

Supplementary Materials

Continuous Covariates	Traditional Values and Government intervention	Economical Liberalism	Green	Pre-global and Less regulations	Euroseptic
Climate is worth the cost	-0.72	-0.27	2.50	2.47	-3.84
Keep petrol cars	1.79	0.19	-3.96	0.31	1.95
Discourage eating meat	-1.86	-0.22	3.68	0.31	-2.12
Reduce tree cutting	-1.65	-1.33	3.92	-0.55	-0.81
Avoid raising taxes	-1.52	2.34	-3.54	1.80	1.39
Toward UBI system	-1.92	-2.91	3.17	0.56	0.65
Leave eurozone	0.77	-1.52	-0.10	-3.80	4.11
Keep health services public	3.30	-5.54	1.88	-1.21	0.95
Privatize elderly care	-2.89	4.42	-1.97	1.99	-0.95
Legalize euthanasia	-4.13	-2.54	1.56	2.74	2.12
Allow gender affirming < 18	-2.43	-1.59	3.41	1.39	-1.03
Groceries can sell liquor	-4.08	-1.26	-1.63	4.47	2.68
Ban energy drink < 15	3.70	0.12	-0.38	-1.65	-1.75
Reduce snuff import	3.59	2.00	0.40	-2.52	-3.36
Equalize parental leaves	-1.06	-3.07	2.18	3.13	-1.30
Extend compulsory education	2.08	-2.88	1.82	0.61	-1.82
Delay summer vacation	-0.40	-0.61	-0.61	2.76	-0.91
Have less universities	-3.21	3.56	-0.75	0.79	-0.06
Immigrants cause insecurity	1.39	1.02	-3.61	-0.93	2.32
More work-based immigrants	-1.69	1.56	0.92	3.22	-3.61
Join NATO	-3.49	3.82	-1.83	3.06	-0.94
Criminalize hate speech	1.84	-0.78	1.06	2.59	-4.44
Need traditional values	3.17	0.80	-3.86	-0.59	0.78
Defend law and order	1.29	-0.10	-3.06	-0.20	2.21
Inequality is right	-2.46	3.01	-1.81	0.17	1.35
More freedom and responsibility	-4.17	-0.15	-1.26	2.89	2.82
Serve your own voters	1.86	-4.00	-2.19	2.37	1.95
Higher goals > self interest	0.14	2.00	0.38	-1.68	-0.82
Strive not to offend	2.87	-1.49	0.02	1.95	-3.15

Table 1: Factorial structure of covariates in the Yle Election Compass dataset, found by the CFTM model. Rows are continuous covariates, columns ‘Traditional Values and Government Intervention’-‘Euroseptic’ are factors, factor names given by analysis of the values. Positive/negative number means increasing the loading of the factor will increase/decrease value of the covariate.

Continuous Covariates Covariates	Social Perfector and Creator	Achiever and Trader	Doom -focused Player	Reviewer	Game Collector	Entertainer	Infrequent Player
Total playtime	-1.11	3.16	6.45	-3.90	1.33	1.45	-7.04
Playtime in 2 weeks	-1.21	2.91	6.33	-3.66	1.07	0.73	-5.99
Votes up	3.37	-1.40	-0.73	-1.05	-0.95	2.89	-1.57
Votes funny	2.55	-1.38	-0.94	-0.84	-1.03	3.44	-1.20
Games Owned	-0.78	-2.41	-3.28	-0.84	6.54	1.28	-0.57
DLC owned	-0.22	-3.22	-3.62	1.93	5.44	1.52	-1.54
Reviews	1.45	-0.76	-0.93	4.11	1.50	-2.22	-2.84
Level	2.82	1.59	-4.75	1.99	3.78	-1.06	-3.83
Badges	2.61	1.42	-3.17	1.40	3.75	-2.83	-3.01
Screenshots	0.22	0.20	1.25	6.71	0.36	-1.84	-6.13
Groups	2.39	5.33	-2.30	-0.56	0.43	-1.74	-3.19
Friends	4.10	0.29	-2.60	2.45	-0.48	2.42	-5.00
Hours played	1.66	-2.09	-1.71	-0.79	0.44	6.64	-3.10
Videos	0.61	-0.21	2.02	0.47	0.93	-1.02	-2.71
Achievements	-2.49	4.99	-4.47	0.34	-0.63	2.93	-0.11
Perfect Games	4.77	2.37	-2.22	-1.12	0.83	-3.38	-1.30
Completion rate	1.69	5.26	-6.55	1.37	1.51	-0.49	-2.19
Games	-0.07	0.41	-2.13	-2.18	5.94	-1.07	-1.17
Workshop items	6.80	-1.69	0.94	-2.00	-0.38	-2.98	-0.86
Wishlisted	-0.96	-1.09	-0.96	-0.93	6.10	-2.47	-0.25
Items owned	-1.79	-0.63	0.31	7.87	1.11	-2.99	-3.51
Trades made	-1.46	2.72	-0.96	1.73	0.60	-1.54	-1.05
Market transactions	-1.82	7.93	-2.18	-0.45	-0.01	-2.13	-1.30

Table 2: Factorial structure of covariates in the Doom Eternal Game Reviews dataset, found by the CFTM model. Rows are covariates, columns ‘Social Perfector and Creator’- ‘Infrequent Player’ are factors.

Model	K	Data		
		Yle Compass	Doom Eternal	Lounge Reviews
CFTM (L = 5)	5	-7.14	-6.60	-6.59
	10	-7.14	-6.60	-6.59
	15	-7.14	-6.60	-6.59
	20	-7.14	-6.60	-6.59
CFTM (L = 10)	5	-7.14	-6.60	-7.52
	10	-7.14	-6.60	-7.52
	15	-7.14	-6.61	-7.52
	20	-7.14	-6.61	-7.52
LDA	5	-7.14	-6.63	-7.52
	10	-7.14	-6.63	-7.52
	15	-7.14	-6.63	-7.52
	20	-7.14	-6.63	-7.52
MetaLDA	5	-8.24	-7.77	-7.87
	10	-8.24	-7.77	-7.87
	15	-8.24	-7.77	-7.87
	20	-8.24	-7.77	-7.87
SCHOLAR	5	-7.22	-6.76	-6.63
	10	-7.23	-6.76	-6.63
	15	-7.24	-6.76	-6.63
	20	-7.24	-6.76	-6.63
STM	5	-9.40	-9.04	-9.43
	10	-9.48	-9.25	-9.82
	15	-9.57	-9.48	-10.12
	20	-9.68	-9.65	-10.38
CTPF	5	-12.43	-11.52	-12.81
	10	-11.03	-9.99	-10.28
	15	-10.27	-9.39	-9.00
	20	-9.69	-9.14	-8.14

Table 3: Details for quantitative evaluation (full data set).

Model	K	Data		
		Yle Compass	Doom Eternal	Lounge Reviews
CFTM (L = 5)	5	-7.19	-6.62	-6.68
	10	-7.19	-6.63	-6.71
	15	-7.18	-6.65	-6.72
	20	-7.18	-6.67	-6.74
CFTM (L = 10)	5	-7.19	-6.63	-6.71
	10	-7.19	-6.64	-6.79
	15	-7.19	-6.66	-6.82
	20	-7.19	-6.69	-6.84
LDA	5	-7.28	-7.24	-10.59
	10	-7.28	-7.34	-10.89
	15	-7.28	-7.44	-10.89
	20	-7.28	-7.76	-10.89
MetaLDA	5	-8.23	-7.72	-7.63
	10	-8.23	-7.73	-7.63
	15	-8.23	-7.72	-7.63
	20	-8.23	-7.73	-7.63
SCHOLAR	5	-7.57	-6.83	-6.73
	10	-7.58	-6.82	-6.73
	15	-7.59	-6.83	-6.73
	20	-7.57	-6.83	-6.73
STM	5	-9.83	-9.37	-6.73
	10	-10.43	-9.88	-6.73
	15	-10.92	-10.16	-6.73
	20	-11.30	-10.64	-6.73
CTPF	5	-11.98	-11.18	-11.26
	10	-10.18	-9.17	-9.24
	15	-9.19	-7.60	-8.44
	20	-8.37	-6.84	-7.93

Table 4: Details for quantitative evaluation (500 random samples).