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Candidate Turnover and Party Policy Change in Central and Eastern Europe

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Abstract. We have previously suggested using the turnover of candidates from one election to the next as an overall proxy for party change. This paper studies the relationship between candidate change and party policy change. The causality can run in both ways. On the one hand, candidate change reflects general personnel change among parties and policy ideas can change following the change of people. On the other hand, policy changes can alienate existing candidates and/or draw in new people. Our analysis finds that candidate and policy change are linked when controlling for factors like party size, change in support etc. For candidate change, we rely on our original dataset "Electoral Candidates in Central and Eastern Europe" covering 200,000 candidates from 60 elections in nine democracies since 1990. For measuring policy change, we use MARPOR and CHES – two authoritative datasets with time-series data on party policies. Instead of employing ready-made aggregate indices (Left-Right/Gal-Tan), we develop new measures accounting for changes in specific policies; this is necessary as previous studies have cautioned against using the Left-Right scale in the region.

Politics is made by people – political institutions would be nothing without the individuals who give them life. Political parties, too, are driven by people and electoral candidates are their lifeblood. Parties can exist without members but candidates are always central to fulfilling parties' main functions – presenting people for election (Riggs, 1968: 51), occupying political offices, and implementing policy. Thereby, candidates – especially the top-ranking ones – are the literal "face" of parties and ultimately determine what parties stand for. Yet candidates are not wedded to parties permanently – they can leave or join politics, switch parties, follow or stay behind when parties split or merge. Parties evolve and candidates are the "genes" that drive constant change and mutation in the party DNA. Even parties that appear stable in terms of leaders and organisation change subcutaneously – and change in candidates (and, by extension, representatives) can fundamentally alter their substance.

Our research relies on a "genetic" approach to party politics. We argue that parties as "political organisms" consist of various smaller units (e.g. organisations, programmes, leaders, rank-and-file members, and candidates) of which candidates a highly important, but also the best defined, most visible and conveniently measured unit. Similar to genetic sequencing in evolutionary biology, we hence use change in candidates as "party genes" as an overall indicator of party change and evolution.

We believe that much can be gleaned in party studies by refocusing analysis so as to analyse change in the macro (parties) through change in the micro (candidates). This paper forms part of a larger project on electoral candidates and party system evolution. The project is based on our "genetic approach" and conceptualizes party change as a multidimensional concept (Sikk and Köker 2017a; see also Key 1942; Barnea and Rahat 2011; Litton 2015). The underlying dataset and our theoretical underpinnings have been introduced in greater detail elsewhere (Sikk and Köker 2017b).[1]

In this paper we study the relationship between candidate turnover and party policy change. We have previously shown that candidate turnover illuminates the questions of party entry and exit (Sikk and Köker 2018), changes in organisation and electoral support (Sikk and Köker 2017b), and is related to perceived corruption (Sikk and Köker 2016). Both candidate turnover and shifts in party policies ultimately indicate a change in what political parties stand for – more than any other dimension of party change (e.g. leader, organisation, or name) they signal a change to parties' "content". Hence, we expect to see a connection between them; yet the causality should run both ways. On the one hand, candidate change reflects general personnel turnover among parties. Programmatic priorities shift almost naturally when the old guard leaves and allows new ideas to emerge. Change in candidates can thus precipitate a change in party policy. On the other hand, policy change can also induce change among candidates. New policies are likely to attract new people to a party but can also alienate existing candidates who may no longer be happy with their party's direction.

In the following analysis, rather than relying on ready-made indices, we propose a new measure of programmatic similarity that accounts for changes in specific policies. The indices are based on data from the Manifesto Project (MARPOR, Volkens et al 2018) and the Chapel Hill Expert Survey (CHES, Polk et al 2017, Bakker et al 2015) – two authoritative datasets with time-series data on party policies. For candidate turnover, we rely on our original data set 'Electoral Candidates in Central and Eastern Europe' (ECCEE). We find a statistically significant link between policy change and candidate novelty and dropout when controlling for factors like party size, change in electoral support, and election timing. Yet, this is only the case for our MARPOR-based measure, but not for the CHES-based indicator. We contend that this, and the lack of correlation between the two measures, has more to do with the structure of CHES data (that does not coincide with electoral cycles) and its much more limited time-span. Our

[1] As the paper is a draft version of one of the chapters, it deviates from the typical style of a conference paper / article.

indicators can be further improved and we contend that this would result in a better alignment between themselves and clearer links between policy change and candidate turnover. Therefore, we complement our statistical analysis with a closer examination of representative and anomalous cases and a discussion of methodological challenges. Overall, the results suggest that various dimensions of party change are connected (Sikk & Köker 2017a) and further strengthen our case for using candidate turnover as a general proxy for party change.

Data and Methods

This paper is based on three substantial datasets. First, we rely on our original dataset "Electoral Candidates in Central and Eastern Europe" (ECCEE) to measure candidate change. By candidate change we mean both the share of new candidates, candidates dropping out by the following election and candidates switching parties ECCEE includes some 200,000 electoral candidates, covering over 60 elections and 1,000 parties in nine Central and East European (CEE) democracies since 1990. To our knowledge this is the largest single cross-country dataset on electoral candidates to date; however, this "Big Data" is "big but thin", meaning that there is often only a limited amount of variables (i.e. candidate name, party, constituency and result). To trace candidate movements – in and out of parties and between parties – over consecutive elections, we use an original code in R that makes best use of the limited information available.[2] Our key variables of interest are weighted candidate novelty and dropout – i.e. the share of candidates that did not run in the previous election and the share of candidates not returning in the following election, each weighted by their prominence on party lists (see Appendix 1 for a discussion of our weighting procedures).[3]

For measuring policy change, we use Manifesto Research on Political Representation (MARPOR, Volkens et al 2018) and the Chapel Hill Expert Survey (CHES, Polk et al 2017, Bakker et al 2015) – two authoritative datasets with time-series data on party policies. Nevertheless, measuring party policy positions and, in particular, their change, poses particular challenges. MARPOR and CHES are both excellent time series datasets, but they are generally more appropriate for measuring party policy positions rather than their change (see Adams et al. 2019). Furthermore, previous studies have cautioned against using the Left-Right scale or other measures developed based on Western European party systems in CEE (see, for example, Mölder 2016). Instead of employing ready-made aggregate indices, we therefore propose new measures that account for changes in specific policies.

The Polish Civic Platform (PO) between 2006 and 2010 illustrates the problem of aggregation, especially for the measurement of policy change. According to CHES PO started out as a highly liberal

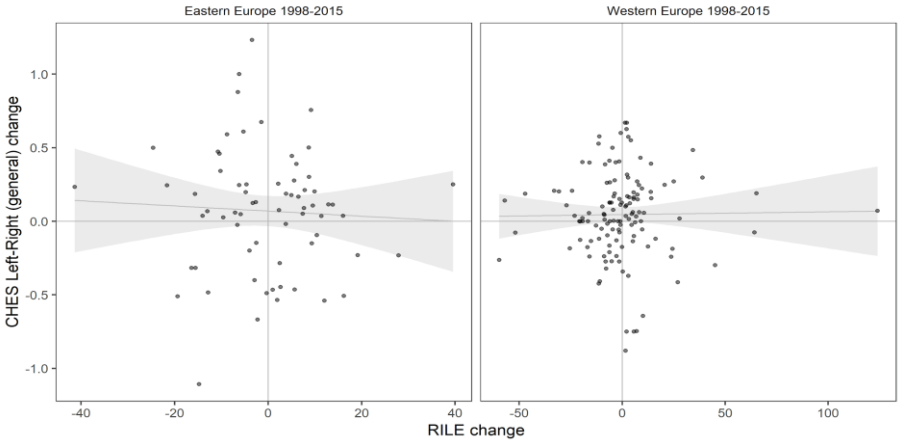
[2] For more details on the dataset and measures used in the paper see Sikk & Köker 2016 and 2017b.
[3] Additionally, we analyse the weighted share of candidates new to a particular party or leaving a particular party, respectively – i.e. we include both completely new candidates and those coming from other parties here (candidates leaving elections and those leaving the party, respectively). The results of the models incorporating these measures are very similar to our main models and thus only given in the appendix.

party both economically and socially; yet, after entering the government in 2007 it moved considerably towards the centre on both dimensions (Table 1). However, as it thus moved to the left economically, and to the right socially, the change in the overall left-right placement was small and failed to reflect the magnitude of policy position change. While the singular Left-Right score is only somewhat misleading for 2006, it is once again fairly suggestive for 2010; however, the singular score for change suffers from "double aggregation". Summing up change across dimensions would yield a more meaningful yardstick: for PO, 2.3 + |-1.5| = 3.8.

Table 1 Misleading aggregate change: Polish Civic Platform 2006-10 in CHES

Dimension/year	2006	2010	change
Left-Right general	5.3	6.0	0.7
Left-Right economic	8.2	6.7	-1.5
Gal-Tan	2.7	5.0	2.3

Figure 1 Changes in Left-Right indices are not correlated



Note: CHES left-right placements interpolated for election years.

However, both MARPOR and CHES allow for even more nuanced and meaningful measurement of overall change as we can dig deeper into change in particular policy dimensions. In case of MARPOR, this is quasi-sentences coded into different topics only occasionally positional.[4] In CHES, country experts locate parties on a number of policy scales. Both of the datasets also provide aggregate measures of Left-Right placement. In CHES, this is provided by experts (rather than aggregated from the other policy variables). In MARPOR, the RILE (Right-Left) indicator has been derived from identifying policy categories relevant to the Left-Right scale and deducting from the sum of "left" categories the sum of "right" categories.[5] However, either because the Left-Right scale is poorly applicable to CEE

[4] MARPOR's approach is often criticised, but we concur with Meyer (2013) that it is (at least) useful for analysing change in party policy positions.

[5] A number of other approaches, some not involving such simple deduction, have been proposed, some involving simple or logged ratios, sometimes inductively using factor analysis (see Budge 2013 for an overview). Still, they are always based on the aggregation, in one way or another, of the original quasi-sentences. We are aware of alternative approaches to extracting Left-Right positions from the MARPOR data (e.g. Bakker & Hobolt 2015,

countries or fluctuations in the scores do not capture well policy change (or most likely both), our analysis found no relationship between changes in MARPOR or CHES Left-Right positions and candidate turnover.[6] Remarkably, the correlation between changes in the two respective Left-Right indices is non-existent and even slightly negative in CEE (Figure 1).

A different way of assessing the extent of party policy change is to follow Franzmann's (2013) index of programmatic similarity (Ü). Ü was originally devised for analysing similarities between different parties but can also be used for same parties over several elections. The index adds up the changes in all quasi-sentence categories, very much like the index of disproportionality between parties' vote and seat shares or electoral volatility:

$$Ü = 1 - \frac{1}{2}\sum|s_a - s_b| \qquad (1)$$

s_a and s_b stand for shares of quasi-sentence categories mentioned by parties a and b over all MARPOR categories; for measuring similarity between a party's manifesto in two elections in t and t-1, these can be replaced by s_t and s_{t-1}. As we are interested in measuring change (rather than similarity), we omit the first "1" and the minus sign in Formula (1).

A similar approach can also be used with CHES data by finding the mean change in party positions (MCPP) across all the dimensions included in the survey. It is conceivable that a party may experience a significant change that is narrowly focused on a single issue, leaving the rest of its policy profile broadly intact (this occurred with several European parties when the recent refugee crisis became politicised). One potential problem with MCPP is that sometimes great fluctuations occur on dimensions where there is considerable uncertainty among experts. However, we can assume that the higher the level of uncertainty, the more likely experts are likely to place parties in the middle limiting the "risk" of fluctuations or, in case they disagree, the scores will regress towards the mean.[7]

This is a more universal approach that does not make assumptions regarding dimensionality in party policy space but can be problematic as changes between all categories are treated as equal. For a hypothetical example, consider the situation where the manifestos of two parties only mention one topic of "Protectionism: Negative" while in the following election one of them changes entirely to (the closely related) "Free Market Economy" but the other undergoes a total conversion into "Protectionism: Positive". Ü would be maximum for both but only the second party experienced a substantive change in its policy profile. We are currently only in the early stages of developing a method for establishing

Benoit & Däuble 2015, Prosser 2014). We are planning to discuss and analyse these in future iterations of this research but these are unlikely to offer better insights into policy *change.* This is mostly because reducing information to single or a small number of scales always leads to loss of information – some of which may signal important policy shifts.

[6] Discussion of the Left-Right scales is included in Appendix B.

[7] We also analysed the relationship between the *maximum* change in CHES dimensions (that suffers even more from the problem described earlier) as well as the maximum scaled (mean = 0, sd = 1) change and the sum of scaled changes over the all previous measures. No clearer relationship to candidate turnover was found.

such equivalences in MARPOR categories. Nevertheless, so far we have no evidence that such extreme hypothetical situations actually materialise.

Finally, two particular issues in the nature of the data and CEE party politics affect our analysis. First, while MARPOR data is based on party manifestos and measurement thus coincides with elections, the CHES survey is conducted in waves every four years. Although the standard electoral term in CEE is also four years, change in party positions between elections can still be insufficiently measured – both because the electoral terms do not coincide with CHES rounds and because snap elections have been fairly common across the region. In this paper, we interpolate scores between CHES waves to match them to election years. While this implicitly assumes that party positions change linearly between the survey years, alternatives to interpolation are worse (e.g. zero change if two elections are closest to one and the same CHES survey).

Second, we can obviously only measure party policy change if a party contests a pair of subsequent elections. While this may seem like a trivial question, such party continuities are far less common in CEE than in Western European party systems. Parties frequently undergo fissions and fusions and are involved in coalition-making and coalition-breaking that are often very complex (see Marinova 2015; Ibenskas & Sikk 2017). We mostly relied on party codes in MARPOR and CHES to identify continuing parties – this still leaves us with a sizeable dataset that includes both larger and smaller parties, but unfortunately excludes some parties engaged in complex fissions and fusions.[8] This problem also prevents us from analysing the effects of candidate turnover on *subsequent* policy change (and vice versa) – to do so, we would need party continuity over *three* subsequent elections which in CEE is an exception rather than a rule. Therefore, our analysis will focus on the *concurrent* change in candidate and party policy. Despite these limitations, the analysis above presents a significant improvement over using simple aggregated left-right indices and provides an appropriate test of the relationship between candidate turnover and party policy change.

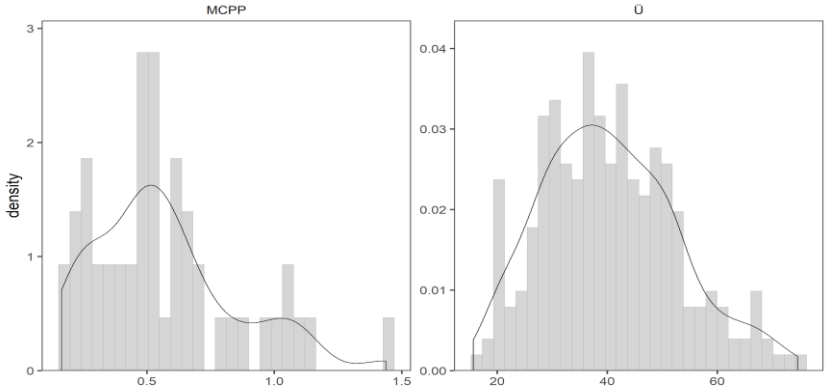
Analysis

Our analysis proceeds in three steps. First, we look at the big picture of the distribution of policy change indicators across CEE and in individual countries. We then turn to analysing the relationship between

[8] We manually coded ten continuities among larger parties where we were aware of substantive continuity (mostly party mergers or near-identical electoral coalitions). Bulgaria: Union of Democratic Forces (1994) - United Democratic Forces (1997); Estonia: Popular Front (1992) - Centre Party (1995), Pro Patria - National Independence Party (1995) - Pro Patria (1999); Latvia: For Fatherland and Freedom (1995) - For Fatherland and Freedom - Latvian National Independence Movement (1998), National Harmony Party (1998) - For Human Rights in a United Latvia (2002), New Era (2006) - Unity (2010); Lithuania: Lithuanian Liberal Union (2000) - Liberal and Centre Union (2004), Lithuanian Peasants Party (2000) - Union of Peasants and New Democracy Party (2004); Slovakia: Slovak Democratic Coalition (1998) - Slovak Democratic and Christian Union (2002). Finally, we excluded the German minority party in Poland from our analysis because the big fluctuations in its candidate turnover were linked to the fluctuation in its list length.

candidate turnover and policy change using bivariate correlation and regression analysis. Finally, we discuss some individual cases of parties with particularly high and low levels of policy change.

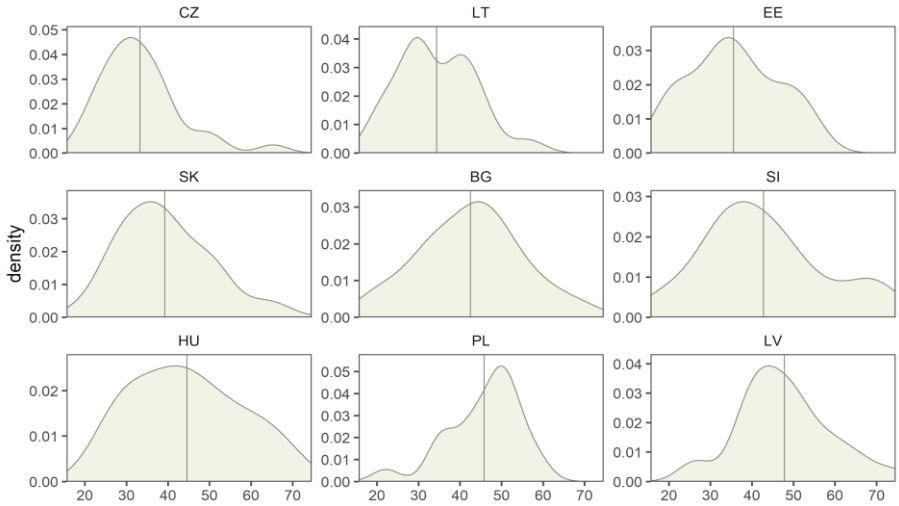
Figure 2 Distribution of policy change variables



Note: area under kernel density curves adds up to 1.

Figure 2 shows the distribution of our change indicators across the region. Both indicators of aggregate policy change are positively skewed, meaning that parties with more limited policy change are more common than those with higher levels of change. To account for this skewness, the indices are logged in our subsequent analysis. The distribution of Ü across the nine countries in our data set paints a similar picture (Figure 3) – differences between countries are fairly modest, ranging from Ü = 33 in Czechia and Lithuania to Ü = 48 in Latvia. The difference in mean MCPP is more pronounced – it is twice as high in Poland (0.76) compared to Bulgaria (0.38). Differences in country averages are to be expected as the overlap in data coverage between the two indices is limited.[9]

Figure 3 Distribution of Ü by country

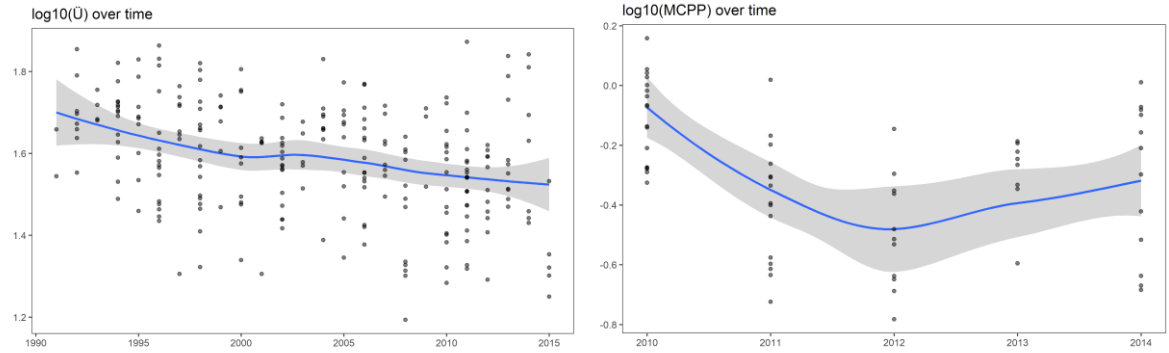


Notes: Countries ordered by mean Ü; area under kernel density curves adds up to 1.

[9] This is mostly because of the limited time span of the CHES data; however, some electons included in CHES were not included in MARPOR – mostly parties that declined in popularity after the CHES wave and before the election.

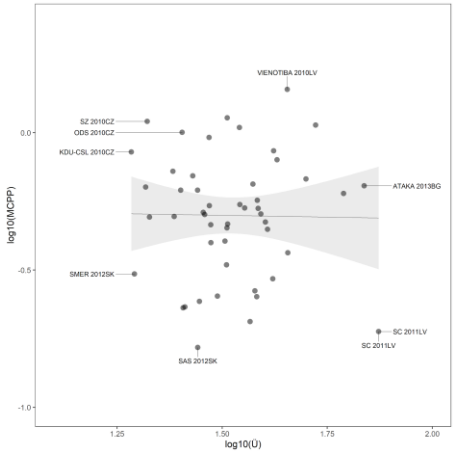
Remarkably, average Ü has consistently declined from typically above 50 ($\log_{10}1.7$) until the mid-1990s to below 40 ($\log_{10}1.6$) since the mid-2000s (Figure 4). The trend in MCPP is much less pronounced than Ü, mostly because of the narrow period of time for which data is available but the trend is likewise very limited for Ü since 2009. The correlation between the two measures of party policy change in the same period is very weak and there are many striking outliers (see Figure 5). However, falling Ü suggests that parties – i.e. stable parties that contested at least two consecutive elections – have become more stable in the language of their manifestos over time. However, this must *not* be read as a suggestion of increasing party system stability or institutionalization of party competition – frequent change and turnover is still ubiquitous in CEE party systems and there is overall no decreasing trend of new party success or electoral volatility (Ibenskas and Sikk 2017).[10] Hence, it appears that policy profiles of continuing parties, rather than the party system itself, that have become more "institutionalised". Decreasing Ü also concurs with evidence of partial consolidation in CEE party politics – at least in the "established party subsystem" (Haughton & Deegan-Krause 2015).

Figure 4 Development of Ü and MCPP over time



Note: smooth fits weighted by party size (v)

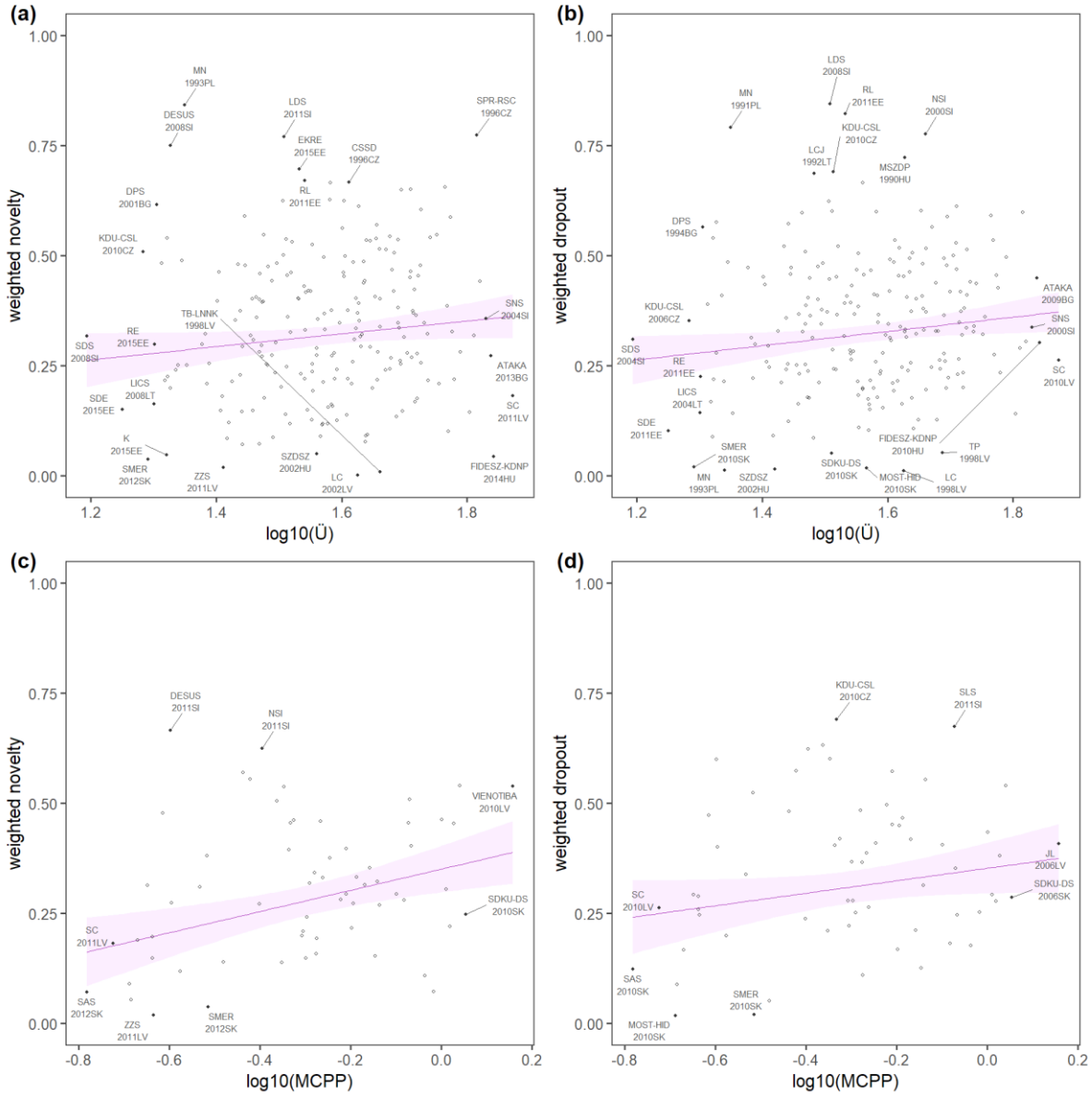
Figure 5 Correlation between Ü and MCPP



[10] Still, our data suggests a clearly decreasing trend in overall levels of weighted candidate novelty among continuing parties, and a slightly decreasing trend in candidate dropout.

We now turn to analysing the link between candidate turnover and policy change. Figure 6 plots the relationship between Ü, MCPP and weighted candidate turnover. The simple bivariate correlations run in the expected direction but are not particularly strong - especially for Ü that covers many more electons. As we have noted elsewhere, we need to control for essential determinants of candidate turnover – party size, change in vote share, time between elections, and fixed country effects (for more details see Sikk & Köker 2016).

Figure 6 Policy change and weighted candidate novelty and dropout



The need to control for party size and change in vote share also becomes clear when looking at some of the outliers in Figure 6 as these parties often either saw their voter base disappear or experienced comparatively high and stable electoral support. For instance, the LDS in Slovenia registered only medium policy change according to Ü, yet simultaneously had very high candidate novelty and dropout.

This was probably due to its constantly decreasing electoral fortunes – it fell from first-placed party in 2000 to smallest parliamentary party in 2008, before dropping out of parliament in the 2011 election, so that candidates had great incentives to seek their luck elsewhere. Hence, other factors are also at play and we cannot expect a clear bivariate correlation.

Table 2 shows the results of regression models for weighted novelty and dropout controlling for a range of additional variables. First, we control for party size (i.e. vote share) that we have earlier found to be a major predictor of candidate turnover – the candidate slates of larger parties are considerably more stable than those of smaller parties (see Sikk & Köker 2016, 2017b). The variable is entered into the model as its logarithm to the base of 10 to ensure that the relative differences in party sizes are reflected more accurately.[11]

Second, we control for changes in parties' electoral support.[12] For that, we use the functional forms detected earlier in bivariate analysis. For weighted novelty and dropout alike, we are looking at the logged ratio v_t/v_{t-1} so that proportionally equal vote losses or gains result in a value of the same magnitude but different signs. Hence, the logged ratio for a party that increases its vote from 20% to 30% would have a logged ratio of 0.18 and a party that goes from 30% to 20% would have a logged ratio of -0.18. As our earlier work suggests (Sikk & Köker 2017b) the sign makes no difference for weighted dropout – candidate loss is increasingly likely when party support changes, regardless of the direction (hence, we used the absolute value of logged vote change in models 3 and 4). For candidate novelty, we found that only vote gains led to increased turnover; losses did not increase it compared to stable electoral support. Hence, in models 1 and 2, we are using logged vote with a zero ceiling (i.e. decreasing vote share is coded 0).[13]

Third, we control for the time between elections. We have previously found that snap elections, particularly those held in close proximity to the last poll, considerably reduce candidate novelty – parties have less time to recruit new faces and hence rely on their established pool of candidates (Sikk and Köker 2016). Finally, we include country fixed effects in the model. Although arguably a relatively crude control variable, there are important country-specific variations in candidate novelty and dropout (see Sikk and Köker 2016).

[11] For example, the logarithm ensures that a party with 20% of votes is equidistant from parties with 10% and 40%of votes, rather than 0% and 40% or 10% and 30% of votes. 20% is substantively closer to 40% than 0% and 30% is substantively closer to 20% than 10%.

[12] The causality here is likely to run both ways – increasingly popularity attracts new candidates and the new faces attract electoral support.

[13] These also result in more satisfactory models compared to more basic (non-transformed) functional forms.

Table 2 Regression models

	weighted novelty		weighted dropout	
	(1)	(2)	(3)	(4)
(Intercept)	0.005	0.103	0.081	0.463 **
	(0.129)	(0.137)	(0.124)	(0.161)
log10Ü	0.238 ***		0.249 ***	
	(0.067)		(0.064)	
log10MCPP		0.021		-0.044
		(0.089)		(0.102)
$\log_{10}$v	-0.118 ***	-0.143 **	-0.086 **	-0.179 **
	(0.033)	(0.044)	(0.030)	(0.053)
$\log_{10}(v_t/v_{t-1})$ [a]	0.428 ***	0.340 *	0.139 ***	0.096
	(0.059)	(0.149)	(0.041)	(0.099)
election gap (years)	0.031 **	0.083 ***	0.012	0.049
	(0.011)	(0.023)	(0.011)	(0.026)
Czechia	0.028	0.146 *	-0.020	0.010
	(0.035)	(0.067)	(0.033)	(0.072)
Estonia	-0.081 *	-0.031	-0.163 ***	-0.224 **
	(0.035)	(0.072)	(0.033)	(0.078)
Hungary	-0.193 ***	-0.136	-0.185 ***	-0.114
	(0.035)	(0.075)	(0.032)	(0.081)
Latvia	-0.111 **	0.147	-0.196 ***	-0.086
	(0.036)	(0.074)	(0.034)	(0.078)
Lithuania	-0.130 **	-0.102	-0.164 ***	-0.258 *
	(0.040)	(0.085)	(0.035)	(0.095)
Poland	-0.043	0.054	-0.101 **	-0.110
	(0.036)	(0.072)	(0.034)	(0.079)
Slovenia	0.088 *	0.280 ***	0.029	0.039
	(0.042)	(0.073)	(0.037)	(0.080)
Slovakia	-0.106 **	-0.003	-0.133 ***	-0.254 **
	(0.039)	(0.069)	(0.035)	(0.073)
N	215	49	215	49
adjusted R^2	0.413	0.790	0.365	0.705

Notes: Bulgaria is the reference country.
*** p < 0.001; ** p < 0.01; * p < 0.05.
[a] lower ceiling at 0 for weighted novelty; absolute value for weighted dropout (see Sikk & Köker 2017b).

The effect of Ü suggested on Figure 6 is confirmed both for novelty and dropout (models 1 and 3). The models suggest that *ceteris paribus* a ten-times increase in Ü increases candidate novelty by 24% and dropout by 25%; this corresponds to a smaller increase of about 12% within the actual range of Ü (74.57 / 15.63 = 4.77). However, the dependent and independent variables are difficult to determine here; in such cases a more realistic – and always higher – slope can be obtained by symmetrical regression that unfortunately is only easy to implement for bivariate regression (see Taagepera 2008: 154-175). A multivariate symmetrical regression was proposed by Tofallis (2002), but to our best knowledge has yet to be implemented in statistical software packages (e.g. R). that is currently not available. The CHES-based MCPP shows no statistically significant effect on either candidate novelty or dropout. Nevertheless, it is important to keep in mind that the reduced sample size that leaves out many interesting parties (CHES change variable is only available from 2009 onwards).

Two of our key control variables – party vote share and vote change – are clearly statistically significant in models 1-3. Also, the magnitude of the coefficients is broadly similar to our initial analysis (see Sikk & Köker 2017b: 13), i.e. larger parties tend to have lower candidate turnover while vote change (with appropriate functional forms) tends to increase turnover. The time between elections has a statistically significant effect on candidate novelty in the expected direction (models 1-2), yet there is no effect on dropout. The models with candidate novelty and dropout that incorporate movements from/to other parties – not just movement in and out of politics – are broadly similar to those in Table 2 (see Appendix C). Finally, some of the country dummies - that we use to capture variation in a cocktail of unmeasured variables (electoral system, party regulation, traditions etc) – are also statistically significant. In particular, Hungary (as well as Latvia and Lithuania) stand out as countries with generally more limited candidate turnover.[14]

Tables 3 and 4 show the ten parties with the highest and lowest value of MCPP and Ü, respectively. The tables hardly overlap – the only exception is the Latvian Harmony Centre (SC, 2011), which is among the ten parties noting the highest level of change according to both indicators. MCPP scores in Table 3 once again illustrate the difficulties created by the poor correspondence between CHES waves and elections in CEE and the need to control for the time period between elections. High levels of change are almost exclusively reserved for parties in full-term elections that coincide closely with CHES waves (2010 and 2014 respectively) – the only exception is the Slovenian Democratic Party (SDS 2014), still with a near-complete electoral term (three out of four years). Conversely, very limited change (bottom table) is associated with snap elections for which the Chapel Hill indicators were interpolated. For all, the electoral term was less than two years, except for Slovenia 2011 (just over three years). Notably, such a pattern cannot be found in Table 4 for parties with respectively high and low Ü. As mentioned above, while the measurement of party policies in MARPOR is connected to elections by design, the linear interpolation of CHES indicators for years between the survey waves is less than perfect. It is based on the assumption that party policies change at a constant rate rather than accelerating at any points in time; we believe that the change could accelerate around elections but there is no easy way to test or model the conjecture. While MCPP is clearly correlated to gap between elections, this is not the case for Ü. Hence, policy change is not necessarily limited by a short electoral term – the contrast to models with MCPP hints at the assumption underlying interpolation being questionable.

[14] For comparison, we include model estimates without country dummies in Appendix E.

Table 3 Parties with highest and lowest levels of MCPP

country	year	party		MCPP	vote %	vote change	weighted novelty
LV	2010	VIENOTIBA	Unity	1.44	31.9	15.5	0.54
SK	2010	SDKU-DS	Democratic & Christian Union - Democratic Party	1.13	15.4	-2.9	0.25
CZ	2010	SZ	Green Party	1.10	2.4	-3.9	0.54
LV	2010	SC	Harmony Centre	1.07	26.6	12.2	0.45
PL	2011	PO	Civic Platform	1.04	39.2	-2.3	0.22
SI	2014	SDS	Slovenian Democratic Party	1.02	20.7	-5.5	0.30
CZ	2010	ODS	Civic Democratic Party	1.00	20.2	-15.2	0.46
HU	2010	MSZP	Hungarian Socialist Party	0.96	19.3	-23.9	0.07
SK	2010	SMK-MKP	Party of the Hungarian Community	0.92	4.3	-7.4	0.11
LV	2010	ZZS	Union of Greens and Farmers	0.86	20.1	3.4	0.40
				average	20.0	-3.0	0.34
SK	2012	SAS	Freedom and Solidarity	0.17	5.89	-6.3	0.07
LV	2011	SC	Harmony Centre	0.19	28.6	2.0	0.18
SK	2012	MOST-HID	Bridge - Civic Party	0.21	6.9	-1.2	0.09
BG	2014	ATAKA	Attack	0.21	4.52	-2.8	0.05
BG	2014	GERB	Citizens for European Development of Bulgaria	0.21	32.7	2.1	0.19
SK	2012	SMK-MKP	Party of the Hungarian Community	0.23	4.3	0.0	0.31
SK	2012	KDH	Christian Democratic Movement	0.23	8.8	0.3	0.15
BG	2014	DPS	Movement for Rights and Freedom	0.23	14.8	3.5	0.20
LV	2011	ZZS	Union of Greens and Farmers	0.23	12.3	-7.8	0.02
SI	2011	SD	Social Democrats	0.24	10.5	-19.9	0.48
				average:	12.9	-3.0	0.17

Table 4 Parties with highest and lowest levels of Ü

country	year	party		MCPP	vote %	vote change	weighted novelty
LV	2011	SC	Harmony Centre	74.6	28.6	2.0	0.18
HU	2014	FIDESZ-KDNP	Fidesz – Christian Democratic People's Party	69.5	44.6	-8.1	0.04
BG	2013	ATAKA	National Union Attack	68.9	7.3	-2.1	0.27
SI	2004	SNS	Slovenian National Party	67.7	6.3	1.9	0.36
HU	1998	FKGP	Independent Smallholders' Party	66.1	13.1	4.3	0.44
CZ	1996	SPR-RSC	Association for the Republic – Republican Party	65.3	8.0	2.0	0.77
LV	2014	SC	Harmony Centre	64.7	23.2	-5.5	0.32
HU	1998	SZDSZ	Alliance of Free Democrats	63.6	7.6	-12.1	0.14
BG	2013	DPS	Movement for Rights and Freedom	61.5	11.3	-3.1	0.28
HU	1998	MDF	Hungarian Democratic Forum	60.3	2.8	-8.9	0.22
				average	15.3	-3.0	0.30
SI	2008	SDS	Slovenian Democratic Party	15.6	29.3	0.2	0.32
EE	2015	SDE	Social Democratic Party	17.8	15.2	-1.9	0.15
CZ	2010	KDU-CSL	Christian & Democratic Union – People's Party	19.2	4.4	-2.8	0.51
SK	2012	SMER	Direction-Social Democracy	19.6	44.4	9.6	0.04
PL	2007	MN	German Minority	20.0	0.2	-0.1	0.02
LT	2008	LICS	Liberal and Centre Union	20.0	5.3	-3.8	0.16
EE	2015	RE	Estonian Reform Party	20.0	27.7	-0.9	0.30
BG	2001	DPS	Movement for Rights and Freedoms	20.2	7.5	-0.1	0.62
SI	2008	SD	Social Democratic Party	20.6	30.5	20.3	0.48
EE	2011	RE	Estonian Reform Party	20.8	28.6	0.7	0.22
				average:	19.3	2.1	0.28

Despite the limited overlap and methodological challenges, there are tentative patterns in the aggregate picture across both indicators. First, most parties with low levels of policy change are recorded around or after 2010, while parties with high levels (at least when measured by Ü and thus covering a longer period) also include a number of cases from the mid- to late 1990s. Second, parties scoring high on Ü and MCPP tend to show higher levels of candidate novelty than those scoring low on either indicator –

for MCPP the difference of averages is considerable, whereas it is more limited for Ü (differences between top five parties are more indicative here).

Interestingly, parties scoring low on either indicator also tend to be parties that can be considered very stable in other respects. For instance, Smer (SK 2012, Table 4) has clearly been the dominant party in Slovakia – led by Robert Fico since it was founded in 1999, the party placed first in every election since 2006 and led (with the exception of 2010-2012) the government with a largely unchanged line-up. The Christian Democratic Movement (KDH 2012, Table 3) has an even longer history than Smer, having been continuously represented in parliament since 1990, and also took part in several governments until dropping out in the 2016 election. Similarly, the Reform Party (RE 2011, RE 2015, Table 4) has been a staple of the Estonian party system and emerged as the largest party in all elections since 2007.

The set of parties with high levels of programmatic change is more diverse and includes some (potentially) counterintuitive cases accompanied by low levels of candidate turnover. For MCPP, it is worth mentioning the Polish Civic Platform (PO) here once again – while the change in the generic CHES left-right placement was only minor due to aggregation of diverging trends (see Table 1), it exhibited the fifth highest magnitude of MCPP (Table 3). Nevertheless, its candidate novelty was low – possibly because of the mediating effect of party size and the fact that PO led the government, so that programmatic change was related to setting out new priorities for the next term. Unfortunately, the latter factors cannot account for two other counterintuitive cases - the Hungarian Socialist Party (MSZP 2010) and the Party of the Hungarian Community (SMK-MKP 2010) in Slovakia. Here, it is more likely that candidate novelty was limited due to anticipated electoral losses – MSZP saw its seat share reduced by two thirds following a string of scandals, while SMK-MKP lost more than half of its voter base and dropped out of parliament.

It is not surprising to find high levels of Ü in 1990s given higher levels of overall political change at the time. The inclusion of three Hungarian parties in 1998 is certainly no coincidence – from 1994 to 1998, the reformed Hungarian Socialist Party (MSZP) led the government for the first time since the fall of Communism and continued to implement the privatization measures and integrationist course started by its predecessors. The conservative and expressly anti-communist Democratic Forum (MDF) and the Smallholders' Party (FKGP) that had been in government from 1990 until 1994, hence had to adapt the focus of their manifestos as their policies no longer differentiated them from the left-wing parties (even if candidate turnover remained low to medium-high). The liberal SZDSZ, having surprisingly entered a coalition with the MSZP in 1994, probably overhauled their programme for a similar reason, yet as the strategic alliance with the MSZP was otherwise supported by membership candidate turnover remained low (as also in most other Hungarian parties at the time).

Two further parties stand out as they show high levels of programmatic change coupled with low levels of candidate turnover – Fidesz in 2014 and the Latvian Harmony Centre (SC) in 2011. Fidesz had won

the 2010 elections with an overwhelming majority and during its first term in office since 2002 introduced a number of controversial changes including passing a new constitution and reducing the number of seats in the legislature by half. Given the reduction of available seats, the very low level of weighted candidate novelty and medium levels of dropout are not surprising. Neither is the high level of policy change as Fidesz had implemented its manifesto and then changed strategy to ensure its long-term rule (as we know now, with catastrophic consequences of the quality of democracy). The comparatively low levels of candidate turnover in SC despite high levels of programmatic change are likewise to be expected as the 2011 election took place only a year after the previous one – we have previously shown that early elections usually lead to a significant reduction in turnover (see Sikk and Köker 2016). The high level of policy change could be related to the fact that SC was initially an electoral coalition consisting of four parties that transformed into a proper party between the 2010 and 2011 elections.

Conclusion

We have previously found a relationship between candidate change and party entry and exit (Sikk and Köker 2018) as well as changes in organisation and electoral support (Sikk and Köker 2017b). This paper analysed the link between candidate turnover and party policy change as another important dimension of party change.

Our results suggest that our proposed measure of Ü – which aggregates all different policy dimensions in MARPOR instead of relying on ready-made (Left-Right) indices – is linked to weighted candidate novelty and dropout. Interestingly, we found no relationship with MCPP, a measure of the mean change in policy positions based on the CHES dataset. While we cannot overstate the usefulness and validity of the CHES dataset, its coverage and structure provide considerable challenges for building and using an indicator of policy change. First, the time span, and hence the number of continuing parties, covered by MCPP is very limited compared to Ü (N_{MCPP} = 65 vs $N_{Ü}$ = 215). Second, and perhaps more importantly, CHES waves do not correspond to electoral cycles. Not wanting to make unwarranted assumptions the rate of policy change, we employed a linear interpolation of scores for years between waves. Nevertheless, the resulting indicator also reflects time between elections, which in itself is a predictor of candidate turnover – notably, MCPP produced statistically significant coefficient estimates when not controlling for the gap between elections (as did Ü). However, incorporating time between elections models (including the otherwise promising models with Ü) is difficult for as it ought to affect any aspects of party change – here, both candidate turnover and policy change. We will seek to find improved means to account for it in future iterations of this paper.

In addition to enhancing the way we control for time between elections, our next objective lies in improving our indicators of programmatic change, especially MCPP. The fact that the Left-Right scales of MARPOR and CHES are correlated – even though we have misgivings about the use of this singular

scale (especially for analysing change) – suggests that a correctly constructed and interpolated change variable based on CHES ought to produce results similar to MARPOR. Not only is more merrier but we remain strongly convinced about the complementary merits of both of the excellent data sources and opportunities they offer for measuring different types of change. Finally, we will seek to broaden and deepen our qualitative analysis of the parties involved and flesh out variations in the link between candidate turnover and policy change more clearly.

Overall, the results of our analysis nonetheless strongly support the hypothesised relationship between candidate turnover and party policy change. This result is even more noteworthy given the difficulties of extracting information on policy *change* from data sets meant to measure party *positions* and the challenges of linking parties over several elections. The fact that we find a statistically significant link hence further strengthens our case for using candidate turnover as a general proxy for party change.

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Appendix A: Weighted candidate novelty and dropout

All candidates are not equal. Those in higher list positions carry more weight as potential MPs than those at the bottom of the list.[15] The most straightforward way to weight candidates– so that those at the top contribute more and those at the bottom less to the index of novelty – would be a negative linear progression of weights – e.g. (1, 0.75, 0.5, 0.25, 0) for M=5.[16] However, this clearly gives too much weight to all low-ranking candidates bar the very last one. The importance list positions also varies between parties. For example, imagine two candidates ranked 25 out of 100. If one of the parties is likely to win 30 of the mandates and the other one only 4 mandates, the candidate of the bigger party has a real chance of winning a seat and is obviously more significant than the candidate of the smaller party.

Hence, weights that decline mildly at the top, more significantly in the middle and smoothly taper off at the end are more appropriate. Out weights are based on the well-known formula of the logistic function:

$$w(r, v) = 1 - \frac{1}{1+e^{-k(r-v)}} \qquad (2)$$

where v the party's overall vote share.[17] Candidate's relative list placement r = (rank – 1)/(M – 1). [18] Finally, k is a constant affecting the steepness of the curve that is set at 0.25 as this produces suitable curves for our purposes. The weights for each party must add up to 1 – therefore, we divide the weights by the sum of weights for all candidates

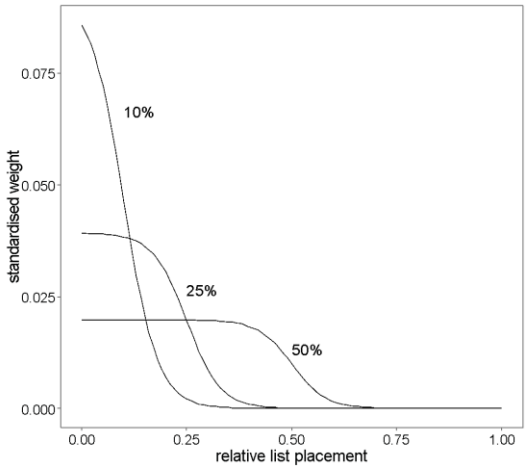
Thus, we can calculate the weighted candidate novelty (WCN) of party p:

$$WCN_p = \sum NEW \cdot \frac{w(r,v)}{\sum w(r,v)} \qquad (3)$$

where NEW is a dummy for candidates who did not run in previous election. Figure 7 illustrates the standardized weights for candidates. It shows that for largest parties, more candidates carry significant weight as more stand a reasonable chance of success. The smaller the party, the higher the weight of the candidates at the top of the list as few others stand a reasonable chance of winning a seat.[19] The interpretation of WCN_p is straightforward as it ranges from 0 (no new candidates) to 1 (all candidates are new).

[15] Hungary and Lithuania employ mixed systems. Winning candidates in single mandate district and those with a reasonable chance are more important than also-runs far behind the top competitors.
[16] We disregard candidates with list placements in excess of M.
[17] We use the national vote share as our dataset currently does not hold information about constituency level support for parties.
[18] I.e. for fourth ranked candidate under M=10, r = (4-1)/(10-1) = 3/9 = 0.33.
[19] We assume that when fielding candidates, parties have some information about the likely number of seats they are going to win and we use the actual share of votes as a proxy for expected vote shares.

Figure 7 Candidate's standardised weight for selected party sizes



Note: Relative list placement r = (rank-1)/(M-1). Areas under the curve add up to 1.

The calculation of relative list placements is complicated by the use of different electoral systems. Firstly, in nearly all elections, the eventual list placement of candidates was fully or partly based on preference votes. For open list systems, we used the highest of original and preference-vote based list placements.[20] Secondly, candidate weight in single mandate districts (under mixed systems in Hungary and Lithuania) is based on the following formula:

$$w(x) = \frac{1}{1+e^{-x}} \tag{4}$$

$$\text{for top candidates: } x = \frac{v_1}{v_2} \qquad \text{for all other candidates: } x = \frac{v_i}{v_1}$$

where v_i is the number of votes cast for the i-th ranking candidate. This ensures higher weights for candidate who win by a large margin (compared to those with smaller winning margins) and higher weights to competitors narrowly behind the top candidate (compared to those more behind). [21] Finally, for multi-tier systems (Estonia, Hungary, Lithuania), we use the highest weight[22] across the tiers.

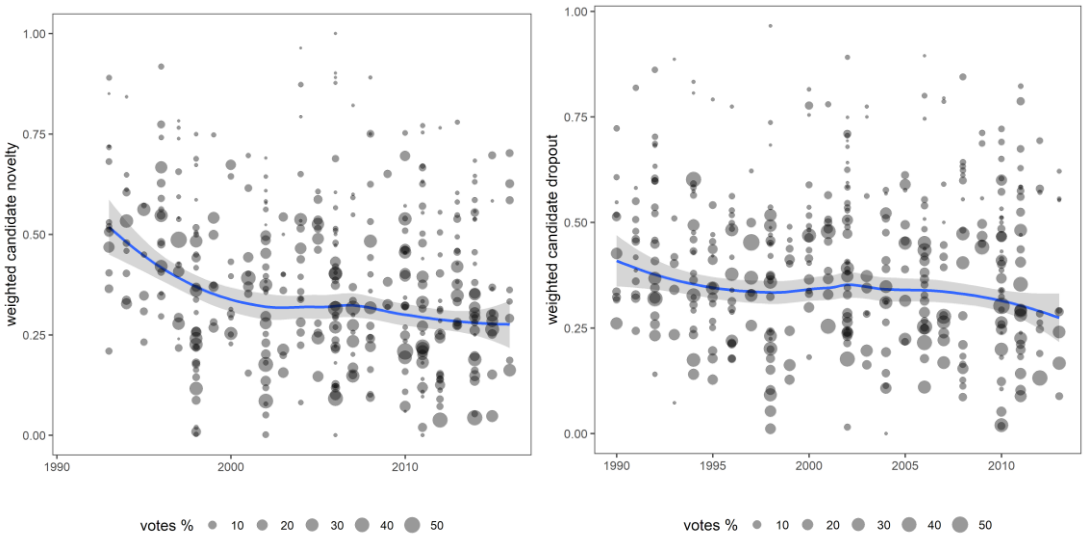
Weighted candidate dropout is calculated exactly in the same fashion, except that in equation 2 the dummy for novelty is replaced by whether the candidate ran again subsequent election. Figure 8 suggests that weighted turnover amongst continuing parties has decreased since the early 1990s, corroborating our finding above based on Ü about stabilisation of stable parties.

[20] Often, parties place some of the most important candidates at the bottom of the list who move considerably up in preference-based rankings.

[21] For example, in a two-way race with $v_1 = .7$ and $v_2 = .3$ the corresponding weights for the candidates are .89 and .11; if $v_1 = .55$ and $v_2 = .45$, the corresponding weights are .62 and .38. Log to the base of 1.5 is used as other bases (2, natural logarithm or 10) would result in too low weights for top candidates with safe winning margins and too high weights for runner ups.

[22] Before standardisation.

Figure 8 Weighted candidate turnover over time

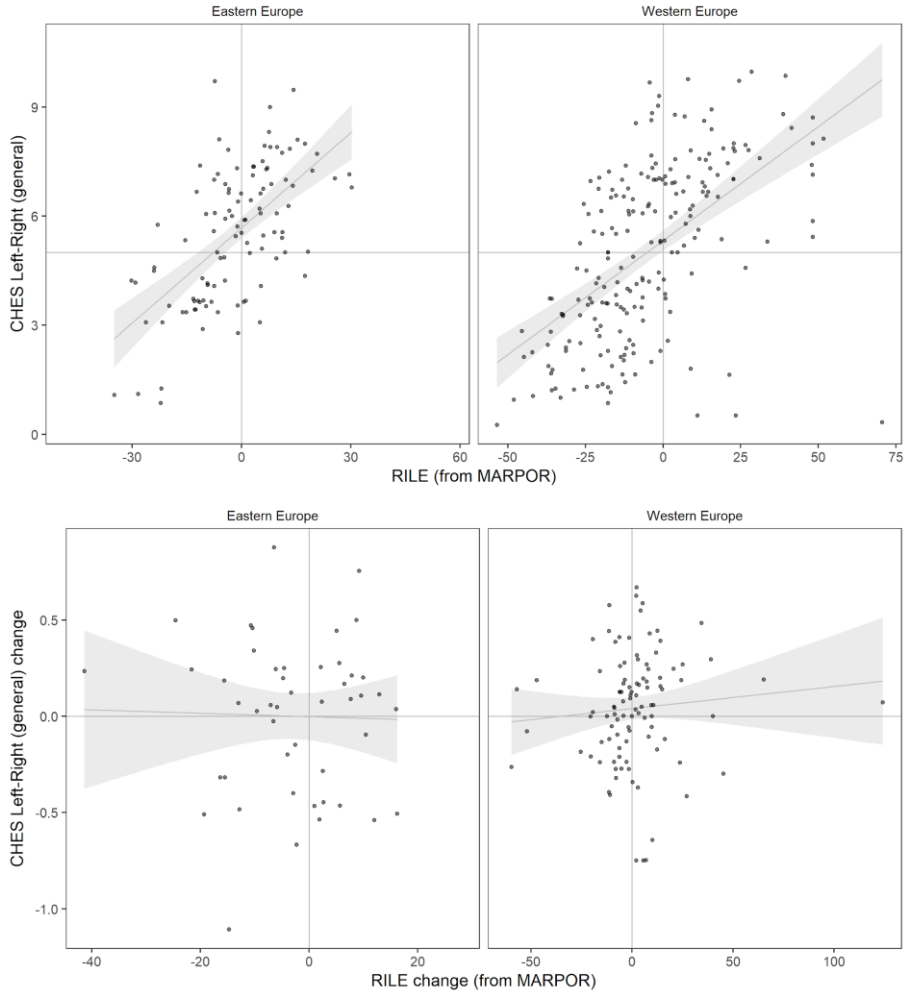


Note: trendlines weighted by electon vote share

Appendix B: Left and right in MARPOR and CHES

The traditional Left-Right scale has long been a standard way to measure party policy positions, but it has been deemed less useful in Central and Eastern Europe where parties often combine various policy positions in unorthodox ways and some traditionally "left" positions can be systematically related to the "right" (Aspelund, Lindeman & Verkasalo 2013, Mölder 2016, Tavits & Letki 2009). Also RILE and the left-right placement in CHES are only weakly correlated, particularly in Central and Eastern Europe (r = 0.61 for Western Europe and r = 0.48 for CEE, see Bakker et al 2015 and top row in Figure 7), but the *change* in the indicators among parties over time is very weakly correlated in Western Europe and very weakly correlated in the wrong direction in Central and Eastern Europe (r = 0.08 for Western Europe and r = -0.07 for Central and Eastern Europe, bottom row in Figure 9). A more fundamental problem is that– parties do not change their Left-Right orientation much over time (Dalton & McAllister 2015). In our analysis, we interpolated CHES RILE scores for election years as these often do not coincide with waves of CHES surveys. For example, if a party scored 6 on the general left-right scale in 2010 and 5 in 2014, the interpolated score for 2012 is 5.5.

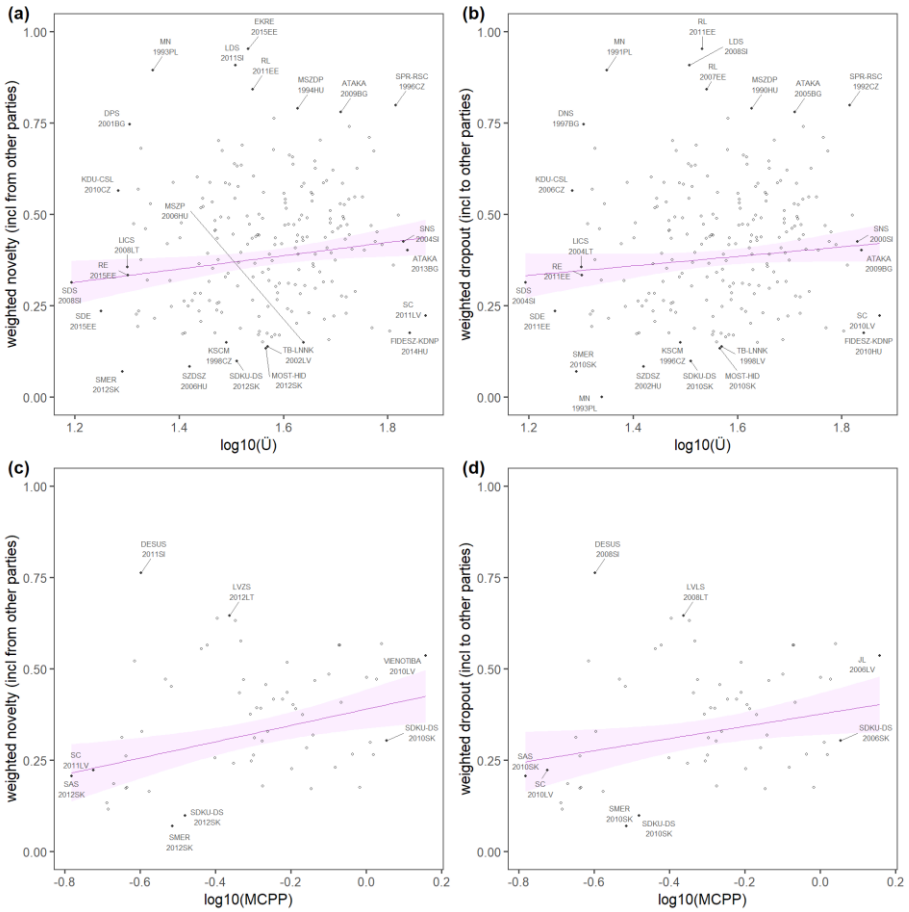
Figure 9 MARPOR RILE and CHES general Left-Right



Note: CHES left-right placements interpolated for election years.

CHES furthermore distinguishes between two key dimensions – the economic Left-Right and the social GAL-TAN ("green-alternative-libertarian" – "traditional-authoritarian-nationalist") dimension. Methods of extracting a cultural dimension from MARPOR data have also been proposed (e.g. Bakker & Hobolt 2013, for an alternative approach to RILE see Prosser 2014). However, studying change by looking only at either the cultural or economic dimension would overlook any changes in the other dimension and would thus not appropriately represent party policy change in many circumstances.

Appendix C: Bivariate relationship between the measures of policy change and candidate turnover (including to/from other parties).



Appendix D: Regression models with candidate novelty and dropout including other parties

	weighted novelty (incl from other parties)		weighted dropout (incl to other parties)	
(Intercept)	0.231	0.391 *	0.166	0.342 *
	(0.128)	(0.150)	(0.140)	(0.157)
log10Ü	0.244 ***		0.247 ***	
	(0.066)		(0.072)	
log10MCPP		0.058		-0.003
		(0.098)		(0.100)
$\log_{10}$v	-0.203 ***	-0.210 ***	-0.172 ***	-0.212 ***
	(0.033)	(0.049)	(0.034)	(0.051)
$\log_{10}(v_t/v_{t-1})$ [a]	0.399 ***	0.298	0.206 ***	0.141
	(0.058)	(0.163)	(0.046)	(0.096)
election gap (years)	0.021	0.062 *	0.024	0.073 **
	(0.011)	(0.025)	(0.012)	(0.026)
Czechia	-0.028	0.065	-0.009	0.089
	(0.035)	(0.074)	(0.037)	(0.070)
Estonia	-0.081 *	-0.085	-0.074 *	-0.103
	(0.035)	(0.079)	(0.036)	(0.076)
Hungary	-0.185 ***	-0.125	-0.183 ***	-0.131
	(0.035)	(0.082)	(0.035)	(0.078)
Latvia	-0.134 ***	0.064	-0.149 ***	0.060
	(0.036)	(0.081)	(0.038)	(0.075)
Lithuania	-0.107 **	-0.129	-0.086 *	-0.163
	(0.040)	(0.093)	(0.040)	(0.092)
Poland	-0.086 *	-0.018	-0.083 *	-0.018
	(0.036)	(0.080)	(0.038)	(0.077)
Slovenia	0.014	0.192 *	0.033	0.189 *
	(0.042)	(0.081)	(0.042)	(0.078)
Slovakia	-0.155 ***	-0.095	-0.123 **	-0.104
	(0.039)	(0.076)	(0.039)	(0.071)
N	215	49	215	49
Adjusted R^2	0.399	0.735	0.341	0.739

Notes: Bulgaria is the reference country.
*** p < 0.001; ** p < 0.01; * p < 0.05.
[a] lower ceiling at 0 for weighted novelty; absolute value for weighted dropout (see Sikk & Köker 2017b).

Appendix E: Regression models with candidate novelty and dropout including other parties (no country controls)

	weighted novelty		weighted dropout		weighted novelty (incl from other parties)		weighted dropout (incl to other parties)	
(Intercept)	0.202	0.460 **	0.107	0.323	0.312 *	0.632 ***	0.289 *	0.393 *
	(0.129)	(0.167)	(0.124)	(0.181)	(0.121)	(0.156)	(0.129)	(0.177)
$\log_{10}$Ü	0.121		0.158 *		0.162 *		0.122	
	(0.070)		(0.068)		(0.065)		(0.070)	
$\log_{10}$MCPP		0.181		0.012		0.196		0.023
		(0.122)		(0.127)		(0.114)		(0.125)
$\log_{10}$v	-0.149 ***	-0.203 **	-0.075 *	-0.159	-0.228 ***	-0.275 ***	-0.180 ***	-0.211 **
	(0.037)	(0.072)	(0.035)	(0.079)	(0.035)	(0.067)	(0.037)	(0.077)
$\log_{10}(v_t/v_{t-1})$ [a]	0.424 ***	0.404	0.142 **	0.239	0.408 ***	0.342	0.218 ***	0.231
	(0.068)	(0.211)	(0.048)	(0.143)	(0.063)	(0.197)	(0.049)	(0.140)
election gap (years)	0.019	0.032	0.010	0.049	0.018	0.025	0.024	0.056
	(0.012)	(0.027)	(0.012)	(0.028)	(0.012)	(0.025)	(0.013)	(0.028)
N	215	49	215	49	215	49	215	49
adjusted R^2	0.187	0.309	0.071	0.179	0.257	0.372	0.184	0.263

*** p < 0.001; ** p < 0.01; * p < 0.05.
[a] lower ceiling at 0 for weighted novelty; absolute value for weighted dropout (see Sikk & Köker 2017b).