

Electoral Congruence and Novelty: Accounting for Partially New Parties

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The calculation of volatility poses problems in party systems where there is high discontinuity in *electons*¹ (ie. parties and any other “electoral units”, most importantly coalitions), either because of breakthroughs of new ones or innovation amongst old ones (i.e. splits and mergers). While some genuinely new electons can be identified easily, challenges are posed by (a) those that appear new but are in fact old ones gone through a makeover, (b) those that are reasonably novel in terms of organisation or personnel, yet have clear links to old ones, possibly even retaining a name, and (c) those that split/merge in equal or unequal parts, ie when the main successor or predecessor is unidentifiable. Dichotomous classification of such *partially novel*² *electons* as new or old can both be misleading and have a disproportionate effect on volatility scores.

This paper proposes new measures of *congruence* and *novelty* based on four dimensions partly inspired by Barnea & Rahat’s (2010) work: (a) name and organization, (b) leader, (c) candidates, and (d) patterns of support. While useful indicators on their own, the main objective of the paper is to show how the measures can be used for weighting vote differentials when calculating volatility scores.

Barnea & Rahat (2010) emphasize the importance of the concept of *party newness* to analysis of party system change and open up a new avenue for volatility research by proposing a *threshold* to determine dichotomously whether a party should be considered new, based on a framework of eight criteria, inspired by V.O. Key’s (1942) notion of parties as ‘tripartite systems of interaction’:

- (a) *Party-in-the-electorate*. Criteria: label, ideology, voters.
- (b) *Party-as-organization*. Criteria: formal/legal status, institutions, activists
- (c) *Party-in-government*. Criteria: representatives, policies.

While party newness has generally been used as a dichotomous variable (Hug 2001, Sikk 2005, etc), it is difficult to see why it could/would/should not be used as a scalar variable in party

¹ While the term might be awkward at first sight, it is necessary to emphasize the conceptual distinction between “electoral units” and political parties. *Electoral coalitions* are a commonplace in many (new) democracies; sometimes *non-party organizations* contest elections and even more often some “parties” (defined as electoral units) do not have a proper “party” behind the; some *party lists incorporate* independent candidates or members of other parties; *Individual candidates* and parties that contest *sub- or supra-national elections* only (e.g. Danish Eurosceptics) also deviate from the norm party is an electoral unit is a party. In practical terms, “electon” is easier to use in text when one needs to refer specifically both to “parties and electoral coalitions”.

² The term “discontinuity” may be more appropriate for electons that show great discontinuity, yet are not really “novel” – e.g. rump parties after big declines in popularity – see the example of the Latvian LPP/LC below.

system studies. Here, Barnea & Rahat's framework is generally adopted, but some of their criteria are combined and the *candidates* is added:

- (a) *Name/organization*. A genuinely old electon must retain its name and a genuinely new one should contest elections under a novel name. As we are interested in electons (parties and coalitions), the focus is on *electoral* names and electoral (rather than internal) organization, understood primarily in terms of coalitions. Another reason for combining name and electoral organization is that sometimes an electon with an unchanged name actually has a somewhat changed identity – e.g. when parties that formed a coalition merge before the subsequent election under the same name.³
- (b) *Leader*. Obviously an electon under an unchanged leader cannot be considered new; alternatively, there is always an element of newness to a party whenever there is a genuinely new leader, i.e. someone who replaced the old one in a competitive election, or was chosen when an old one was pushed out (e.g. after an electoral defeat). On the other hand, there would be less newness to a leader if he or she has for some time been near the top of party leadership. Additionally, electons lead by former key players in country's politics – heads of government and executive presidents – do not count as genuinely new even if they did not lead or even belong to a party previously (following Sikk 2005).⁴
- (c) *Candidates*. If all or most top candidates of an electon contested previous elections on the same list, the electons can be considered (at least partially) congruent. If the candidates come from two or more previous electons, the congruence to each of them can be established by the share of candidates previously in each respective list.
- (d) *Pattern of support*. Even if an electon is fairly old according to the above three criteria, it can still be somewhat discontinuous/novel if its spatial or social pattern of support has changed. It can either be because of considerable changes to its programmatic profile, focussing on new issues or some of its most senior candidates contesting in different districts. Obviously, this criterion can only be applied for electons that are clearly linked to earlier electons according to the first three criteria.

Note that (governing) coalition patterns and the overlap in MPs or ministers, that are sometimes considered relevant for assessing party novelty are excluded as they are impossible to apply for opposition parties and parliamentary drop-outs. A further technical issue regards MPs and ministers, especially small parties or small parliaments – the carry-over index can depend significantly on whether single MPs lose/retain their seats.

Table 1 gives an overview of how these criteria of *electon congruence* are operationalized. An electon is compared to its precursors,⁵ where 1 indicates a perfect congruence and 0 perfect incongruence.⁶ The scores are tabulated in *congruence matrices*, where the sum of scores for each electon in the most recent election indicates an overall overlap. The difference between one and the sum of overlaps is the index of novelty on the dimension. The averages of the four

³ Two such mergers in the Latvian example below!

⁴ Electoral coalitions may or may not have formal leadership, often the leaders of its constituent parties act as co-leaders and changes amongst them contribute to discontinuity.

⁵ All preceding electons for leader and candidates.

⁶ Congruence for unrelated electons is 0.

matrix cells indicate congruence between two electons and the average of the four incongruence scores is the electon's *index of novelty*. An example based on 2011 elections in Latvia will illustrate the procedure.

Table 1: Electon congruence

Dimension	Comments on scaling	Related Barnea & Rahat criteria
Name/organization	1: old name/old electoral organization, 0.75: cosmetic changes, 0.5: substantial changes (a very different name, coalitional changes), 0: completely new (i.e. unrelated to identifiable precursors).	Party label/formal/legal status
Leader	0.5: the old leader stepped down for obvious non-political reasons 0.5: the new leader has been the party leader previously, was previously a deputy leader, or a major cabinet minister	(Representatives)
Candidates	Share of new candidates in top 25% in the most relevant tier (or of all candidates in SMD's)	Representatives
Pattern of support	Is the spatial pattern in support congruent or substantially changed? Index of spatial congruence in vote shares (for details, see Appendix). ⁷	Voters
Programme*	Qualitative evidence, potentially manifesto / expert survey data	Policies/ideology
Party institutions*	Evidence of either funding, membership, structural or leadership/candidate selection changes	Institutions/activists?

* To be implemented

Illustration: Latvia 2011

For illustrative purposes, the congruence and novelty scores for 2011 parliamentary elections in Latvia are shown below; the list of electons and results is presented in Table 2.⁸ Note that the parliament elected in 2010 was *exclusively* based on electoral coalitions, two of which merged into proper political parties before 2011 elections. ZRP, a party set up by former president Valdis Zatlers was the only real newcomer, but as we will see below, there was a degree of newness to some of the other electons.

⁷ Either based on electoral districts or administrative units.

⁸ Pre-term elections were held in 2011 after the parliament was dissolved in a referendum initiated by president Valdis Zatlers (later the leader of ZRP) following his unsuccessful bid for re-election.

Table 2. Latvian parliamentary election results (2010-2011)

		2010	2011
		V% (S%)	V% (S%)
SC	Harmony Centre, <i>Politisko partiju apvienība "Saskaņas Centrs"</i>	26.0 (29)	28.4 (31)
ZRP	Zatlers's Reform Party, <i>Zatlera Reformu partija</i>	–	20.1 (22)
Unity	<i>Vienotība</i>	31.2 (33)	18.8 (20)
NA	National Alliance, <i>Nacionālā apvienība "Visu Latvijai!" - "Tēvzemei un Brīvībai/LNNK"</i>	7.7 (8)	13.9 (14)
ZZS	Green and Farmer's Union, <i>Zaļo un Zemnieku savienība</i>	19.7 (22)	12.2 (13)
LPP/LC	Šlesers's Reform Party LPP/LC, <i>Šlesera Reformu partiju LPP/LC</i>	–	2.4 (0)
PLL	"For a Good Latvia", <i>Partiju apvienība "Par Labu Latviju"</i>	7.7 (8)	–
PCTVL	"For Human Rights in United Latvia", <i>"Par cilvēka tiesībām vienotā Latvijā"</i>	1.4 (0)	0.8 (0)

Note: vote shares of coalitions in italics.

Tables 3-6 below show congruence matrices for the four dimensions and Table 7 gives the aggregate congruence and novelty scores. Unity and NA that had transformed into proper parties between 2010 and 2011 and are hence marginally novel; PLL in 2010 was a coalition of two parties – the People's Party (TP) and LPP/LC, of which only the latter ran in 2011 (see Table 3). None of the old electons changed leaders, but there were minor changes related to the transformations of three coalitions (Unity, NA, LPP/LC, see Table 4).

Four electons (SC, Unity, ZZS and PCTVL) showed remarkable continuity in terms of their top five candidates in the five electoral districts (see Table 5). As expected, ZRP appeared almost perfectly novel. Interestingly, only about half of the top candidates for NA in 2011 had been candidates in 2010 – perhaps related to the fact that at the time of the merger, VL, previously the junior partner, had overtaken TB/LNNK in importance. Also fairly novel was the candidate line-up of LPP/LC – one could speculate that the party tried to freshen up its candidate list following the decision of TP not to contest the election (and later liquidate altogether) that led to a loss of a number of prominent candidates.⁹ The congruence indexes for the spatial pattern of support are shown in Table 6 with the distribution of doubling coefficients for individual electons are shown on Figure 1. Congruence was fairly high for most electons, with the partial exception of LPP/LC, for which the loss of a coalition partner led to bigger losses in some parts of the country than others (the same applied for the extra-parliamentary PCTVL).

Table 3. Congruence matrix and novelty index: Name/organization

2010	2011						
	SC	ZRP	Unity	NA	ZZS	LPP/LC	PCTVL
SC	1						
Unity			.75 ^a				
NA				.75 ^a			
ZZS					1		
PLL						.75 ^b	
PCTVL							1
<i>Novelty</i>		1	.25	.25	0	.25	0

^a Formally a coalition in 2010.

^b LPP/LC part of PLL coalition in 2010.

⁹ However, the inclusion of "Šlesers's Reform Party" in its name was no more than a (hostile) pun on the name of the party of the former president – who promised to fight the power of oligarchs (incl Šlesers) in Latvian politics.

Table 4. Congruence matrix and novelty index: Leader

2010	2011						
	SC	ZRP	Unity	NA	ZZS	LPP/LC	PCTVL
SC	1						
Unity			.75 ^a				
NA				0.5 ^d			
ZZS					1		
PLL						.75 ^b	
PCTVL							1 ^c
<i>Novelty</i>	0	1	.25	.5	0	.25	0

^a Solvita Āboltiņa, was a co-chair of the coalition in 2010 and the leader of its largest party (New Era).

^b Ainārs Šlesers, the leader of LPP/LC in 2011 was a co-chair of PLL coalition in 2010.

^c Three chairpersons.

^d One of two the party leaders in 2011 was a co-chair of the coalition in 2010.

Table 5. Congruence matrix and novelty index: Candidates

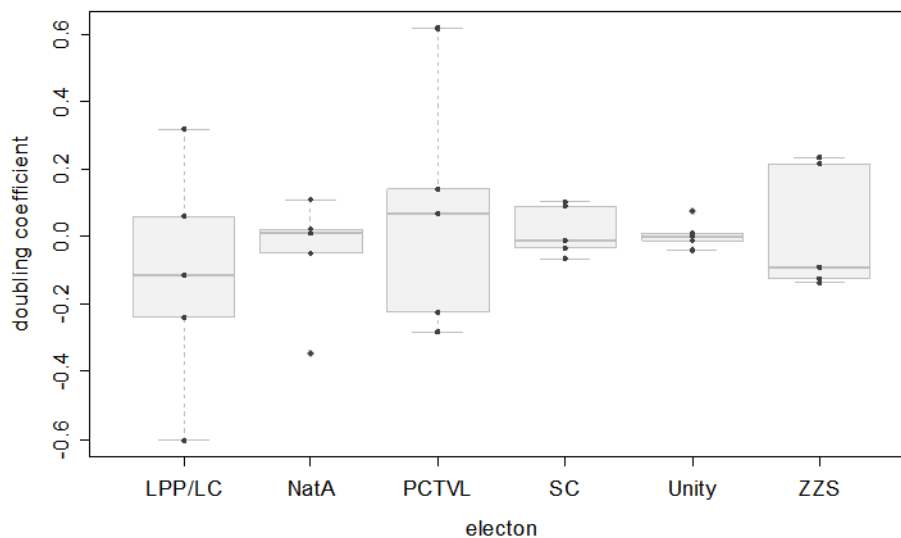
2010	2011						
	SC	ZRP	Unity	NA	ZZS	LPP/LC	PCTVL
SC	.96						
Unity		.08	.84	.04			
NA				.52	.04		
ZZS					.88		
PLL					.04	.56	
PCTVL						.04	.80
<i>Novelty</i>	.04	.92	.16	.44	.04	.40	.20

Note: 115 candidates in five districts (23 per district), top 25% ≈ 5

Table 6. Congruence matrix and novelty index: Pattern of support

2010	2011						
	SC	ZRP	Unity	NA	ZZS	LPP/LC	PCTVL
SC	.93						
Unity			.94				
NA				.91			
ZZS					.81		
PLL						.77	
PCTVL							.76
<i>Novelty</i>	.06	1.00	.06	.09	.15	.24	.24

Note: For the calculation of the index, see Appendix.

Figure 1. Distribution of vote doubling coefficients across districts.

Overall (see Table 7), ZRP appears virtually perfectly new, reflecting the aim of the former president to run as candidates people with no previous party political experience. Most other electons appear more old than new, yet the scores for NA and LPP/LC reflect a certain degree of novelty, that is reasonable given the developments within these electons between the elections.

Table 7: Overall congruence and novelty

2010	2011						
SC	ZRP	Unity	NA	ZZS	LPP/LC	PCTVL	
SC	0.97						
Unity		0.02	0.82	0.01			
NA				0.67	0.01		
ZZS					0.92		
PLL					0.01	0.71	
PCTVL						0.01	0.89
<i>Novelty</i>	<i>0.03</i>	<i>0.98</i>	<i>0.18</i>	<i>0.32</i>	<i>0.06</i>	<i>0.29</i>	<i>0.11</i>

Using congruence scores for calculating volatility

For the calculation of volatility scores, the approach outlined above is obviously useful for detecting electons that are genuinely new in a political system, using a certain threshold. However, I would argue that the actual congruence and novelty scores can be used in calculations to obtain even better (more “realistic”) volatility indices in the following way.

For electons that are only *partially novel*, their links to older electons can be taken into account. In the above example, 2 per cent of ZRP’s vote share can be assigned as support for a “successor” of Unity (obviously, congruence of 2 per cent is too marginal to be practicable to be taken into account). Similarly we can presume that 29 per cent of LPP/LC vote share was for a novel electon.

For *splits and mergers*, the vote share can be assigned to successors and predecessors in proportion to congruence scores. Unfortunately, there were no cases of that in Latvia 2011, with the exception of PLL, where one of the partners simply disappeared. The following hypothetical example explains the method:

- Electon A (50% votes) splits into A1 (30%) and A2 (20%)
- The *novelty scores* are .50 for A1 and .10 for A2. Hence, 15% of (total) votes are for A1 as a novel electon (A1^N) and 15% as a continuation of A (A1*).
- 2% of votes are for A2 as a novel electon (A2^N) and 18% as a continuation of A (A2*).
- The *congruence scores* (against A) are .50 for A1 and .90 for A2
- Hence, the vote share in (t-1) of electon A is split proportionally between the “virtual” predecessors of A1* (.5/1.4=.357 → 17.9% of the total vote) and A2* (.9/1.4=.643 → 32.2% of the total vote).
- For simplicity, let us assume that the only competitor was electon B that was perfectly congruous between the two elections (novelty = 0).
- The raw vote shares in the two elections

A	50%	–	change: –50%
B	50%	50%	change: 0%
A1	–	30%	change: +30%
A2	–	20%	change: +20%
			Volatility: 50%

is transformed into “virtual” vote shares:

A1*	17.9%	15%	change: –2.9%
A1 ^N	–	15%	change: +15%
A2*	32.2%	18%	change: –14.2%
A2 ^N	–	2%	change: +2%
B	50%	50%	change: 0%
			Volatility: 17.1%

Notice the relevance to the volatility score of half-novelty (A1) and strong congruence with the predecessor (A2).

The assumption of no continuation between A and A1/A2 in the first table is clearly unreasonable and inflates the volatility score. There are three other (and simpler) ways of dealing with the issue of continuity:

Identifying a successor electon (A2 because of clearly higher congruence):

A1	–	30%	change: +30%
A	50%	20%	change: -30%
B	50%	50%	change: 0%
			Volatility: 30%

Combining the support for A1 and A2 (method used in many previous studies including Bartolini & Mair 1990, Sikk 2005):

A1+A2	50%	50%	change: 0%
B	50%	50%	change: 0%
			Volatility: 0%

Splitting the vote in (t-1) according to support in (t):

A1*	30%	30%	change: 0%
A2*	20%	20%	change: 0%
B	50%	50%	change: 0%
			Volatility: 0%

The last two quite clearly underestimate the level of electoral change. Identifying a successor could still be argued to overestimate volatility – note that A1 was *half-congruent* with A, meaning it either shared a name, a leader or a good number of top candidates – that extent of continuation should not be overlooked. Please note that due to large differences in novelty

scores, identifying a successor is relatively straightforward here. If, say, two equally strong parties terminated their loose and ad hoc coalition, deciding on a single successor would be much more difficult and would lead to a more obviously overestimated volatility score.

Taking into account the four dimensions of newness is obviously more complex and time-consuming than the classical approach to volatility, but as shown above, it reduces the risk of seriously under- or overestimating party system change that will *always* result if the volatility scores are based on dichotomous decisions on party newness – including identifying a single successor or predecessor in case of splits mergers. As shown above, an easier approach of combining support in the election when the electons ran separately can seriously underestimate levels of party system change.

The outlined approach is computationally slightly more intensive than the standard approach, but the data for calculating congruity matrices is relatively easy to obtain. Historical data on party names, coalitions and leaders¹⁰ is relatively easy to collect. Data on candidates for historically more distant elections might be somewhat difficult to obtain, but the data should be reasonably easily available for the last few decades, frequently in electronic form that makes the matching of candidate lists easier.

More generally, this paper calls into the question whether a *party* is a proper unit of analysis for calculating volatility or even analysing *party system* dynamics.¹¹ Not only is a party only one possible type of an electon – sometimes completely absent in parliamentary elections (e.g. Latvia 2010). Many changes in party systems are complex, involving several parties and various degrees of novelty, often in conjunction. The traditional toolkit did not make it possible to account for complex realities, but as is shown in this paper, a much fuller picture can be incorporated with some innovation and fairly limited extra effort.

Appendix: Index for spatial congruence of vote shares

The formula for the index for spatial congruence of vote shares is:

$$1 - \frac{\sum |DC - \overline{DC}|}{n}$$

Where n is the number of districts (or administrative subdivisions) analysed and DC is the *doubling coefficient*:

$$DC = \log_2 \left(\frac{v_t}{v_{t-1}} \right)$$

¹⁰ Somewhat surprisingly, this was the most difficult part of calculating the Latvian example – mostly because of the prevalence of electoral coalitions with sometimes ill-defined leadership.

¹¹ I would speculate that volatility scores based based on congruence and novelty indices also provide a better approximation of voter-level volatility, that has long been one of the aims of analysis of volatility (Pedersen, Bartolini & Mair).

The index is based on *ratios* of vote shares in two elections (v_t/v_{t-1}) as the more conventional difference in vote shares is dependent on overall support levels – e.g. for a party with 5 per cent increase in support of 10 percentage points would be a major change (and it cannot possibly lose that much support) while it would be a much smaller change for a major party. In order to bring the increases and decreases to the same scale, the ratios are logged on the base of 2 – resulting in the *doubling coefficient* that equals 1 if the vote share is doubled (i.e. increased by the factor of 2) and -1 when it is halved (i.e. decreased by the factor of 2). The index of spatial congruence is based on the *average absolute deviation* of doubling coefficients from the mean. It is equal to one when all districts saw a like change in support – indicating perfect congruence (i.e. no change) in electon’s support patterns. It is equal to zero when fluctuations were of very different magnitudes in different districts – typically, when the support doubled in half of the districts and halved in half of the districts. In real life situations, it is difficult to imagine the score going below zero, but for consistency reasons, it is capped at zero.¹²

References

TBC

¹² In principle, it is possible to transform the indicator so that it approaches but never quite reaches zero, but the more elegant interpretation resulting from the doubling coefficients outweighs the inelegance of capping the measure at zero.