-0.008 (0.005)
Constant	-67.976 (79.872)	-67.976 (97.515)
Observations	195	195
$R^2$	0.139	
Number of groups	14	14

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Partial slopes:

Left-right in countries with minorities from federal center: -0.579\*\* (0.260)

Left-right in countries with other minorities: 0.338\*\* (0.126)

Supporting statistical evidence for figure 2 in the article, including replication using a hierarchical linear model (HLM).

Table 5 of Supporting Material estimating socio-cultural party positions, reanalyzed using AO2

	OLS Socio-cultural placement (liberal-conservative)	HLM Socio-cultural placement (liberal-conservative)
Ethnic minority support	-0.630*** (0.142)	-0.537*** (0.077)
Religious Principle	0.303** (0.104)	0.414*** (0.077)
eth_rel	0.061** (0.024)	0.046*** (0.013)
Economic Left-Right	-0.320*** (0.052)	-0.345*** (0.037)
_lcomm_2	-0.114 (0.284)	-0.255 (0.630)
_lcomm_3	-0.295 (0.628)	-0.517 (0.932)
Year Free	0.009 (0.032)	0.016 (0.034)
GDP per capita PPP	-0.000 (0.000)	-0.000 (0.000)
District Magnitude	-0.000 (0.002)	0.000 (0.004)
Constant	-9.326 (64.324)	-25.027 (68.494)
Observations	194	194
$R^2$	0.790	
Number of groups	14	14

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Supporting statistical evidence for figure 3 in the article, including replication using a hierarchical linear model (HLM). *Socio-cultural placement* (dependent variable), *ethnic minority support*, *religious principles*, and *economic left-right* are all measured on 0-10 scales. OLS model includes cluster corrected standard errors in parentheses. HLM model includes standard errors in parentheses.

Table 6 of Supporting Material predicting the Axis of Competition, reanalyzed using A02

	(1)	(2)
	Axis Slope	Axis Slope
Right-Left Difference in Ethnic Minority Support	0.293** (0.104)	0.293*** (0.086)
National Communism	-0.597** (0.261)	-0.597 (0.516)
Patrimonial Communism	-2.502*** (0.740)	-2.502*** (0.845)
Year Free	-0.056 (0.032)	-0.056 (0.035)
GDP per capita PPP	-0.000*** (0.000)	-0.000*** (0.000)
District Magnitude	-0.004 (0.005)	-0.004 (0.004)
Constant	116.928* (64.303)	116.928* (68.940)
Observations	25	25
$R^2$	0.606	
Number of groups	14	14

Robust standard errors in parentheses

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Supporting statistical evidence for figure 4 in the article, including replication using a hierarchical linear model (HLM). See section 6 of Supporting Material for details concerning parties included in Right-Left difference calculation.

Table 10 of Supporting Material Robustness Checks of Analyses of H1, reanalyzed using AO2

	(1)	(2)
	Ethnic minority support	Ethnic minority support
Economic Left-Right	0.269** (0.123)	0.260** (0.125)
Minority from Communist	5.194*** (0.986)	5.142*** (1.041)
Left Right * Minority	-1.039*** (0.170)	-1.025*** (0.176)
National Communism	0.785** (0.288)	0.475 (0.489)
Patrimonial Communism	0.423 (0.386)	-0.130 (0.615)
Year Free	-0.031 (0.031)	-0.047 (0.034)
GDP per capita PPP	-0.000 (0.000)	-0.000 (0.000)
District Magnitude	-0.004 (0.003)	-0.003 (0.003)
Constant	65.838 (60.987)	99.065 (68.271)
Observations	186	186
$R^2$	0.193	
Number of groups	14	14

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Replication of analyses of H1 presented above, with observations (parties) weighted by their vote share.

Partial slopes:

Left-right in countries with minorities from federal center: -0.771\*\*\* (0.115)

Left-right in countries with other minorities: 0.269\*\* (0.123)

Table 9 of Supporting Material Robustness Checks of Analyses of H5, reanalyzed using A02

	(1)	(2)	(3)
	Axis Slope	Axis Slope	Axis Slope
Right-Left Difference in Ethnic Minority Support	0.352*** (0.097)	0.263** (0.120)	0.174** (0.074)
National Communism	-0.266 (0.282)	-0.636* (0.316)	-0.051 (0.493)
Patrimonial Communism	-2.055*** (0.654)	-2.074** (0.881)	-0.449 (0.961)
Year Free	-0.037 (0.036)	-0.085* (0.047)	-0.077* (0.036)
GDP per capita PPP	-0.000*** (0.000)	-0.000*** (0.000)	-0.000 (0.000)
District Magnitude	-0.008 (0.005)	-0.001 (0.006)	-0.001 (0.004)
Constant	78.698 (72.479)	174.378* (93.767)	155.932* (71.646)
Observations	25	23	19
$R^2$	0.601	0.680	0.740

Robust standard errors in parentheses

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Replication of analyses of H5 presented above, using OLS with cluster SE. Model 1 considers ethnic support difference between only *major* left and right parties. See section 6 of Supplementary Material for details. Models 2 and 3 use same ethnic support difference measure as original analyses. Model 2 excludes Croatia, due to its switch in axis sign between 2007 and 2010. Model 3 excludes Croatia, as well as the observations with the steepest axes: Hungary in 2010, Slovenia in 2006 and 2010, and Serbia in 2007. Note that all models exclude all 2002 observations due to missing data on ethnic minority preferences in that year.