

Supplementary materials for “Party Congruence and Novelty: A New Approach to Measuring Party Change and Volatility”

Dimensions of party change

We propose an index of aggregate electon congruence, ranging from 0 (perfect incongruence) to 1 (perfect congruence), based on three dimensions: (a) organization including name, (b) leadership, and (c) candidates. Benchmark scores and descriptions for each dimension are given below. Note that it is not only possible for electons to take any intermediate score within each dimension – equally, any combination of scores on the three dimensions is empirically possible. Although some of these combinations may only be rarely observed, no value on any dimension logically precludes a score on another – i.e. it is possible for an electon to exhibit high candidate continuation despite choosing an outsider as a leader.

Organization

This dimension refers to all organizational units of an electon such as local, regional and national branches as well as official factions, sub-groupings or significant special interest groups including youth organizations. In addition, yet less importantly, this dimension refers to the name of an electon as it appears on the ballot paper. In case of ad hoc coalitions, parties often retain their official name in national registers, yet compete under a different name and even established parties occasionally innovate to highlight particular aspects of their programme or their leading candidate (see e.g. the change of the Austrian People’s Party (ÖVP) to “ÖVP – Liste Sebastian Kurz” in the 2017 parliamentary election).

We propose the following congruence benchmarks for organizational congruence (intermediate scores can be used to reflect specific circumstances):

- 1.0: an electon is congruent to itself in the previous election as it retains the name and electoral organization;
- 0.75: minor changes to name or electoral organization, or cosmetic changes to both;
- 0.5: substantial changes to name, organization or coalitional changes, including mergers. A merger of two similarly sized electons is a benchmark with a congruence score of 0.5 for both;
- 0.25: an electon which was absent from one or two previous elections but retains the name of a previously existing electon;

- 0: an electon that is completely new with no identifiable precursors in terms of organization and name.

Leader

This dimension refers to the highest-ranking and formally most powerful representative of an electon, irrespective of formal title. In case of collective leadership, overall congruence is calculated as the average of individual leaders' congruence scores.

The congruence scores benchmarks for leadership are:

- 1.0: an electon retains the leader from previous election;
- 0.75: the new leader was previously a deputy leader, held a major political office for the party, has been the party leader before, or led an important internal faction;
- 0.5: the old leader stepped down for obvious non-political reasons (e.g. death or illness) or the new leader has held an important political office as an independent;
- 0.25: the new party leader previously held a low profile, but has been associated with political parties before;
- 0.0: the new party leader is recruited from outside of the political elite.

Candidates

This dimension refers to individuals contesting an election under an electon's name, i.e. they appear on its candidate list(s) or are the electon's official candidate in a single-member districts (i.e. not merely endorsed by it). Thereby, candidates do not need to be members of the electon in question (and can hold membership in other electons); candidates that are members of an electon but contest elections as independents are not considered.

Candidate congruence is equal to the share of an electon's candidates at time t that contested the election at $t-1$.

- If all candidates of an electon contested previous elections with the same electon, it is perfectly self-congruent. If none of the candidates contested the previous election, the electon is perfectly novel.

- If the candidates come from several previous elections, the pairwise congruence depends on the share of candidates who previously ran on each list.

We suggest contrasting *top-ranking* candidates to *full candidate lists* in the previous election. Top-ranking candidates have a higher importance for political parties, have higher chances of getting elected and are more likely to have previously run for office (hence the comparison with full candidates lists from the previous election). Furthermore, candidates with no electoral prospects are more likely to leave politics, resulting in high levels of candidate turnover; however, this is of little importance to the substantive degree of election continuity. What constitutes *top-ranking* candidates depends on the electoral system. We suggest using the top 25% (relative to assembly size or district magnitude, respectively) based on list positions (closed-lists), preference votes (semi-open lists), or a ranking of vote shares (single-member districts).

Volatility calculations (other approaches than SBC)

Denmark

No-connection (NC) and most similar party approach (MSP), Denmark 1994-8

	1994	1998	Change
FP	6.4	2.4	-4.0
DF	-	7.4	+7.4
SD	34.6	35.9	+1.3
V	23.3	24.0	+0.7
K	15.0	8.9	-6.1
SFP	7.3	7.6	+0.3
CD	2.8	4.3	+1.5
RV	4.6	3.9	-0.7
EL	3.1	2.7	-0.4
KFP	1.9	2.5	+0.6
Other	1.0	0.4	-0.6
Total volatility:			11.8

Largest party approach (LP) Denmark 1994-8

	1994	1998	Change
FP → DF	6.4	7.4	+1.0
stump FP	-	2.4	+2.4
SD	34.6	35.9	+1.3
V	23.3	24.0	+0.7
K	15.0	8.9	-6.1
SFP	7.3	7.6	+0.3
CD	2.8	4.3	+1.5
RV	4.6	3.9	-0.7
EL	3.1	2.7	-0.4
KFP	1.9	2.5	+0.6
Other	1.0	0.4	-0.6
Total volatility:			7.8

Combined vote approach (CV) Denmark 1994-8

	1994	1998	Change
FP → DF+FP	6.4	7.4 + 2.4 = 9.8	+3.4
SD	34.6	35.9	+1.3
V	23.3	24.0	+0.7
K	15.0	8.9	-6.1
SFP	7.3	7.6	+0.3
CD	2.8	4.3	+1.5
RV	4.6	3.9	-0.7
EL	3.1	2.7	-0.4
KFP	1.9	2.5	+0.6
Other	1.0	0.4	-0.6
Total volatility:			7.8

Split-by-support approach (SBS), Denmark 1994-8

	1994	1998	Change
DF (76% of combined vote in 1998)	6.4 * 76% = 4.9	7.4	+2.5
FP (24% of combined vote in 1998)	6.4 * 24% = 1.5	2.4	+0.9
SD	34.6	35.9	+1.3
V	23.3	24.0	+0.7
K	15.0	8.9	-6.1
SFP	7.3	7.6	+0.3
CD	2.8	4.3	+1.5
RV	4.6	3.9	-0.7
EL	3.1	2.7	-0.4
KFP	1.9	2.5	+0.6
Other	1.0	0.4	-0.6
Total volatility:			7.8

Estonia

No-connection approach (NC) Estonia 2003-7

	2003	2007	Change
RP	24.6		-24.6
IL	7.3		-7.3
IRL		17.9	+17.9
RE	17.7	27.8	+10.1
KE	25.4	26.1	+0.7
SDE	7.0	10.6	+3.6
EER		7.1	+7.1
RL	13.0	7.1	-5.9
Others	4.8	3.3	-1.5
Total volatility:			39.4

Most similar party approach (MSP) Estonia 2003-7

	2003	2007	Change
RP	24.6		-24.6
IL → IRL	7.3	17.9	+10.6
RE	17.7	27.8	+10.1
KE	25.4	26.1	+0.7
SDE	7.0	10.6	+3.6
EER		7.1	+7.1
RL	13.0	7.1	-5.9
Others	4.8	3.3	-1.5
Total volatility:			32.0

Largest party approach (LP) Estonia 2003-7

	2003	2007	Change
RP → IRL	24.6	17.9	-6.7
IL	7.3		-7.3
RE	17.7	27.8	+10.1
KE	25.4	26.1	+0.7
SDE	7.0	10.6	+3.6
EER		7.1	+7.1
RL	13.0	7.1	-5.9
Others	4.8	3.3	-1.5
Total volatility:			21.5

Combined vote approach (CV) Estonia 2003-7

	2003	2007	Change
RP + IL → IRL	24.6 + 7.3 = 31.9	17.9	-14.0
RE	17.7	27.8	+10.1
KE	25.4	26.1	+0.7
SDE	7.0	10.6	+3.6
EER		7.1	+7.1
RL	13.0	7.1	-5.9
Others	4.8	3.3	-1.5
Total volatility:			21.5

Split-by-support approach (SBS) Estonia 2003-7

	2003	2007	Change
RP (77% of combined vote in 2007)	24.6	17.9 * 77% = 13.8	-10.8
IL (23% of combined vote in 2007)	7.3	17.9 * 23% = 4.1	-3.2
RE	17.7	27.8	+10.1
KE	25.4	26.1	+0.7
SDE	7.0	10.6	+3.6
EER		7.1	+7.1
RL	13.0	7.1	-5.9
Others	4.8	3.3	-1.5
Total volatility:			21.5

Steps in split-by-congruence (SBC) volatility calculation, RP, IL and IRL (Estonia 2003-2007)

