A Treaty for the Rich and Politically Loyal? Explaining the Bilateral Center-Region Treaties in Post-Soviet Russia

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Russian Politics (Forthcoming)

On-line Appendix

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Table 1: The list of the regions with a signed bilateral treaty, 1994-1998

No	Region	Date
1	Tatarstan	15/02/1994
2	Kabardino-Balkaria	01/07/1994
3	Bashkortostan	03/09/1994
4	North Ossetia	23/03/1995
5	Sakha	29/06/1995
6	Buryatia	29/09/1995
7	Udmurtia	17/10/1995
8	Sverdlovsk Oblast	12/01/1996
9	Kaliningrad Oblast	12/01/1996
10	Krasnodar Krai	30/01/1996
11	Orenburg Oblast	30/01/1996
12	Komi	20/03/1996
13	Khabarovsk Krai	24/04/1996
14	Omsk Oblast	19/05/1996
15	Irkutsk Oblast	27/05/1996
16	Ust-Orda Buryat Autonomous Okrug	27/05/1996
17	Chuvashia	27/05/1996
18	Sakhalin Oblast	29/05/1996
19	Perm Oblast	31/05/1996
20	Komi-Perm Autonomous Okrug	31/05/1996
21	Nizhniy Novgorod Oblast	08/06/1996
22	Rostov Oblast	11/06/1996
23	Tver Oblast	13/06/1996
24	Leningrad Oblast	13/06/1996
25	Saint-Petersburg	13/06/1996
26	Altai Krai	29/11/1996
27	Briansk Oblast	04/07/1997
28	Vologda Oblast	04/07/1997
29	Magadan Oblast	04/07/1997
30	Saratov Oblast	04/07/1997
31	Chelyabinsk Oblast	04/07/1997
32	Samara Oblast	01/09/1997
33	Astrakhan Oblast	30/10/1997
34	Kirov Oblast	30/10/1997
35	Murmansk Oblast	30/10/1997
36	Ulyanovsk Oblast	30/10/1997
37	Yaroslavl Oblast	30/10/1997

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No	Region	Date
38	Krasnoyarsk Krai	01/11/1997
39	Taimyr (Dolgano-Nenets) Autonomous Okrug	01/11/1997
40	Evenki Autonomous Okrug	01/11/1997
41	Mari El	20/05/1998
42	Amur Oblast	20/05/1998
43	Voronezh Oblast	20/05/1998
44	Ivanovo Oblast	20/05/1998
45	Kostroma Oblast	20/05/1998
46	Moscow	16/06/1998

Source: Klimanov (2003, 54-55).

Table 2: The list of cases and the raw data

No	Case	Case label	SOV	ELECT	VOT	DON	OUT
1	Altai Krai	ALT	2	2	1	0	3
2	Amur Oblast	AMU	2	1	4	0	3
3	Arkhangelsk Oblast	ARK	4	2	4	1	2
4	Astrakhan Oblast	AST	0	2	1	0	3
5	Bashkortostan	BA	4	4	3	5	4
6	Belgorod Oblast	BEL	2	3	1	2	1
7	Briansk Oblast	BRY	1	1	1	0	3
8	Buriatia	BU	3	4	1	0	3
9	Chelyabinsk Oblast	CHE	4	2	4	2	3
10	Chuvashia	CU	1	4	1	0	3
11	Dagestan	DA	2	4	3	0	2
12	Irkutsk Oblast	IRK	3	3	4	3	3
13	Ingushetia	IN	5	4	4	0	1
14	Ivanovo Oblast	IVA	0	2	4	1	3
15	Jewish Autonomous Oblast	YEV	1	2	4	0	2
16	Kabardino-Balkaria	KB	2	4	4	0	4
17	Kaliningrad Oblast	KGD	2	2	4	0	3
18	Kalmykia	KL	2	4	4	0	1
19	Kaluga Oblast	KLU	0	1	3	0	2
20	Karelia	KR	4	4	4	1	2
21	Kemerovo	KEM	1	2	1	0	2
22	Khabarovsk Krai	KHA	2	2	1	0	3
23	Khakassia	KK	1	4	1	0	1
24	Kirov Oblast	KIR	1	2	4	0	3
25	Komi	KO	4	4	4	4	3
26	Kostroma Oblast	KOS	0	2	3	0	3
27	Krasnodar Krai	KDA	1	1	1	0	3
28	Krasnoyarsk Krai	KYA	4	4	4	5	3
29	Kursk Oblast	KRS	2	2	1	1	2
30	Leningrad Oblast	LEN	2	2	4	1	3
31	Lipetsk Oblast	LIP	1	4	1	5	1
32	Magadan Oblast	MAG	1	2	4	0	3
33	Mari El	ME	1	4	1	0	3
34	Mordovia	MO	1	3	1	0	2
35	Moscow	MOW	4	2	4	5	3
36	Moscow Oblast	MOS	1	3	4	3	2
37	Murmansk Oblast	MUR	1	2	4	3	3

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	Case	Case label	SOV	ELECT	VOT	DON	OUT
38	Nizhniy Novgorod Oblast	NIZ	0	3	4	3	3
39	North Ossetia	SE	2	4	1	0	4
40	Novgorod Oblast	NGR	2	3	4	0	1
41	Novosibirsk Oblast	NVS	2	1	1	0	2
42	Omsk Oblast	OMS	1	3	1	0	3
43	Orenburg Oblast	ORE	1	3	1	1	3
44	Oryol Oblast	ORL	3	4	1	0	1
45	Perm Oblast	PER	1	1	4	3	3
46	Rostov Oblast	ROS	1	2	3	1	3
47	Ryazan Oblast	RYA	1	1	1	2	1
48	Saint-Petersburg	SPE	4	4	4	3	3
49	Sakha	SA	5	4	4	5	4
50	Sakhalin Oblast	SAK	1	1	4	0	3
51	Samara Oblast	SAM	0	2	4	5	3
52	Saratov Oblast	SAR	1	2	1	0	3
53	Stavropol Krai	STA	0	1	1	0	2
54	Sverdlovsk Oblast	SVE	4	3	4	5	3
55	Tatarstan	TA	5	4	4	5	4
56	Tomsk Oblast	TOM	3	3	4	1	2
57	Tuva	TY	5	4	4	0	2
58	Tver Oblast	TVE	1	2	3	1	3
59	Udmurtia	UD	2	3	4	0	3
60	Ulyanovsk Oblast	ULY	0	2	1	1	3
61	Volgograd Oblast	VGG	2	2	1	1	2
62	Vologda Oblast	VLG	4	2	4	2	3
63	Voronezh Oblast	VOR	2	2	1	0	3
64	Yaroslavl Oblast	YAR	1	3	4	3	3

Table 3: The calibrated dataset

No	Case	Case label	SOV	ELECT	VOT	DON	OUT
1	Altai Krai	ALT	0.33	0.33	0.00	0.00	0.67
2	Amur Oblast	AMU	0.33	0.00	1.00	0.00	0.67
3	Arkhangelsk Oblast	ARK	0.67	0.33	1.00	0.33	0.33
4	Astrakhan Oblast	AST	0.00	0.33	0.00	0.00	0.67
5	Bashkortostan	BA	0.67	1.00	0.67	1.00	1.00
6	Belgorod Oblast	BEL	0.33	0.67	0.00	0.33	0.00
7	Briansk Oblast	BRY	0.33	0.00	0.00	0.00	0.67
8	Buriatia	BU	0.33	1.00	0.00	0.00	0.67
9	Chelyabinsk Oblast	CHE	0.67	0.33	1.00	0.33	0.67
10	Chuvashia	CU	0.33	1.00	0.00	0.00	0.67
11	Dagestan	DA	0.33	1.00	0.67	0.00	0.33
12	Irkutsk Oblast	IRK	0.33	0.67	1.00	0.67	0.67
13	Ingushetia	IN	1.00	1.00	1.00	0.00	0.00
14	Ivanovo Oblast	IVA	0.00	0.33	1.00	0.33	0.67
15	Jewish Autonomous Oblast	YEV	0.33	0.33	1.00	0.00	0.33
16	Kabardino-Balkaria	KB	0.33	1.00	1.00	0.00	1.00
17	Kaliningrad Oblast	KGD	0.33	0.33	1.00	0.00	0.67
18	Kalmykia	KL	0.33	1.00	1.00	0.00	0.00
19	Kaluga Oblast	KLU	0.00	0.00	0.67	0.00	0.33
20	Karelia	KR	0.67	1.00	1.00	0.33	0.33
21	Kemerovo	KEM	0.33	0.33	0.00	0.00	0.33
22	Khabarovsk Krai	KHA	0.33	0.33	0.00	0.00	0.67
23	Khakassia	KK	0.33	1.00	0.00	0.00	0.00
24	Kirov Oblast	KIR	0.33	0.33	1.00	0.00	0.67
25	Komi	KO	0.67	1.00	1.00	0.67	0.67
26	Kostroma Oblast	KOS	0.00	0.33	0.67	0.00	0.67
27	Krasnodar Krai	KDA	0.33	0.00	0.00	0.00	0.67
28	Krasnoyarsk Krai	KYA	0.67	1.00	1.00	1.00	0.67
29	Kursk Oblast	KRS	0.33	0.33	0.00	0.33	0.33
30	Leningrad Oblast	LEN	0.33	0.33	1.00	0.33	0.67
31	Lipetsk Oblast	LIP	0.33	1.00	0.00	1.00	0.00
32	Magadan Oblast	MAG	0.33	0.33	1.00	0.00	0.67
33	Mari El	ME	0.33	1.00	0.00	0.00	0.67
34	Mordovia	MO	0.33	0.67	0.00	0.00	0.33
35	Moscow	MOW	0.67	0.33	1.00	1.00	0.67
36	Moscow Oblast	MOS	0.33	0.67	1.00	0.67	0.33
37	Murmansk Oblast	MUR	0.33	0.33	1.00	0.67	0.67

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No	Case	Case label	SOV	ELECT	VOT	DON	OUT
38	Nizhniy Novgorod Oblast	NIZ	0.00	0.67	1.00	0.67	0.67
39	North Ossetia	SE	0.33	1.00	0.00	0.00	1.00
40	Novgorod Oblast	NGR	0.33	0.67	1.00	0.00	0.00
41	Novosibirsk Oblast	NVS	0.33	0.00	0.00	0.00	0.33
42	Omsk Oblast	OMS	0.33	0.67	0.00	0.00	0.67
43	Orenburg Oblast	ORE	0.33	0.67	0.00	0.33	0.67
44	Oryol Oblast	ORL	0.33	1.00	0.00	0.00	0.00
45	Perm Oblast	PER	0.33	0.00	1.00	0.67	0.67
46	Rostov Oblast	ROS	0.33	0.33	0.67	0.33	0.67
47	Ryazan Oblast	RYA	0.33	0.00	0.00	0.33	0.00
48	Saint-Petersburg	SPE	0.67	1.00	1.00	0.67	0.67
49	Sakha	SA	1.00	1.00	1.00	1.00	1.00
50	Sakhalin Oblast	SAK	0.33	0.00	1.00	0.00	0.67
51	Samara Oblast	SAM	0.00	0.33	1.00	1.00	0.67
52	Saratov Oblast	SAR	0.33	0.33	0.00	0.00	0.67
53	Stavropol Krai	STA	0.00	0.00	0.00	0.00	0.33
54	Sverdlovsk Oblast	SVE	0.67	0.67	1.00	1.00	0.67
55	Tatarstan	TA	1.00	1.00	1.00	1.00	1.00
56	Tomsk Oblast	TOM	0.33	0.67	1.00	0.33	0.33
57	Tuva	TY	1.00	1.00	1.00	0.00	0.33
58	Tver Oblast	TVE	0.33	0.33	0.67	0.33	0.67
59	Udmurtia	UD	0.33	0.67	1.00	0.00	0.67
60	Ulyanovsk Oblast	ULY	0.00	0.33	0.00	0.33	0.67
61	Volgograd Oblast	VGG	0.33	0.33	0.00	0.33	0.33
62	Vologda Oblast	VLG	0.67	0.33	1.00	0.33	0.67
63	Voronezh Oblast	VOR	0.33	0.33	0.00	0.00	0.67
64	Yaroslavl Oblast	YAR	0.33	0.67	1.00	0.67	0.67

Figure 1: Distribution of the raw data

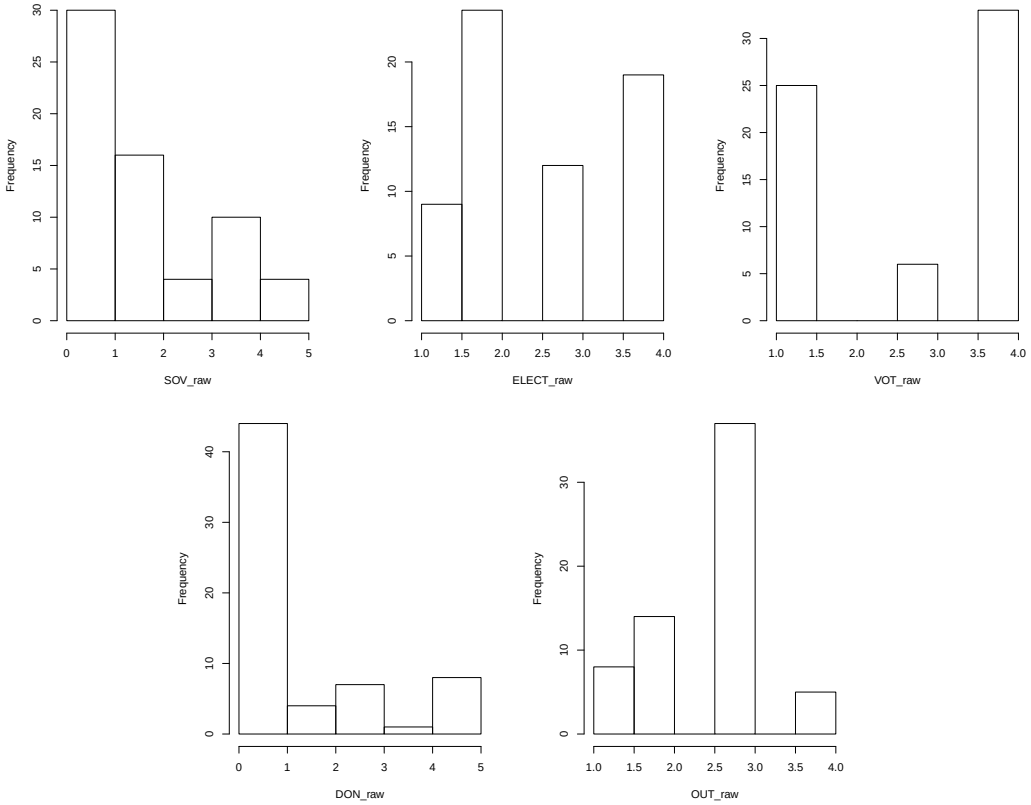

Figure 2: Distribution of the fuzzy set membership scores

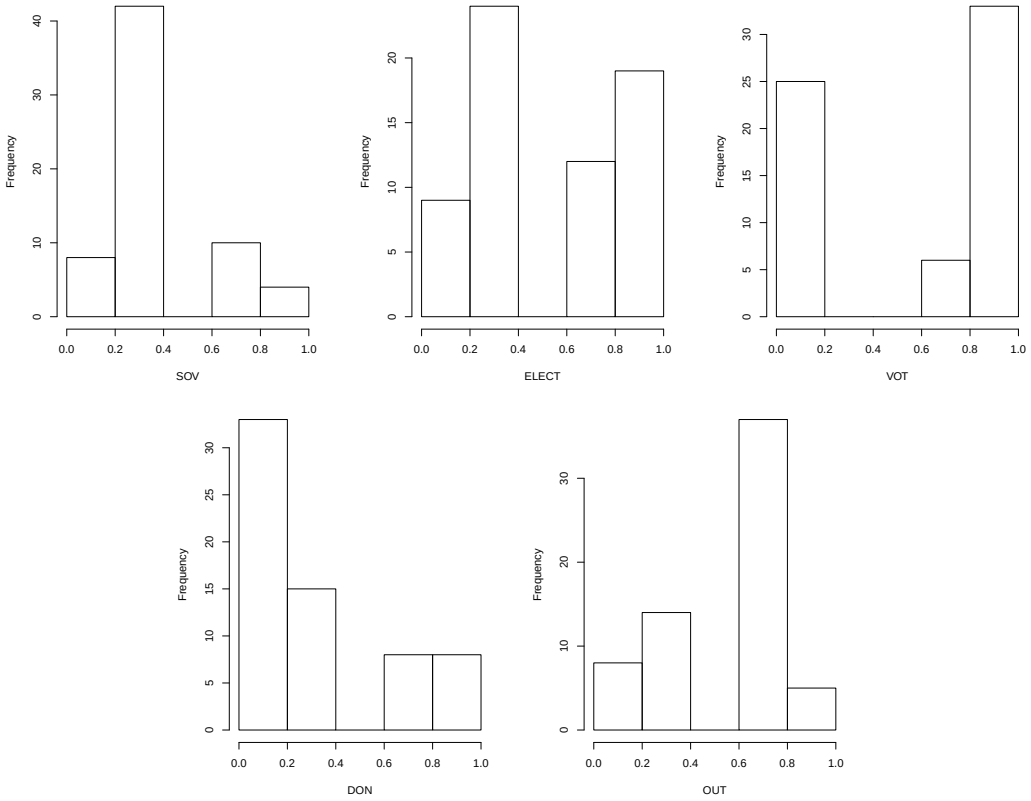

Figure 3: Plots of the raw data against the fuzzy set membership scores

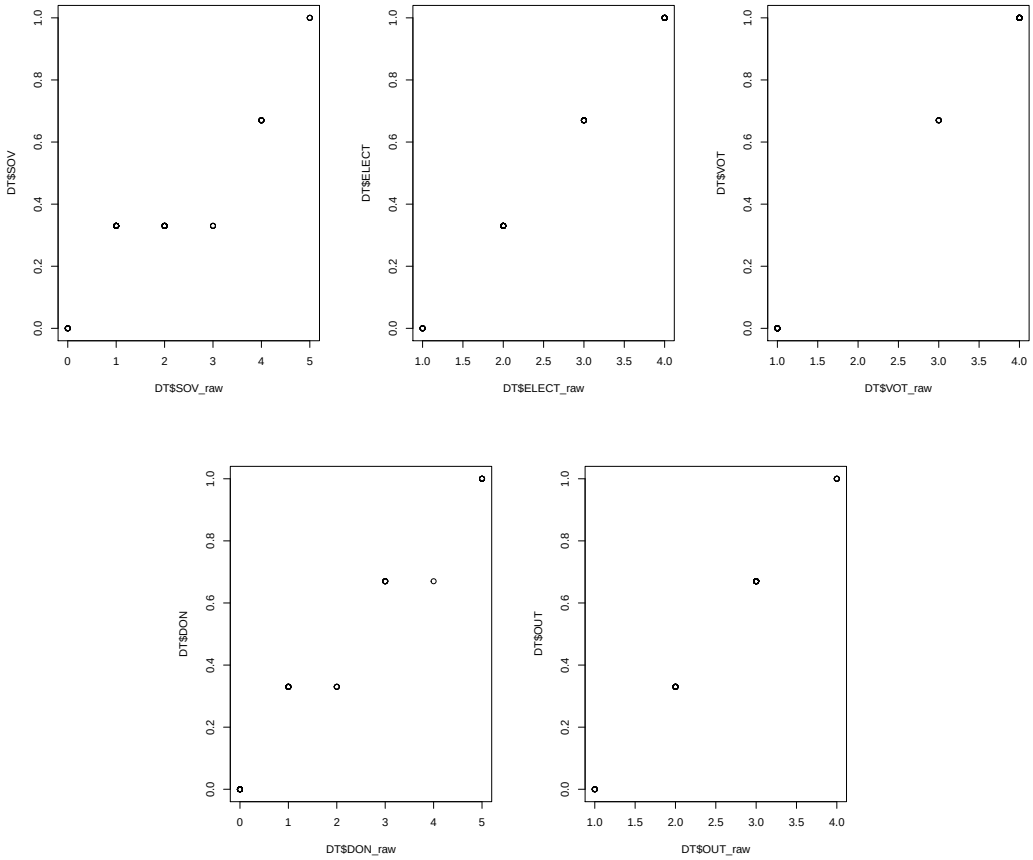

Table 4: Parameters of fit, necessity, outcome a signed treaty

Condition	Consistency of Necessity	Coverage of Necessity	Relevance of Necessity
SOV	0.578	0.810	0.894
ELECT	0.686	0.675	0.719
VOT	0.651	0.605	0.648
DON	0.436	0.819	0.932
sov	0.824	0.719	0.689
elect	0.640	0.758	0.833
vot	0.397	0.507	0.736
don	0.766	0.577	0.486

Capital letters denote presence, small letters indicate absence.

Figure 4: Plots of the conservative solution formula, outcome a signed treaty

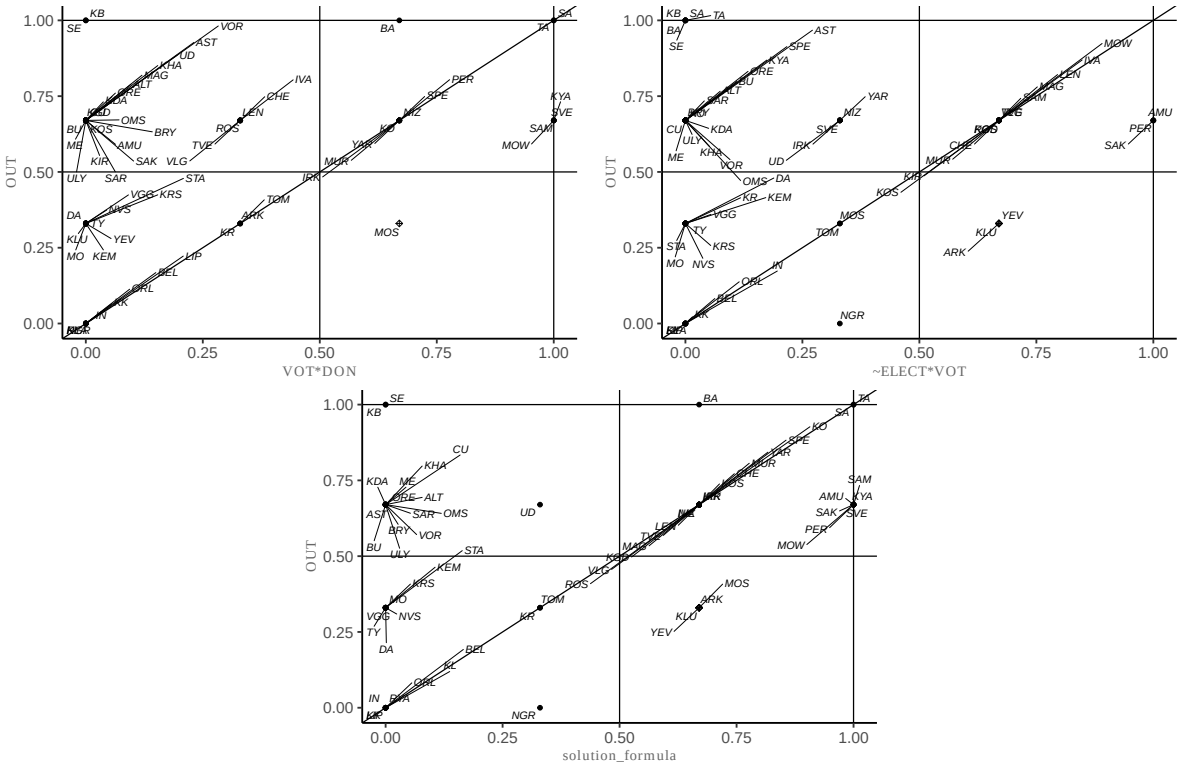

Table 5: Parameters of fit, necessity, outcome no signed treaty

Condition	Consistency of Necessity	Coverage of Necessity	Relevance of Necessity
SOV	0.626	0.754	0.867
ELECT	0.763	0.646	0.701
VOT	0.550	0.440	0.565
DON	0.346	0.560	0.850
sov	0.843	0.632	0.629
elect	0.616	0.628	0.764
vot	0.506	0.554	0.755
don	0.888	0.575	0.485

Capital letters denote presence, small letters indicate absence.

Table 6: Truth table, outcome no signed treaty

						Cases				
Row	SOV	ELECT	VOT	DON	OUT	n	incl.	PRI	No Treaty	Treaty
15	1	1	1	0	1	3	0.934	0.780	IN, KR, TY	-
7	0	1	1	0	1	6	0.905	0.667	DA, KL, NGR, TOM	KB, UD
6	0	1	0	1	1	1	0.900	0.752	LIP	-
12	1	0	1	1	1	1	0.931	0.000	-	MOW
11	1	0	1	0	1	3	0.911	0.496	ARK	CHE, VLG
4	0	0	1	1	0	3	0.846	0.000	-	MUR, PER, SAM
8	0	1	1	1	0	4	0.837	0.201	MOS	IRK, NIZ, YAR
5	0	1	0	0	0	10	0.784	0.498	KK, MO, BEL, ORL	BU, CU, ME, SE, OMS, ORE
1	0	0	0	0	0	14	0.753	0.470	KEM, KRS, NVS, STA, RYA, VGG	ALT, AST, BRY, KDA, KHA, SAR, ULY, VOR
3	0	0	1	0	0	12	0.717	0.229	KLU, YEV	AMU, IVA, KGD, KIR, KOS, LEN, MAG, ROS, SAK, TVE
16	1	1	1	1	0	7	0.582	0.000	-	BA, KO, SA, TA, KYA, SPE, SVE
2	0	0	0	1	?	0	-	-	-	-
9	1	0	0	0	?	0	-	-	-	-
10	1	0	0	1	?	0	-	-	-	-
13	1	1	0	0	?	0	-	-	-	-
14	1	1	0	1	?	0	-	-	-	-

Consistency threshold = 0.90.

Table 7: Parsimonious solution formula, outcome no signed treaty

	Cons.	PRI	Raw cov.	Uniq. cov.	Typical cases	Deviant cases
sov*vot*DON +	0.909	0.801	0.112	0.090	**LIP**	-
ELECT*VOT*don	0.877	0.707	0.404	0.382	**IN**, **KL**, **KR**, **NGR**, **TOM**	KB, UD
Overall solution	0.880	0.728	0.493			

[1] Intermediate solution looks identical.
[2] Capital letters denote presence, small letters indicate absence, * stands for logical AND, + stands for logical OR.
[3] Uniquely covered cases are in bold.

Table 8: The calibrated dataset, direct calibration

No	Case	Case label	SOV	ELECT	VOT	DON	OUT
1	Altai Krai	ALT	0.36	0.27	0.05	0.05	0.95
2	Amur Oblast	AMU	0.36	0.05	0.95	0.05	0.95
3	Arkhangelsk Oblast	ARK	0.85	0.27	0.95	0.15	0.05
4	Astrakhan Oblast	AST	0.05	0.27	0.05	0.05	0.95
5	Bashkortostan	BA	0.85	0.95	0.73	0.95	0.95
6	Belgorod Oblast	BEL	0.36	0.73	0.05	0.36	0.05
7	Briansk Oblast	BRY	0.15	0.05	0.05	0.05	0.95
8	Buriatia	BU	0.64	0.95	0.05	0.05	0.95
9	Chelyabinsk Oblast	CHE	0.85	0.27	0.95	0.36	0.95
10	Chuvashia	CU	0.15	0.95	0.05	0.05	0.95
11	Dagestan	DA	0.36	0.95	0.73	0.05	0.05
12	Irkutsk Oblast	IRK	0.64	0.73	0.95	0.64	0.95
13	Ingushetia	IN	0.95	0.95	0.95	0.05	0.05
14	Ivanovo Oblast	IVA	0.05	0.27	0.95	0.15	0.95
15	Jewish Autonomous Oblast	YEV	0.15	0.27	0.95	0.05	0.05
16	Kabardino-Balkaria	KB	0.36	0.95	0.95	0.05	0.95
17	Kaliningrad Oblast	KGD	0.36	0.27	0.95	0.05	0.95
18	Kalmykia	KL	0.36	0.95	0.95	0.05	0.05
19	Kaluga Oblast	KLU	0.05	0.05	0.73	0.05	0.05
20	Karelia	KR	0.85	0.95	0.95	0.15	0.05
21	Kemerovo	KEM	0.15	0.27	0.05	0.05	0.05
22	Khabarovsk Krai	KHA	0.36	0.27	0.05	0.05	0.95
23	Khakassia	KK	0.15	0.95	0.05	0.05	0.05
24	Kirov Oblast	KIR	0.15	0.27	0.95	0.05	0.95
25	Komi	KO	0.85	0.95	0.95	0.85	0.95
26	Kostroma Oblast	KOS	0.05	0.27	0.73	0.05	0.95
27	Krasnodar Krai	KDA	0.15	0.05	0.05	0.05	0.95
28	Krasnoyarsk Krai	KYA	0.85	0.95	0.95	0.95	0.95
29	Kursk Oblast	KRS	0.36	0.27	0.05	0.15	0.05
30	Leningrad Oblast	LEN	0.36	0.27	0.95	0.15	0.95
31	Lipetsk Oblast	LIP	0.15	0.95	0.05	0.95	0.05
32	Magadan Oblast	MAG	0.15	0.27	0.95	0.05	0.95
33	Mari El	ME	0.15	0.95	0.05	0.05	0.95
34	Mordovia	MO	0.15	0.73	0.05	0.05	0.05
35	Moscow	MOW	0.85	0.27	0.95	0.95	0.95
36	Moscow Oblast	MOS	0.15	0.73	0.95	0.64	0.05
37	Murmansk Oblast	MUR	0.15	0.27	0.95	0.64	0.95

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No	Case	Case label	SOV	ELECT	VOT	DON	OUT
38	Nizhniy Novgorod Oblast	NIZ	0.05	0.73	0.95	0.64	0.95
39	North Ossetia	SE	0.36	0.95	0.05	0.05	0.95
40	Novgorod Oblast	NGR	0.36	0.73	0.95	0.05	0.05
41	Novosibirsk Oblast	NVS	0.36	0.05	0.05	0.05	0.05
42	Omsk Oblast	OMS	0.15	0.73	0.05	0.05	0.95
43	Orenburg Oblast	ORE	0.15	0.73	0.05	0.15	0.95
44	Oryol Oblast	ORL	0.64	0.95	0.05	0.05	0.05
45	Perm Oblast	PER	0.15	0.05	0.95	0.64	0.95
46	Rostov Oblast	ROS	0.15	0.27	0.73	0.15	0.95
47	Ryazan Oblast	RYA	0.15	0.05	0.05	0.36	0.05
48	Saint-Petersburg	SPE	0.85	0.95	0.95	0.64	0.95
49	Sakha	SA	0.95	0.95	0.95	0.95	0.95
50	Sakhalin Oblast	SAK	0.15	0.05	0.95	0.05	0.95
51	Samara Oblast	SAM	0.05	0.27	0.95	0.95	0.95
52	Saratov Oblast	SAR	0.15	0.27	0.05	0.05	0.95
53	Stavropol Krai	STA	0.05	0.05	0.05	0.05	0.05
54	Sverdlovsk Oblast	SVE	0.85	0.73	0.95	0.95	0.95
55	Tatarstan	TA	0.95	0.95	0.95	0.95	0.95
56	Tomsk Oblast	TOM	0.64	0.73	0.95	0.15	0.05
57	Tuva	TY	0.95	0.95	0.95	0.05	0.05
58	Tver Oblast	TVE	0.15	0.27	0.73	0.15	0.95
59	Udmurtia	UD	0.36	0.73	0.95	0.05	0.95
60	Ulyanovsk Oblast	ULY	0.05	0.27	0.05	0.15	0.95
61	Volgograd Oblast	VGG	0.36	0.27	0.05	0.15	0.05
62	Vologda Oblast	VLG	0.85	0.27	0.95	0.36	0.95
63	Voronezh Oblast	VOR	0.36	0.27	0.05	0.05	0.95
64	Yaroslavl Oblast	YAR	0.15	0.73	0.95	0.64	0.95

Table 9: Alternative conservative solution formula 1, outcome a signed treaty

	Cons.	PRI	Raw cov.	Uniq. cov.	Typical cases	Deviant cases
VOT*DON +	0.943	0.928	0.357	0.171	**BA**, **KO**, **SA**, **TA**, **KYA**, **IRK**, MOW, MUR, **NIZ**, PER, SAM, **SPE**, **SVE**, **YAR**	MOS
elect*VOT	0.854	0.824	0.386	0.200	**AMU**, **CHE**, **IVA**, **KGD**, **KIR**, **KOS**, **LEN**, **MAG**, MOW, MUR, PER, **SAK**, SAM, **ROS**, **VLG**, **TVE**	ARK, KLU, YEV
Overall solution	0.878	0.861	0.557			

[1] Capital letters denote presence, small letters indicate absence, * stands for logical AND, + stands for logical OR.
[2] Uniquely covered cases are in bold.

Table 10: Alternative conservative solution formula 2, outcome a signed treaty

	Cons.	PRI	Raw cov.	Uniq. cov.	Typical cases	Deviant cases
VOT*DON +	0.930	0.910	0.344	0.132	**KO**, **KYA**, **IRK**, MOW, MUR, **NIZ**, PER, SAM, **SPE**, **SVE**, **YAR**	MOS
elect*VOT +	0.850	0.821	0.445	0.232	**AMU**, **CHE**, **IVA**, **KGD**, **KIR**, **KOS**, **LEN**, **MAG**, MOW, MUR, PER, **SAK**, SAM, **ROS**, **VLG**, **TVE**	ARK, KLU, YEV
Overall solution	0.862	0.842	0.576			

[1] Capital letters denote presence, small letters indicate absence, * stands for logical AND, + stands for logical OR.
[2] Uniquely covered cases are in bold.

Table 11: Alternative conservative solution formula 3, outcome a signed treaty

	Cons.	PRI	Raw cov.	Uniq. cov.	Typical cases	Deviant cases
VOT*DON +	0.889	0.794	0.388	0.185	**SA**, **TA**, **KO**, **BA**, **IRK**, MUR, **NIZ**, **PER**, **SPE**, **YAR**	MOS
elect*VOT +	0.857	0.699	0.407	0.185	**CHE**, **IVA**, **KGD**, **KIR**, **KOS**, **LEN**, **MAG**, **MOW**, MUR, **SAM**, **ROS**, **TVE**	ARK, KLU, YEV
sov*ELECT*vot*don	0.786	0.502	0.251	0.222	**CU**, **OMS**, **ORE**, **SE**, **ME**, **BU**	KK, MO, BEL, ORL
Overall solution	0.815	0.669	0.815			

[1] Capital letters denote presence, small letters indicate absence, * stands for logical AND, + stands for logical OR.
[2] Uniquely covered cases are in bold.

Table 12: The calibrated dataset for cluster analysis

No	Case	Case label	REGION	REG_TYPE	SOV	ELECT	VOT	DON	OUT
1	Altai Krai	ALT	ALT	authoritarian	0.33	0.33	0.00	0.00	0.67
2	Amur Oblast	AMU	AMU	authoritarian	0.33	0.00	1.00	0.00	0.67
3	Arkhangelsk Oblast	ARK	ARK	authoritarian	0.67	0.33	1.00	0.33	0.33
4	Astrakhan Oblast	AST	AST	authoritarian	0.00	0.33	0.00	0.00	0.67
5	Bashkortostan	BA	BA	authoritarian	0.67	1.00	0.67	1.00	1.00
6	Belgorod Oblast	BEL	BEL	authoritarian	0.33	0.67	0.00	0.33	0.00
7	Briansk Oblast	BRY	BRY	authoritarian	0.33	0.00	0.00	0.00	0.67
8	Buriatia	BU	BU	authoritarian	0.33	1.00	0.00	0.00	0.67
9	Chelyabinsk Oblast	CHE	CHE	authoritarian	0.67	0.33	1.00	0.33	0.67
10	Chuvashia	CU	CU	authoritarian	0.33	1.00	0.00	0.00	0.67
11	Dagestan	DA	DA	authoritarian	0.33	1.00	0.67	0.00	0.33
12	Irkutsk Oblast	IRK	IRK	authoritarian	0.33	0.67	1.00	0.67	0.67
13	Ingushetia	IN	IN	authoritarian	1.00	1.00	1.00	0.00	0.00
14	Ivanovo Oblast	IVA	IVA	authoritarian	0.00	0.33	1.00	0.33	0.67
15	Jewish Autonomous Oblast	YEV	YEV	authoritarian	0.33	0.33	1.00	0.00	0.33
16	Kabardino-Balkaria	KB	KB	authoritarian	0.33	1.00	1.00	0.00	1.00
17	Kaliningrad Oblast	KGD	KGD	authoritarian	0.33	0.33	1.00	0.00	0.67
18	Kalmykia	KL	KL	authoritarian	0.33	1.00	1.00	0.00	0.00
19	Kaluga Oblast	KLU	KLU	authoritarian	0.00	0.00	0.67	0.00	0.33
20	Karelia	KR	KR	democratic	0.67	1.00	1.00	0.33	0.33
21	Kemerovo	KEM	KEM	authoritarian	0.33	0.33	0.00	0.00	0.33
22	Khabarovsk Krai	KHA	KHA	authoritarian	0.33	0.33	0.00	0.00	0.67
23	Khakassia	KK	KK	authoritarian	0.33	1.00	0.00	0.00	0.00
24	Kirov Oblast	KIR	KIR	authoritarian	0.33	0.33	1.00	0.00	0.67
25	Komi	KO	KO	authoritarian	0.67	1.00	1.00	0.67	0.67
26	Kostroma Oblast	KOS	KOS	authoritarian	0.00	0.33	0.67	0.00	0.67
27	Krasnodar Krai	KDA	KDA	authoritarian	0.33	0.00	0.00	0.00	0.67
28	Krasnoyarsk Krai	KYA	KYA	democratic	0.67	1.00	1.00	1.00	0.67
29	Kursk Oblast	KRS	KRS	authoritarian	0.33	0.33	0.00	0.33	0.33
30	Leningrad Oblast	LEN	LEN	authoritarian	0.33	0.33	1.00	0.33	0.67
31	Lipetsk Oblast	LIP	LIP	authoritarian	0.33	1.00	0.00	1.00	0.00
32	Magadan Oblast	MAG	MAG	authoritarian	0.33	0.33	1.00	0.00	0.67
33	Mari El	ME	ME	authoritarian	0.33	1.00	0.00	0.00	0.67
34	Mordovia	MO	MO	authoritarian	0.33	0.67	0.00	0.00	0.33

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No	Case	Case label	REGION	REG_TYPE	SOV	ELECT	VOT	DON	OUT
35	Moscow	MOW	MOW	authoritarian	0.67	0.33	1.00	1.00	0.67
36	Moscow Oblast	MOS	MOS	authoritarian	0.33	0.67	1.00	0.67	0.33
37	Murmansk Oblast	MUR	MUR	authoritarian	0.33	0.33	1.00	0.67	0.67
38	Nizhniy Novgorod Oblast	NIZ	NIZ	democratic	0.00	0.67	1.00	0.67	0.67
39	North Ossetia	SE	SE	authoritarian	0.33	1.00	0.00	0.00	1.00
40	Novgorod Oblast	NGR	NGR	authoritarian	0.33	0.67	1.00	0.00	0.00
41	Novosibirsk Oblast	NVS	NVS	democratic	0.33	0.00	0.00	0.00	0.33
42	Omsk Oblast	OMS	OMS	authoritarian	0.33	0.67	0.00	0.00	0.67
43	Orenburg Oblast	ORE	ORE	authoritarian	0.33	0.67	0.00	0.33	0.67
44	Oryol Oblast	ORL	ORL	authoritarian	0.33	1.00	0.00	0.00	0.00
45	Perm Oblast	PER	PER	democratic	0.33	0.00	1.00	0.67	0.67
46	Rostov Oblast	ROS	ROS	authoritarian	0.33	0.33	0.67	0.33	0.67
47	Ryazan Oblast	RYA	RYA	authoritarian	0.33	0.00	0.00	0.33	0.00
48	Saint-Petersburg	SPE	SPE	democratic	0.67	1.00	1.00	0.67	0.67
49	Sakha	SA	SA	authoritarian	1.00	1.00	1.00	1.00	1.00
50	Sakhalin Oblast	SAK	SAK	authoritarian	0.33	0.00	1.00	0.00	0.67
51	Samara Oblast	SAM	SAM	democratic	0.00	0.33	1.00	1.00	0.67
52	Saratov Oblast	SAR	SAR	authoritarian	0.33	0.33	0.00	0.00	0.67
53	Stavropol Krai	STA	STA	authoritarian	0.00	0.00	0.00	0.00	0.33
54	Sverdlovsk Oblast	SVE	SVE	democratic	0.67	0.67	1.00	1.00	0.67
55	Tatarstan	TA	TA	authoritarian	1.00	1.00	1.00	1.00	1.00
56	Tomsk Oblast	TOM	TOM	authoritarian	0.33	0.67	1.00	0.33	0.33
57	Tuva	TY	TY	authoritarian	1.00	1.00	1.00	0.00	0.33
58	Tver Oblast	TVE	TVE	authoritarian	0.33	0.33	0.67	0.33	0.67
59	Udmurtia	UD	UD	authoritarian	0.33	0.67	1.00	0.00	0.67
60	Ulyanovsk Oblast	ULY	ULY	authoritarian	0.00	0.33	0.00	0.33	0.67
61	Volgograd Oblast	VGG	VGG	authoritarian	0.33	0.33	0.00	0.33	0.33
62	Vologda Oblast	VLG	VLG	authoritarian	0.67	0.33	1.00	0.33	0.67
63	Voronezh Oblast	VOR	VOR	authoritarian	0.33	0.33	0.00	0.00	0.67
64	Yaroslavl Oblast	YAR	YAR	authoritarian	0.33	0.67	1.00	0.67	0.67

Bibliography

Klimanov, V. V. (2003). *Regionalnye Sistemy i Regionalnoe Razvitie v Rossii [Regional Systems and Regional Development in Russia]*. Moskva: URSS.