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Fidrmuc, J.

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Political Support for Reforms: Economics of Voting in Transition Countries*

Jan Fidrmuc[#]

CentER for Economic Research, Tilburg University
and
ECARE, Université Libre de Bruxelles

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Abstract

I analyze the relationship between economics and politics across eight parliamentary elections in four transition countries, the Czech Republic, Hungary, Poland and Slovakia. I argue that support for reform reflects the balance between positive and negative effects of the reform. Accordingly, I identify economic groups that support or oppose the reform. The former are private entrepreneurs, white collar workers and university educated voters. The latter are the unemployed, retirees, and blue collar and agricultural workers. This general pattern holds both within countries and across countries, and across tenures of different governments. In contrast with the responsibility hypothesis, voters in the transition countries are found to be forward looking, not retrospective.

Keywords: Transition, Economics of Voting, Central and Eastern Europe
JEL categories: D72, E24, E61,

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[#] P. O. Box 90153, 5000 LE Tilburg, The Netherlands, Email: J.Fidrmuc@KUB.NL, Phone: +31-13-466-2678, Fax: +31-13-466-3066.

1 Introduction

Political development in the post-communist countries of Central and Eastern Europe (CEE) reveals a peculiar pattern: The collapse of communism occurred amidst overwhelming popular support for fundamental economic and political reforms. However, only a few years later the pendulum swung back and the reformers were voted out. Instead, the voters turned towards parties that challenged radical economic transition – ex-communists, social democrats, and nationalists.¹ In this paper, I attempt to explain the deterioration of support for reforms, by pointing out to the differences in adverse effects of reforms – both across countries as well as within countries. I argue that the economic effects of reforms – such as unemployment and growth of a new private sector – determine the political support for parties associated with implementing the reforms. To capture this effect, I construct a unique data set containing regional (county level) election results and economic data for the Czech Republic, Hungary, Poland and Slovakia. I analyze the link between the former and the latter by regressing the regional election results on selected socio-economic indicators.

This paper seeks to contribute to two distinct streams in the economic literature: political sustainability of reform, and voting/popularity functions. The former analyzes the relationship between adverse effects of reform and its political sustainability. An early example is Fernandez and Rodrik (1991) who discuss the role played by individual uncertainty about the distribution of winners and losers. Others, for example Agion and Blanchard (1995), Blanchard (1997), Rodrik (1995) and Fidrmuc (1998), emphasize the role played by excessive unemployment.²

Voting and popularity functions (VP-functions) bring together economics and political science. Typically, empirical results indicate that the voters hold the current government responsible for state of the economy.³ I explore the interactions between economics and politics in the specific context of political and economic transition in CEE. I argue that instead of punishing or rewarding the government for economic performance, elections in the transition countries serve as referenda on the speed of reforms, and the overall reform strategy.

¹ The Czech Republic and Estonia have long resisted this trend, whereas in Poland, Romania and Hungary the pendulum returned again and brought the pro-reform parties back into power.

² A comprehensive survey of literature is beyond the scope of the present paper; see Dewatripont and Roland (1996), and Rodrik (1996) for extensive discussion.

The contribution of this paper should also be seen in presenting the most comprehensive analysis of voting in transition countries so far (covering four nations and eight elections), and presenting results that are comparable across countries.⁴

In the next section, I introduce the data set I used, and present the results of the empirical analysis. I then discuss the results and offer some concluding remarks in the last section.

2 Empirical Analysis

Essentially, the objective of my paper is to explain the recent political developments in the transition countries of CEE by linking them to the underlying economic processes. The basic idea is that the voters' decisions are affected by the state of the economy at the moment of the election, and/or their expectations of future economic developments. The process of economic reform has played a fundamental role in determining the current state of the economy. Therefore, I seek to identify the relationship between voters' support for economic reforms, and election outcomes.⁵

Typically, the links between economics and elections are studied using time-series data.⁶ This approach is not possible in the transition countries of CEE because only three or four elections have taken place since the fall of communism. For that reason, I used regional data, where both election results as well as explanatory variables are observed at the level of individual counties.⁷ I analyze the following elections (see Table 1 for election results):

- **Czech Republic:** the Chamber of Deputies (lower house), 1992 and 1996, both resulting in reelection of pro-reform government;
- **Hungary:** the Parliament (those seats that were awarded by proportional vote), 1994 (transition from right wing to post-communist dominated government) and 1998 (transition from post-communists to right wing);

³ Nannestad and Paldam (1994) present an extensive survey of this literature; Paldam (1991) analyzes the robustness of this relationship.

⁴ Other, mainly single country analyses, are Munich and Sorm (1995) for Czech and Slovak elections in 1992, Jackson et al. (1996) and Bell (1997) for Polish 1993 election, and Pacek (1994) covering Bulgaria in 1991, Poland in 1991, and Czechoslovakia in 1992. Earle et al. (1997) and Mateju and Rehakova (1996), analyze opinion-poll data from the Czech Republic. Finally, Lafay (1981) analyzes the relationship between economics and politics under communist regime in Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, and Romania during 1960's and 1970's.

⁵ From the point of view of this analysis, it is important whether a particular party was *perceived* as pro-reform or anti-reform *prior to the election*. As it turned out, ex-communists in Hungary and Poland continued in reforms *ex post* even though they appeared opposed to radical reforms *ex ante*.

⁶ See, for example, Fair (1978, 1996), and Paldam (1991).

⁷ Application of this approach has been rather limited so far – an exception is Rattinger (1991).

- **Poland:** the Sejm (lower house), 1993 (transition from right wing to post-communist dominated government) and 1997 (transition from post-communists to right wing), and the presidential election in 1995;
- **Slovakia:** the National Council, 1992 (transition from pro-reform government to a nationalist one) and 1994 (transition from pro-reform government⁸ to one dominated by nationalists).

I focus on the second and subsequent elections after the collapse of the communist regime. The first post-communists elections are not included because they took place before the process of economic reforms started, and it is unlikely that reform-related issues played a role. Instead, the first free elections appeared to be dominated by the post-communist euphoria rather than economic issues.

The unit of analysis is always the county (micro-regions, called ‘okres’ in the Czech and Slovak Republics, ‘megye’ in Hungary and ‘województwo’ in Poland). The sample size is 76 for the Czech Republic, 38 for Slovakia, 20 for Hungary and 49 for Poland. The data were compiled from various publications of the national Statistical Offices of the respective countries.

To explain the regional differences in patterns of political support, I regressed the electoral results of individual parties on a set of economic and demographic variables (see Table 2). To ensure comparability, I tried to use the same set of explanatory variables for all countries and elections. The following economic indicators were used: the unemployment rate, the average wage, the number of small individual entrepreneurs and self-employed (as percentage of population, excluding farmers), and the share of employment in industry and agriculture. Demographic indicators included were the (logarithm of) population density, and the proportions of population in the following categories: post-productive age (retirement age as determined by the national standards⁹), university educated (not available for Hungary), Roman Catholics (not available for Hungary and Poland), and national minorities (Moravian in the Czech Republic, and Hungarian and Roma in Slovakia).¹⁰ The variables used were generally end-of-year values of the election year, except for wages, which were the average

⁸ The nationalist government elected in 1992 was dismissed in March 1994, and replaced with a grand coalition of the remaining parties. The nationalists regained office in September 1994.

⁹ Differences in national limits for retirement explain the low figure for Poland in Table 2.

¹⁰ Bohemia and Moravia are the two parts of the Czech Republic. Although Czech is spoken in both parts, 16% of Czech citizens reported Moravian nationality in the 1991 census. Hungarians, making up 11% of Slovak population, are mainly concentrated in regions along the Hungarian border. It is estimated that Roma make up between 3-8% of Slovak population.

values of the election year.¹¹ The statistics reveal a rather uneven regional distribution of costs and benefits of reforms (see Table 2). Unemployment rate is lower and wages are higher in some regions, especially urban areas, while rural areas are often stricken with extremely high unemployment and low wages. Other variables show substantial regional differences as well. Voting results also vary substantially from region to region (see the information on election results in the bottom panels of Tables 3 through 10).

The estimated equation has the following form:

$$V_{i,j} = \mathbf{a} + \mathbf{S}_i \mathbf{g} \cdot X_{i,t} + \mathbf{e}_{i,j} \quad (1)$$

where $V_{i,j}$ stands for the share of votes received by party j in period t ; $X_{i,t}$ are the explanatory economic and demographic variables, and $\mathbf{e}_{i,j}$ is the error term. The full list of regressors includes between nine and twelve variables while the sample sizes are between 20 and 76. To reduce the degrees-of-freedom problem, I first ran the regressions with the full list of explanatory variables. Then, I stepwise eliminated the variables that were not even marginally significant (in general, with t -statistics below one), starting with the least significant ones and continuing until the adjusted R^2 was maximized. Clearly, parties differ with respect to the policies they advocate and the social and/or economic groups they appeal to. Hence, it is obvious that different variables will be significant for different parties.

The estimation was performed by the *seemingly unrelated regressions (SUR)* method. With *SUR*, regression equations for all parties participating in an election are estimated jointly, with equations being linked by their disturbances.¹² Allowing the error terms $\mathbf{e}_{i,j}$ to be correlated across parties indirectly implements the adding up constraint – the parties together cannot receive more than 100% of the votes, and hence higher support for one party in a region must also imply lower support for the other parties.

The results of individual-election regressions are reported in Tables 3-10. The Tables list the parties according to their position along the political spectrum – starting with the right wing pro-reform parties, then the left wing parties, and finally the nationalist and extremist parties, and parties representing national minorities.

Clearly, economics played an important role in shaping the political developments in the transition countries. From the results listed in the Tables, one can observe the general patterns

¹¹ There were a few exception to this rule: demographic data were not available on a yearly basis and the nearest available year was used. In addition, in a few cases where a particular variable was not available for the election year, the year preceding the election was used.

¹² See Greene (1997, pp. 674-676).

of voting behavior of individual social and/or economic groups. In contrast with the typical finding in the literature on voting and popularity functions (see Nannestad and Paldam (1994)), incumbency status of parties does not appear to play an important role. The 'responsibility hypothesis' implies that the voters hold the government responsible for the state of the economy. Accordingly then, the regions with low unemployment should display lower support for the government, regardless of its political orientation. This is not the case in CEE. On the contrary, the patterns of support are quite stable, and do not change much when a party moves from the opposition to the government, or vice versa.

Voting behavior in the transition countries thus appears to be essentially forward looking, not retrospective. Voters support parties, which they expect to deliver policies favorable to them. In summary, support for the pro-reform right wing parties is thus negatively related to unemployment, positively to the measure of private entrepreneurial activity, urban population (reflected by population density), and share of voters with university education. Proportion of retirees in the region's population is negatively related to the support for pro-reform parties, except in the Czech Republic. Support for the left wing parties, on the other hand, is positively correlated with unemployment and share of population in retirement age (again with the exception of the Czech Republic). It is negatively related to the measure of private entrepreneurial activity, population density, and share of voters with university education. Finally, the pattern of support for nationalists and extremist seems rather hard to identify using the variables included in the estimation.

Unemployment

Unemployment has been the most acute consequence of economic transition in CEE. From virtually zero, the unemployment rate shot up to in excess of ten percent in most countries. Regression results indicate that unemployment generally reduces support for parties associated with economic reforms, and increases support for post-communist and other left wing parties. The effect of unemployment is quite strong and most cases statistically significant.

Low unemployment clearly helped the reelection of the reformers in the Czech Republic both in 1992 and 1996. While the relationship can already be identified in 1992 results, greater significance of the coefficients for 1996 indicates that unemployment played a more important role in that election. To illustrate the importance of unemployment in 1996, simple calculation reveals that one percentage point of unemployment implied a loss of 1.5 percentage point for the government coalition composed of conservatives (ODS and ODA), and Christian

democrats (KDU-CSL). Correspondingly, social democrats (CSSD) and communists (KSCM) enjoyed a gain of 1.4 percentage point.

The results for Slovakia are similar. DS (conservative) and DU (center-liberal) show a negative effect of unemployment. On the other hand, the post-communists (SDL) in 1992, communists (KSS) in 1996, and nationalists (HZDS and SNS) in 1996 all show a positive relationship.

In the case of Hungary, two out of three pro-reform parties – MDF and SzDSz¹³ – show consistently negative and significant impact of unemployment. Both the former communists (MSzP) and hard-line communists (MP) show positive effect of unemployment in the two elections.

In Poland, electoral results of the main pro-reform parties (UD and BBWR in 1993, AWS and UW in 1997) were negatively affected by unemployment. On the other hand, unemployment increased the support for the post-communists (SLD and PSL). It played an important role also in 1995 presidential election in Poland, where it helped the post-communist candidate Alexander Kwasniewski to oust Lech Walesa.¹⁴

Entrepreneurial Activity

If there is a social group that is virtually bound to support reforms, it is the private entrepreneurs. Private enterprises were virtually non-existent under the communist regime. Just as unemployment, they arose as a direct consequence of the reforms. While the unemployed may see a slow-down or reversal of the reforms as a remedy to their declining living standards, the very livelihood of the entrepreneurs hinges on the success of economic transition. Therefore, one should expect higher support for the pro-reform parties and lower support for the left-wing parties in the regions with greater entrepreneurial activity. To account for the emerging private sector, I used the number of small private (unincorporated) entrepreneurs, excluding farmers, expressed as percentage of population. Clearly, this captures only the small business part of the private sector. Nevertheless, this is probably highly correlated with the actual size of the private sector. The results show a negative effect of

¹³ Even though SzDSz eventually entered into post-election coalition with the former communists, they were perceived as pro-reforms before the election.

¹⁴ In a separate regression (not reported here), I regressed the presidential election results on unemployment and the results of the 1993 parliamentary election – to account for ideological motives (the equation for Kwasniewski thus contained the regional results for SLD and PSL while the equations for Walesa contained UP, UD and BBWR). The effect of unemployment remained significant and retained the expected sign.

private entrepreneurial activity on support for left-wing parties, and a positive effect on support for pro-reform parties.

The effect of entrepreneurial activity in the Czech Republic was stronger in 1992 than in 1996. All four pro-reform parties, ODS, ODA, KDU-CSL and OH show positive coefficients in 1992, whereas only ODS yields a marginally significant coefficient in 1996. On the other hand, entrepreneurial activity significantly reduced the support for the left wing, LB and CSSD in 1992 and KSCM in 1996, as well as the extremist republicans (SPR-RSC) in both elections.

Slovak results are trickier. Among the pro-reform parties, Christian Democrats (KDH) benefited from entrepreneurial activity in 1992 only, whereas DU and DS actually show negative coefficients in 1994. Social democrats (SDSS) also show a positive relationship in 1992. On the other hand, support for HZDS, the winner of both elections, was negatively correlated with entrepreneurial activity in 1992, however, this pattern reversed in 1994. The reversal perhaps reflects the fact that while prior to the 1992 election HZDS was generally seen as a threat to reform, this expectation was not fulfilled. Extreme leftist ZRS did not fare well in regions with high numbers of entrepreneurs. Rather surprisingly, the nationalists, SNS, enjoyed the support of entrepreneurs in 1994.

Entrepreneurs in Hungary supported the future winners in both elections – first former communists (MSzP) in 1994, and Fidesz in 1998. On the other hand, the liberals, (SzDSz) show a negative relationship in both elections, although only marginally significant.

In Poland, pro-reform parties (UD, BBWR and UP) benefited from entrepreneurial activity in 1993. In 1997, only UW showed a positive relationship, while the Solidarity coalition was affected negatively (not significantly). While the coefficients for the ruling post-communist parties (SLD and PSL) are both positive in 1997, they are not significant. Nevertheless, entrepreneurial activity strongly improved the showing of the post-communist presidential candidate Kwasniewski.

Sectoral Reallocation

Economic transition has caused substantial reallocations among sectors. Typically, firms operating in the service sector benefited from the reforms whereas industrial and agricultural enterprises often experienced severe problems. To capture the sector-specific effects, I included the share of employment in industry and agriculture in the regressions. Industrial and agricultural employees are typically blue collar workers. One can expect that they have benefited less from the transition compared to white-collar workers, and therefore will be

more likely to support parties challenging reforms. Indeed, industrial employment in general increases support for some left-wing and nationalist parties, and reduces support for pro-reform parties. However, compared to the economic variables discussed above, this relationship is less consistent across parties and different elections. Similarly, agricultural employment seems to negatively affect the pro-reform parties and benefit left-wing parties. Moreover, agricultural employment is positively correlated with support for those parties that cater specifically to the interests of this sector. This is, for example, the case of KDU-CSL in the Czech Republic, FKgP in Hungary, and PSL in Poland.

Wages

Finally, with the inclusion of average wages I intended to capture the uneven distribution of benefits of the reforms in terms of income. One can expect that high wages will increase support for reforms, when controlling for other potential factors (unemployment, entrepreneurial activity).

However, it is rather hard to identify a clear pattern in the relationship between support for reforms and wages. This is perhaps because the effect usually attributed to wages in the voting and popularity literature is already captured here by the other economic variables.¹⁵ Interestingly enough, wages seem to be positively linked to the support for communist and post-communist parties throughout the region: LB and KSCM in the Czech Republic, SV and KSS in Slovakia, MSzP in Hungary and PSL in Poland. On the other hand, some of the pro-reform parties were also 'rewarded' by support of high-income regions: ODA (in 1992) and ODS (1996) in the Czech Republic, ODU, DS and DU in Slovakia, Fidesz in Hungary in 1994, and UD in Poland in 1993. Finally, parties close to the political center – KDU-CSL and SD/LSNS in the Czech Republic, SDSS and HZDS in Slovakia, but also right wing AWS in Poland – apparently enjoyed the support of low income regions.

Demographic Factors

Demographics should naturally have an effect on voters' preferences. The retirees have been hit disproportionately by the adverse effects of reform. Arguably, they can be expected to have different preferences regarding radical reforms than the younger population. The log of population density is intended to serve as proxy for the urbanization of the region. The higher

¹⁵ Opinion polls usually suggest that right wing parties in CEE derive support from individuals with higher incomes. These are typically entrepreneurs, white collar workers, and highly educated people – these economic groups are already controlled for in the regressions.

the population density, the greater in general the share of region's population living in towns. Finally, the share of national minorities is intended to capture their specific political preferences and the effect of potential political controversies related to them. The Hungarian and Roma minorities are included in Slovak regressions, Moravian minority is used in Czech regressions.

In general, greater share of pensioners in region's population improves the showing of left wing parties, and in some cases also nationalists and extremists. There are a few exceptions though: Czech retirees supported the ruling reformers from ODS, ODA, and KSU-CSL, whereas Hungarian Socialists' result in 1998 indicates a negative relationship. The results for population density are mixed, although in most cases pro-reform parties derive support from regions with high population density (urban areas) whereas left wing and nationalist/extremist parties do well in rural areas. This pattern is rather strong in Slovakia and Poland, in particular. Areas with a high share of university educated residents generally show higher support for pro-reform parties and low support for left wing parties. The main exceptions are the nationalist SNS and extreme left ZRS in Slovakia, and Walensa's BBWR movement in Poland. Finally, a rather interesting result is obtained for Catholics in Slovakia: their support for Christian Democrats, the party typically associated with catholic church, is substantially lower than their support for nationalists in HZDS, and especially SNS.

3 Conclusions

The empirical results presented above indicate that there is indeed a strong relationship between economic developments and voting behavior in the transition countries. Uneven distribution of benefits and costs of reform creates *winners* and *losers*, and thus constituencies supporting or opposing radical economic reform. Consequently, it is the balance between positive and adverse effects of the reforms that underlies the differences in political development across transition countries, rather than differences in history, culture, or the extent of post-communist legacy. The same general pattern of interactions between economics and politics holds within as well as across the four countries analyzed. The pattern of support is also remarkably stable over the tenures of different governments. This is particularly evident from the estimates pertaining to the 1997 election in Poland and 1998 election in Hungary, where the unemployed (and retirees in Poland) supported the incumbent left wing parties and opposed the pro-reform challengers. This stands in stark contrast with the prevailing result

obtained by scholars studying voting and popularity functions in developed countries, namely that “incumbents benefit from an expanding economy and challengers thrive on misery.”¹⁶.

The result indicating stable patterns of support has an intriguing implication for party politics in transition: we should see right wing parties concerned about combating unemployment whereas left wing parties can get away with implementing harsh austerity measures and privatizing state-owned enterprises. As Cukierman and Tommasi (1998) argue, the fact that left wing parties implement right wing policies can be understood by the voters as a credible signal that such policies are indeed necessary – assuming politicians are better informed about the state or the world than voters. On the other hand, the same policies pursued by a right wing government would be seen as being ideologically motivated. Indeed, it took the post-communists in Poland and Hungary to start comprehensive privatization programs. The post-communists in Hungary also implemented extensive belt tightening measures and pension reform shortly after assuming office. On the other hand, right wing parties in the Czech Republic, despite establishing a reputation for being tough on reforms early in the transition, generally avoided austerity measures later on (generally after 1993). Instead, the government pursued rather soft policies by supporting rapid real wage growth, failed to implement policies aimed at enterprise restructuring,¹⁷ postponed bankruptcy legislation, and implicitly reinstated the soft budget constraint by refinancing banks troubled by bad loans. This became particularly pronounced after prime minister Klaus proclaimed in 1995 that transformation was over – until the bubble burst in Spring and Summer of 1997.

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¹⁷ See Fidrmucova (1998) for some empirical evidence supporting this point.

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Table 1. Election Results

Czech R. 1992		Czech R. 1996	
(Communist) Left Block (LB)	14.05	Communist Party (KSCM)	10.33
Social Democrats (CSSD)	6.53	Social Democrats (CSSD)	26.44
Liberal Social Union (LSU)	6.52	Free Democrats (SD-LSNS)	2.05
Civic Movement (OH) ^I	4.59	Democratic Union (DEU)	2.80
Christian Democrats (KDU-CSL) ^{I,W}	6.28	Christian Democrats (KDU-CSL) ^{I,W}	8.08
Civic Democratic Party (ODS-KDS) ^{I,W}	29.73	Civic Democratic Party (ODS) ^{I,W}	29.62
Civic Alliance (ODA) ^{I,W}	5.93	Civic Alliance (ODA) ^{I,W}	6.36
Republicans (SPR-RSC)	5.98	Republicans (SPR-RSC)	8.01
Moravian Movement (HSD-SMS)	5.87	Moravian Movement (HSMS)	0.42
Other	14.52	Other	5.89
Slovakia 1992		Slovakia 1994	
Democratic Left (SDL)	14.70	Communist Party (KSS)	2.72
Social Democrats (SDSS)	4.00	Workers (ZRS) ^W	7.34
Civic Democratic Union (ODU) ^I	4.04	Democratic Left+Soc. Democrats (SV) ^I	10.41
Christian Democrats (KDH) ^I	8.89	Democratic Union (ODU) ^I	8.57
Democratic Party (DS) ^I	3.31	Christian Democrats (KDH) ^I	10.08
Movement for Dem. Slovakia (HZDS) ^W	37.26	Democratic Party (DS)	3.42
Slovak National Party (SNS)	7.93	Movement for Dem. Slovakia (HZDS) ^W	34.96
Hungarian Coalition (MK)	7.42	Slovak National Party (SNS) ^W	5.40
Hungarian Civic Party (MOS)	2.29	Hungarian Coalition (MK)	10.18
Other	10.16	Other	6.92
Hungary 1994		Hungary 1998	
Communist Party (MP)	3.45	Communist Party (MP)	4.15
Socialist Party (MSzP) ^W	32.99	Socialist Party (MSzP) ^I	32.10
Free Democrats (SzDSz) ^W	19.74	Free Democrats (SzDSz) ^I	8.11
Democratic Forum (MDF) ^I	11.74	Democratic Forum (MDF)	3.13
Young Democrats (Fidesz) ^I	7.02	Fidesz ^W	28.37
Smallholders (FKgP)	8.82	Smallholders (FKgP) ^W	13.41
Christian Democrats (KDNP)	7.03	Hungarian Truth and Lie Party (MIEP)	5.64
Other	9.21	Other	5.09
Poland 1993		Poland 1997	
Post-communists (SLD) ^W	20.40	Post-communists (SLD) ^I	27.13
Peasant Party (PSL) ^W	15.40	Peasant Party (PSL) ^I	7.31
Labor Union (UP) ^I	10.60	Labor Union (UP)	4.74
Walesa's Non-partisan Block (BBWR)	5.40	Solidarity Electoral Action (AWS) ^W	33.83
Democratic Union (UD) ^I	10.60	Freedom Union (UW) ^W	13.37
Independent Poland (KPN)	5.80	Polish Reconstruction (ROP)	5.56
Other	31.80	Other	8.06

Notes: Parties are ordered according to their political orientation as left wing, right wing, and nationalist/extremist, and denoted with abbreviated names as well as commonly used acronyms.

I member of government prior to the election; *W* member of government after the election

Table 2. Selected Explanatory Variables: Descriptive Statistics

Economic Variables	Unemployment Rate [%]		Wages [thousands]		Entrepreneurs [% of population]		Industry [% of employment]		Agriculture [% of employment]	
	Mean	Std dev.	Mean	Std dev.	Mean	Std dev.	Mean	Std dev.	Mean	Std dev.
Czech Rep. 1992	2.90	1.41	4.57	0.36	9.08	1.99	38.32	7.63	11.69	6.44
Czech Rep. 1996	3.75	1.88	9.06	0.76	9.33	2.73	40.99	8.46	9.37	5.82
Slovakia 1992	11.82	3.65	4.19	0.32	5.19	1.54	33.95	8.99	11.84	7.23
Slovakia 1994	17.70	5.89	5.75	0.53	4.90	1.48	35.34	8.56	15.09	7.78
Hungary 1994	11.38	3.35	36.20	4.03	7.27	1.84	35.83	8.81	9.37	3.54
Hungary 1998	9.23	2.86	43.08	5.05	6.49	1.48	35.83	8.81	9.37	3.54
Poland 1993	18.16	5.62	0.354	0.035	4.29	1.08	21.67	6.48	32.30	15.42
Poland 1997	14.95	4.85	0.796	0.088	4.29	1.08	22.21	6.73	33.97	16.42
Demographic Variables	Population Density		Retirees [% of population]		University educated [% of population]		R.Catholic [% of population]		National Minority¹ [% of population]	
	Mean	Std dev.	Mean	Std dev.	Mean	Std dev.	Mean	Std dev.	Mean	Std dev.
Czech Rep.	210.37	392.64	19.93	2.09	5.51	2.08	39.55	14.25	11.71	19.53
Slovakia	172.68	257.96	17.50	2.01	4.74	2.54	59.28	13.30	12.80	21.74
Hungary	518.74	392.83	19.30	1.52	n.a.	n.a.	n.a.	n.a.		
Poland	144.53	144.95	13.41	1.74	5.76	2.43	n.a.	n.a.		

Notes: Economic variables typically refer to the election year or the year immediately preceding the election. Demographic variables refer to different years in early 1990's depending on sources available.

¹ Moravian minority in the Czech Republic, and Hungarian minority in Slovakia, respectively.

Table 3. Regression Results, Czech Republic, 1992: Determinants of Voting Behavior.

Variable	ODS-KDS		ODA		KDU/CSL		OH		LB		CSSD		LSU		SPR-RSC		HSD-SMS	
<i>t-stat</i>	<i>pro-reform</i>		<i>pro-reform</i>		<i>pro-reform</i>		<i>pro-reform</i>		<i>left</i>		<i>left</i>		<i>left</i>		<i>nationalist</i>		<i>minority</i>	
Constant	30.924	5.46	-14.175	2.90	-6.134	1.69	4.036	2.24	18.601	4.22	16.232	10.14	9.365	2.78	23.384	7.27	-6.677	1.91
Unemployment ¹	-0.570	2.56					-0.231	3.12	0.335	1.99	-0.171	1.96					0.664	4.49
Wages ²	-1.280	1.37	2.182	2.92	-1.103	2.06	-0.256	0.85	2.483	3.49			-1.407	2.38				
Entrepreneurs ^{3,4}	0.427	2.44	0.280	1.99	0.228	2.37	0.130	2.10	-0.733	5.82	-0.140	2.07			-0.514	4.10		
Industry ⁵			-0.038	1.16	0.098	3.20			-0.113	4.03			0.051	1.44	-0.080	1.89	0.043	0.96
Agriculture ⁵	-0.239	4.72			0.097	2.04					-0.049	1.57	0.341	7.06	-0.197	3.19	0.073	1.02
Pop.density [log]					0.461	1.07			-0.494	1.29	-0.429	1.89	-0.345	0.77			1.734	3.32
Retirees ⁴			0.565	4.94					0.161	2.03	-0.177	3.00			-0.166	1.39	-0.305	2.66
R. Catholic ⁴	0.040	1.41	-0.062	2.44	0.211	12.00	0.012	1.16	-0.127	6.23	-0.021	1.85			-0.049	2.67	0.060	2.92
Univ. Educated ⁴	0.683	4.37			-0.095	0.65	0.146	2.95	-0.317	2.00			0.233	1.50	-0.319	1.95	-0.126	0.63
Moravian ⁴	-0.145	7.72	-0.026	1.57	0.047	4.13	-0.034	5.05	0.048	3.48	-0.047	5.95	-0.070	7.00			0.282	20.11
R ²	0.749		0.501		0.886		0.557		0.630		0.671		0.725		0.354		0.928	
Adjusted R ²	0.723		0.457		0.873		0.519		0.580		0.637		0.701		0.297		0.919	
National Vote	29.73		5.93		6.28		4.59		14.05		6.53		6.52		5.98		5.87	
Std. Deviation	4.71		3.22		4.05		1.25		2.67		1.62		3.07		2.45		7.00	

Notes: T-statistics in italics. Number of observations: 76. Estimation method: Seemingly Unrelated Regressions (SUR).

¹ Unemployment rate in percent; ² Wage in thousands, national currency; ³ Individual small entrepreneurs and/or self-employed, excl. farmers; ⁴ Percentage of total population; ⁵ Percentage of total employment.

Table 4. Regression Results, Czech Republic, 1996: Determinants of Voting Behavior.

Variable	ODS		ODA		KDU/CSL		SD/LSNS		DEU		CSSD		KSCM		SPR-RSC		HSMS	
<i>t-stat</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>nationalist</i>	<i>nationalist</i>	<i>minority</i>	<i>minority</i>	
Constant	18.739	3.52	6.248	3.92	-0.270	0.07	4.373	4.22	2.779	2.26	32.462	5.48	9.357	3.02	18.251	6.54	-0.386	1.11
Unemployment ¹	-0.994	5.84	-0.319	4.25	-0.172	1.38	-0.136	4.51	-0.044	1.09	0.982	5.26	0.427	4.26	0.297	2.65		
Wages ²	0.948	2.68			-0.931	2.81	-0.201	2.33	0.196	1.65	-1.203	2.56	1.095	3.74			0.063	1.80
Entrepreneurs ^{3,4}	0.189	1.74							0.031	1.41			-0.155	2.57	-0.072	1.00	-0.005	0.77
Industry ⁵	-0.106	3.04			0.097	3.84					0.082	2.54	-0.046	1.93	-0.034	1.32	-0.004	1.51
Agriculture ⁵	-0.372	5.69	-0.119	3.81					-0.044	2.56	0.227	3.11	0.218	4.81	0.045	0.92	0.006	1.20
Pop.density [log]			-0.628	2.31					-0.688	4.27	2.527	4.51	-0.950	2.70	0.380	1.18	0.061	1.29
Retirees ⁴	0.501	3.85	0.161	2.37	0.172	1.60	0.036	1.30	0.057	1.62	-0.776	4.41			-0.251	2.75		
R. Catholic ⁴	0.039	1.40			0.220	13.75	-0.025	6.82					-0.097	5.69	-0.102	5.48		
Univ. Educated ⁴			0.275	3.56	0.218	1.61	0.050	1.57	0.158	3.42			-0.157	1.24	-0.371	3.18	-0.058	3.58
Moravian ⁴	-0.100	5.40	0.019	3.10	0.013	0.95			-0.019	5.58	-0.046	2.85	0.061	5.32	0.018	1.44	0.033	29.98
R ²	0.762		0.542		0.815		0.514		0.611		0.581		0.622		0.583		0.942	
Adjusted R ²	0.734		0.502		0.796		0.479		0.564		0.537		0.571		0.526		0.936	
National Vote	29.62		6.36		8.08		2.05		2.80		26.44		10.33		8.01		0.42	
Std. Deviation	4.80		1.48		4.04		0.62		0.80		4.01		2.22		2.39		0.65	

Notes: T-statistics in italics. Number of observations: 76. Estimated as Seemingly Unrelated Regressions (SUR).

¹ Unemployment rate in percent; ² Wage in thousands, national currency; ³ Individual small entrepreneurs and/or self-employed, excl. farmers; ⁴ Percentage of total population; ⁵ Percentage of total employment.

Table 5. Regression Results, Slovak Republic, 1992: Determinants of Voting Behavior.

Variable	KDH		ODU		DS		SDL		SDSS		HZDS		SNS		MK		MOS	
<i>t-stat</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>nationalist</i>	<i>nationalist</i>	<i>nationalist</i>	<i>nationalist</i>	<i>minority</i>	<i>minority</i>	<i>minority</i>	<i>minority</i>
Constant	15.635	1.71	-6.675	1.46	-2.478	0.70	24.412	8.18	4.541	1.12	68.503	4.43	-12.162	2.59	-6.650	1.66	7.466	2.46
Unemployment ¹					-0.044	0.86	0.257	2.95									-0.176	3.26
Wages ²	-0.757	0.43	2.567	2.68	1.642	2.40			-0.847	0.99	-4.044	1.33			-0.674	0.92		
Entrepreneurs ^{3,4}	0.683	1.75					0.268	0.79	0.646	3.44	-1.753	2.38					0.220	1.64
Industry ⁵	0.063	1.34	-0.100	2.63	-0.043	2.02			0.038	1.28			0.099	2.26			0.037	1.58
Agriculture ⁵	0.263	3.10	-0.059	1.18	-0.042	1.24	0.112	1.45	0.190	4.62	-0.585	3.25			0.073	1.99	-0.001	0.02
Pop.density [log]			1.760	3.90	0.503	1.91					-3.019	3.50	-0.483	0.87	1.435	4.16	-0.550	1.58
Retirees ⁴	-0.973	4.46									0.869	2.57	0.395	2.67	0.180	1.82	-0.344	3.52
R. Catholic ⁴	0.080	2.44	-0.044	2.32	-0.026	2.10	-0.257	7.33	-0.063	3.83	0.192	2.58	0.115	4.63				
Univ. Educated ⁴			-0.436	2.72									1.036	5.66	-0.217	1.80		
Hungarian ⁴	-0.151	6.51	-0.040	2.43	-0.019	1.80	-0.143	5.49	-0.067	5.68	-0.397	7.38	-0.031	1.55	0.669	58.87	0.279	22.85
Roma ⁴	1.017	3.47	0.340	2.20	0.236	2.18	1.229	4.29	0.515	3.65	-3.504	5.79	-0.323	1.56	0.091	1.00		
R ²	0.793		0.527		0.633		0.787		0.680		0.838		0.775		0.994		0.952	
Adjusted R ²	0.736		0.397		0.531		0.745		0.605		0.793		0.723		0.993		0.941	
National Vote	8.89		4.04		3.31		14.70		4.00		37.26		7.93		7.42		2.29	
Std. Deviation	5.36		2.21		1.63		5.95		2.18		14.24		3.74		15.27		5.55	

Notes: T-statistics in italics. Number of observations: 38. Estimation method: Seemingly Unrelated Regressions (SUR).

¹ Unemployment rate in percent; ² Wage in thousands, national currency; ³ Individual small entrepreneurs and/or self-employed, excl. farmers; ⁴ Percentage of total population; ⁵ Percentage of total employment.

Table 6. Regression Results, Slovak Republic, 1994: Determinants of Voting Behavior.

Variable	KDH		DU		DS		SV		ZRS		KSS		HZDS		SNS		MK	
<i>t-stat</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>nationalist</i>	<i>nationalist</i>	<i>nationalist</i>	<i>nationalist</i>	<i>minority</i>	<i>minority</i>
Constant	22.267	3.46	-7.154	1.55	-1.776	0.97	1.116	0.19	19.719	5.00	6.918	2.60	51.198	3.74	-9.256	2.74	0.650	0.21
Unemployment ¹			-0.202	2.57	-0.076	2.45	-0.140	2.01			0.092	2.42	0.301	1.96	0.108	2.20	-0.076	2.17
Wages ²			4.184	5.23	1.185	3.65	2.722	3.58			0.242	0.51	-7.898	5.38			-0.490	1.12
Entrepreneurs ^{3,4}			-0.752	2.55	-0.152	1.38			-0.510	2.05			0.941	1.74	0.401	2.17		
Industry ⁵	-0.089	1.62	-0.149	3.54			-0.047	0.97	0.052	1.17	-0.020	0.90	0.220	2.10	0.100	2.84	0.017	0.64
Agriculture ⁵	0.200	2.42					0.108	1.73	0.101	2.02			-0.399	3.08	-0.050	1.28	0.070	2.07
Pop.density [log]	1.251	2.21	0.607	1.37					-1.036	2.35	-0.358	1.21	-1.152	1.26	-0.631	1.90	1.004	3.78
Retirees ⁴	-1.168	4.81					0.157	1.04	-0.217	1.85			1.384	3.82	0.249	2.78	-0.158	2.11
R. Catholic ⁴	0.062	2.19			-0.009	1.20	-0.099	4.74	-0.106	5.53	-0.061	5.11	0.138	2.80	0.082	5.93	0.007	0.65
Univ. Educated ⁴			0.073	0.41	0.091	1.14	-0.289	1.32	0.360	1.96	-0.125	0.86			0.458	2.93	-0.133	0.83
Hungarian ⁴	-0.187	6.95	-0.040	2.42	-0.011	1.62	-0.061	3.48	-0.052	3.42	-0.023	2.48	-0.461	9.64	-0.031	2.67	0.941	103.78
Roma ⁴	0.515	1.92	0.267	1.45	0.243	3.33	0.725	3.62	0.604	3.81			-2.249	4.24	-0.396	3.33		
R ²	0.794		0.803		0.753		0.711		0.838		0.636		0.891		0.856		0.999	
Adjusted R ²	0.745		0.749		0.695		0.618		0.785		0.551		0.850		0.803		0.998	
National Vote	10.08		8.57		3.42		10.41		7.34		2.72		34.96		5.40		10.18	
Std. Deviation	5.45		3.41		1.27		2.89		3.23		1.18		13.30		2.45		20.67	

Notes: T-statistics in italics. Number of observations: 38. Estimation method: Seemingly Unrelated Regressions (SUR).

¹ Unemployment rate in percent; ² Wage in thousands, national currency; ³ Individual small entrepreneurs and/or self-employed, excl. farmers; ⁴ Percentage of total population; ⁵ Percentage of total employment.

Table 7. Regression Results, Hungary 1994: Determinants of Voting Behavior.

Variable	Fidesz		MDF		SzDSz		MSzP		MP		KDNP		FKgP	
<i>t-stat</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>nationalist</i>	<i>nationalist</i>	<i>Nationalist</i>	<i>Nationalist</i>
Constant	8.848	3.92	22.057	5.64	38.658	8.07	-6.931	0.70	-11.373	3.04	22.231	4.74	26.158	6.83
Unemployment ¹			-0.301	3.90	-0.700	4.54	1.253	4.83	0.198	2.69	-0.344	3.51	-0.274	2.51
Wages ²	0.131	3.29	-0.385	3.79			0.535	2.47	-0.243	2.43	-0.505	3.66		
Entrepreneurs ^{3,4}					-0.353	1.21	0.799	2.60	-0.187	1.48			0.200	1.03
Industry ⁵	0.030	2.11							0.106	5.68	0.124	4.44	-0.078	2.18
Agriculture ⁵	0.164	4.10			-0.296	2.13					-0.198	2.45		
Pop.density [log]			2.180	6.27	-1.223	1.83			1.533	3.60	1.027	1.52	-2.569	6.73
Retirees ⁴	-0.468	6.51	-0.200	2.43					0.611	7.61				
R ²	0.590		0.510		0.530		0.429		0.830		0.533		0.680	
Adjusted R ²	0.481		0.379		0.404		0.322		0.751		0.367		0.595	
National Vote	7.02		11.74		19.74		32.99		3.45		7.03		8.82	
Std. Deviation	0.98		1.58		2.61		4.41		1.98		1.88		2.34	

Notes: T-statistics in italics. Number of observations: 20. Estimation method: Seemingly Unrelated Regressions (SUR).

¹ Unemployment rate in percent; ² Wage in thousands, national currency; ³ Individual small entrepreneurs and/or self-employed, excl. farmers; ⁴ Percentage of total population; ⁵ Percentage of total employment.

Table 8. Regression Results, Hungary 1998: Determinants of Voting Behavior.

Variable	Fidesz		MDF		SzDSz		MSzP		MP		FKgP		MIEP	
t-stat	pro-reform		pro-reform		pro-reform		left		left		nationalist		nationalist	
Constant	38.754	5.71	4.129	3.13	4.446	2.06	22.658	3.51	-14.425	6.91	41.814	7.33	-0.570	0.18
Unemployment ¹			-0.103	2.85	-0.340	4.24	0.379	2.25	0.350	5.56	-0.388	2.45	0.056	0.68
Wages ²					0.079	1.05					-0.207	1.93	0.178	3.35
Entrepreneurs ^{3,4}	1.661	3.05			-0.442	1.88					-1.214	2.72		
Industry ⁵	0.112	1.78							0.105	4.52	-0.231	4.39	-0.062	2.31
Agriculture ⁵	-0.553	2.38					0.689	3.34	-0.115	1.98	0.157	1.31	-0.087	1.20
Pop.density [log]	-4.143	3.63	0.175	1.32	1.153	2.54	2.861	3.09						
Retirees ⁴			-0.054	0.90			-0.731	3.67	0.663	7.14				
R ²	0.226		0.246		0.712		0.315		0.754		0.639		0.621	
Adjusted R ²	0.020		0.105		0.635		0.133		0.689		0.511		0.520	
National Vote	28.37		3.13		8.11		32.10		4.15		13.41		5.64	
Std. Deviation	3.79		0.59		1.52		3.38		1.89		3.08		1.64	

Notes: T-statistics in italics. Number of observations: 20. Estimation method: Seemingly Unrelated Regressions (SUR).

¹ Unemployment rate in percent; ² Wage in thousands, national currency; ³ Individual small entrepreneurs and/or self-employed, excl. farmers; ⁴ Percentage of total population; ⁵ Percentage of total employment.

Table 9. Regression Results, Poland, Sejm Election in 1993 and Presidential Election in 1995: Determinants of Voting Behavior.

Variable <i>t-stat</i>	UD		BBWR		UP		SLD		PSL		KPN		Presidential Elections 1995			
	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>nationalist</i>	<i>nationalist</i>	<i>Kwasniewski</i>	<i>Walesa</i>	<i>Kwasniewski</i>	<i>Walesa</i>
Constant	24.172	3.68	7.282	2.55	-4.190	0.76	20.330	2.10	-21.707	1.80	12.490	2.80	2.359	0.10	97.641	4.20
Unemployment ¹	-0.196	3.11	-0.079	1.82	0.079	1.51	0.304	2.39	0.171	1.19	-0.128	2.37	1.001	3.64	-1.001	3.64
Wages ²	1.929	2.14			1.617	2.02			4.393	2.05	-2.025	2.38	10.612	2.32	-10.612	2.32
Entrepreneurs ^{3,4}	1.485	3.71	0.501	2.07	0.862	2.56					-0.980	3.09	3.997	2.30	-3.997	2.30
Industry ⁵	-0.182	2.57	-0.166	3.57	0.049	0.85	0.292	1.98			0.061	0.99	0.848	2.63	-0.848	2.63
Agriculture ⁵	-0.140	3.30			-0.071	2.02	-0.206	3.20	0.431	6.69						
Pop.density [log]	1.440	1.98	2.164	3.82	-0.614	1.03	-4.392	2.88			1.981	2.72	-16.357	4.31	16.357	4.31
Retirees ⁴	-0.711	3.72	-0.615	4.47	-0.614	1.03	1.153	2.79	1.004	2.21	-0.372	2.17	3.186	3.65	-3.186	3.65
Univ. Educated ⁴			-0.245	2.15	0.285	1.81			-0.914	2.41	0.162	1.06	-0.868	1.04	0.868	1.04
R ²	0.819		0.449		0.695		0.513		0.773		0.421		0.634		0.634	
Adjusted R ²	0.789		0.370		0.643		0.456		0.746		0.322		0.571		0.571	
National Vote	10.60		5.40		10.60		20.40		15.40		5.80		51.72		48.28	
Std. Deviation	3.94		1.72		2.49		5.29		9.11		2.04		11.94		11.94	

Notes: T-statistics in italics. Number of observations: 49. Sejm election estimated as Seemingly Unrelated Regressions (SUR), presidential election estimated by OLS.

¹ Unemployment rate in percent; ² Wage in thousands, national currency; ³ Individual small entrepreneurs and/or self-employed, excl. farmers; ⁴ Percentage of total population; ⁵ Percentage of total employment.

Table10. Regression Results, Poland 1997: Determinants of Voting Behavior.

Variable	AWS		UW		SLD		PSL		UP		ROP	
<i>t-stat</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>pro-reform</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>left</i>	<i>nationalist</i>	
Constant	43.921	2.39	15.887	4.51	21.060	1.35	-3.805	0.52	2.372	0.72	-11.268	2.43
Unemployment ¹	-0.366	1.69	-0.084	1.34	0.500	2.91			0.059	1.48	0.127	2.35
Wages ²	-35.183	2.70			16.107	1.58	12.660	2.08	4.150	1.70	7.345	2.35
Entrepreneurs ^{3,4}	-2.052	1.41	1.168	2.90	1.356	1.36	0.815	1.20			-0.466	1.44
Industry ⁵					0.269	1.73	-0.339	2.60	0.115	2.81		
Agriculture ⁵	0.510	4.25	-0.093	3.03	-0.436	3.97	0.084	1.06	-0.031	1.69	0.077	2.90
Pop.density [log]	9.584	5.23			-7.225	4.45			-1.778	4.27		
Retirees ⁴	-3.284	4.67	-0.542	2.90	2.252	4.86	0.902	2.80	0.377	3.22	0.459	3.30
Univ. Educated ⁴	2.328	4.17	0.399	2.54	-1.363	2.97	-1.337	3.96			0.384	3.24
R ²	0.560		0.832		0.764		0.753		0.454		0.608	
Adjusted R ²	0.484		0.812		0.717		0.718		0.376		0.552	
National Vote	33.83		13.37		27.13		7.31		4.74		5.56	
Std. Deviation	9.08		4.07		8.00		5.66		1.38		1.98	

Notes: T-statistics in italics. Number of observations: 49. Estimation method: Seemingly Unrelated Regressions (SUR).

¹ Unemployment rate in percent; ² Wage in thousands, national currency; ³ Individual small entrepreneurs and/or self-employed, excl. farmers; ⁴ Percentage of total population; ⁵ Percentage of total employment.