

# 1 CES Policy Issue Questions

Table 1: CES Survey Items in Policy Ideology Measure

ces code	our code	description	N	Mean	St. Dev.	Min	Max
cps19_spend_educ	spend_educ	How much should the federal government spend on education?	36933	1.358	0.548	1	3
cps19_spend_env	spend_env	How much should the federal government spend on the environment?	36853	1.450	0.651	1	3
cps19_spend_just	spend_just	How much should the federal government spend on justice and law?	36318	2.332	0.616	1	3
cps19_spend_def	spend_def	How much should the federal government spend on defence?	35823	2.039	0.679	1	3
cps19_spend_imm	spend_imm	How much should the federal government spend on immigrants and minorities?	36445	2.271	0.720	1	3
cps19_pos_carbon	carbontax	To help reduce greenhouse gas emissions, the federal government should continue the carbon tax.	12143	2.907	1.492	1	5
cps19_pos_energy	pipe	The federal government should do more to help Canada's energy sector, including building oil pipelines.	12213	3.357	1.331	1	5
cps19_pos_envreg	envreg	Environmental regulation should be stricter, even if it leads to consumers having to pay higher prices.	12412	2.584	1.272	1	5
cps19_pos_jobs	jobs	When there is a conflict between protecting the environment and creating jobs, jobs should come first.	12613	3.054	1.259	1	5
cps19_pos_subsid	subsidies	The federal government should end all corporate and economic development subsidies.	11422	3.035	1.101	1	5
cps19_pos_trade	trade	There should be more free trade with other countries, even if it hurts some industries in Canada.	12226	3.025	1.128	1	5
pes19_paymed	paymed	People who are willing to pay should be allowed to get medical treatment sooner.	5146	2.775	1.360	1	5
pes19_envirojob	envirojob	When there is a conflict between protecting the environment and creating jobs, jobs should come first.	10209	3.100	1.244	1	5
pes19_immigjobs	immjobs	Immigrants take jobs away from other Canadians.	5156	2.438	1.288	1	5
pes19_taxes_1	tax1	How much should small businesses pay in taxes?	5132	3.418	0.818	1	5
pes19_taxes_2	tax2	How much should big corporations pay in taxes?	5177	1.699	0.896	1	5
pes19_taxes_3	tax3	How much should the middle class pay in taxes?	5187	3.527	0.777	1	5
pes19_taxes_4	tax4	How much should wealthy Canadians pay in taxes?	5183	1.734	0.881	1	5
pes19_taxes_5	tax5	How much should poor Canadians pay in taxes?	5157	4.167	0.890	1	5
pes19_trade	trade2	International trade creates more jobs in Canada than it destroys.	4696	3.755	0.983	1	5
pes19_privjobs	prjobs	The government should leave it entirely to the private sector to create jobs.	9944	2.558	1.125	1	5
pes19_govt_act_ineq	ineq	The government should take measures to reduce differences in income levels.	10115	2.362	1.128	1	5
pes19_deserve1	deserve1	If people really want to work, they can find a job.	10233	3.622	1.192	1	5
pes19_deserve2	deserve2	The welfare state makes people less willing to look after themselves.	10171	3.449	1.271	1	5
pes19_blame	blame	People who don't get ahead should blame themselves, not the system.	4962	3.128	1.193	1	5
pes19_stdofliving	standard	Provide standard of living vs. leave people to get by on their own	4498	0.212	0.409	0	1
pes19_inequal	inequal	Is income inequality a big problem in Canada?	10159	2.157	1.023	1	5
pes19_gap	gap	How much do you think should be done to reduce the gap between the rich and the poor in Canada?	9920	1.993	0.934	1	5
cps19_pos_fptp	fptp	Canada should change its electoral system from "First Past the Post" to a "proportional representation" system.	10281	2.561	1.177	1	5
cps19_pos_life	life	Individuals who are terminally ill should be allowed to end their lives with the assistance of a doctor.	12385	1.843	1.180	1	5
cps19_pos_cannabis	cannabis	Possession of cannabis should be a criminal offence.	12233	2.322	1.430	1	5
cps19_imm	imm	Do you think Canada should admit more/less immigrants?	36018	2.245	0.725	1	3
cps19_refugees	refugees	Do you think Canada should admit more/less refugees?	35745	2.326	0.716	1	3
pes19_hatespeech	hatespeech	It should be illegal to say hateful things publicly about racial, ethnic and religious groups.	5190	2.086	1.253	1	5
pes19_womenhome	womenhome	Society would be better off if fewer women worked outside the home.	10234	1.810	1.141	1	5
pes19_famvalues	family	This country would have many fewer problems if there was more emphasis on traditional family values.	10189	3.276	1.317	1	5
pes19_bilingualism	bilingual	We have gone too far in pushing bilingualism in Canada.	5132	3.048	1.376	1	5
pes19_equalrights	equalrights	We have gone too far in pushing equal rights in this country.	5147	2.567	1.371	1	5
pes19_fitin	fitin	Too many recent immigrants just don't want to fit in to Canadian society.	5118	3.211	1.375	1	5
pes19_emb_id	natid	Canadian electors should be issued a national identification card to help them prove their identity and address when voting in federal elections.	5005	3.174	1.316	1	5
pes19_emb_vote16	vote16	The voting age for voting in a federal election should be lowered from 18 to 16 years old.	5154	3.899	1.269	1	5
pes19_womenparl	womenparl	The best way to protect women's interests is to have more women in Parliament.	10237	2.300	1.043	1	5
pes19_nativism3	native1	Immigrants are generally good for Canada's economy.	10221	3.528	1.309	1	5
pes19_nativism4	native2	Canada's culture is generally harmed by immigrants.	10221	2.472	1.309	1	5
pes19_nativism5	native3	Immigrants increase crime rates in Canada.	10102	2.461	1.258	1	5
pes19_sdo1	sdo1	If certain groups stayed in their place, we would have fewer problems.	9954	2.520	1.230	1	5
pes19_sdo2	sdo2	We should do what we can to equalize conditions for different groups.	10067	2.204	0.975	1	5
pes19_sdo3	sdo3	Group equality should be our ideal.	10003	2.200	0.998	1	5
pes19_donerm	rm	How much do you think should be done for racial minorities?	9851	2.640	1.055	1	5
pes19_donew	women	How much do you think should be done for women?	10101	2.169	0.875	1	5
pes19_donegl	gl	How much do you think should be done for gays and lesbians?	9906	2.716	1.077	1	5
pes19_abort1	abort1	Should abortion be banned?	782	0.084	0.278	0	1
pes19_abort2	abort2	Should abortion be banned?	817	1.283	0.562	1	3
pes19_abort3	abort3	There should be more restrictions on abortion.	886	2.000	1.256	1	5
pes19_abort4	abort4	Now we would like to get your views on abortion. Of the following three positions, which is closest to your own opinion?	825	1.224	0.514	1	3
pes19_cc2	climate	What do you think is the main cause of climate change?	7832	0.201	0.401	0	1

## 1.1 Measurement Model: More Detail

Figure 7 summarizes the relationship between each indicator and the latent measure. As expected, nearly all variables are positively and strongly related to the latent measure, as expected. The three exceptions are one tax questions (we assumed conservative preferences for lower taxes across all subgroups; in fact we observe a preference that the poor pay more taxes, not less) and two trade questions (we assumed conservative support for international trade; in fact we observe modestly less support among conservatives).

Figure 7 suggests that a single-dimensional measure of policy ideology is appropriate for these data: notice the positive slopes across questions ranging from environmental policy (carbontax, climate) to immigration and refugees (imm, refugees) to equal rights and inequality (equalrights, gap) to economic policy and taxes (jobs, spending). Figure 8 provides further support for this approach, summarizing the correlation among each of the items in our policy ideology measure (positive correlations are shaded in blue, and negative correlations in red). Notice, once again, the patterns of positive correlation across many issue types.

Finally, figure 9 provides a scree plot drawn from a standard factor analysis (because of the modular character of the Canadian Election Study dataset, these results should be interpreted with caution; we provide them here as an additional test to supplement the results in figures 7 and 8). The figure suggests that a single-dimension solution is appropriate; we see a steep drop from the first factor to the second, and the first factor accounts for nearly four times more variance in the issue items than the second factor.

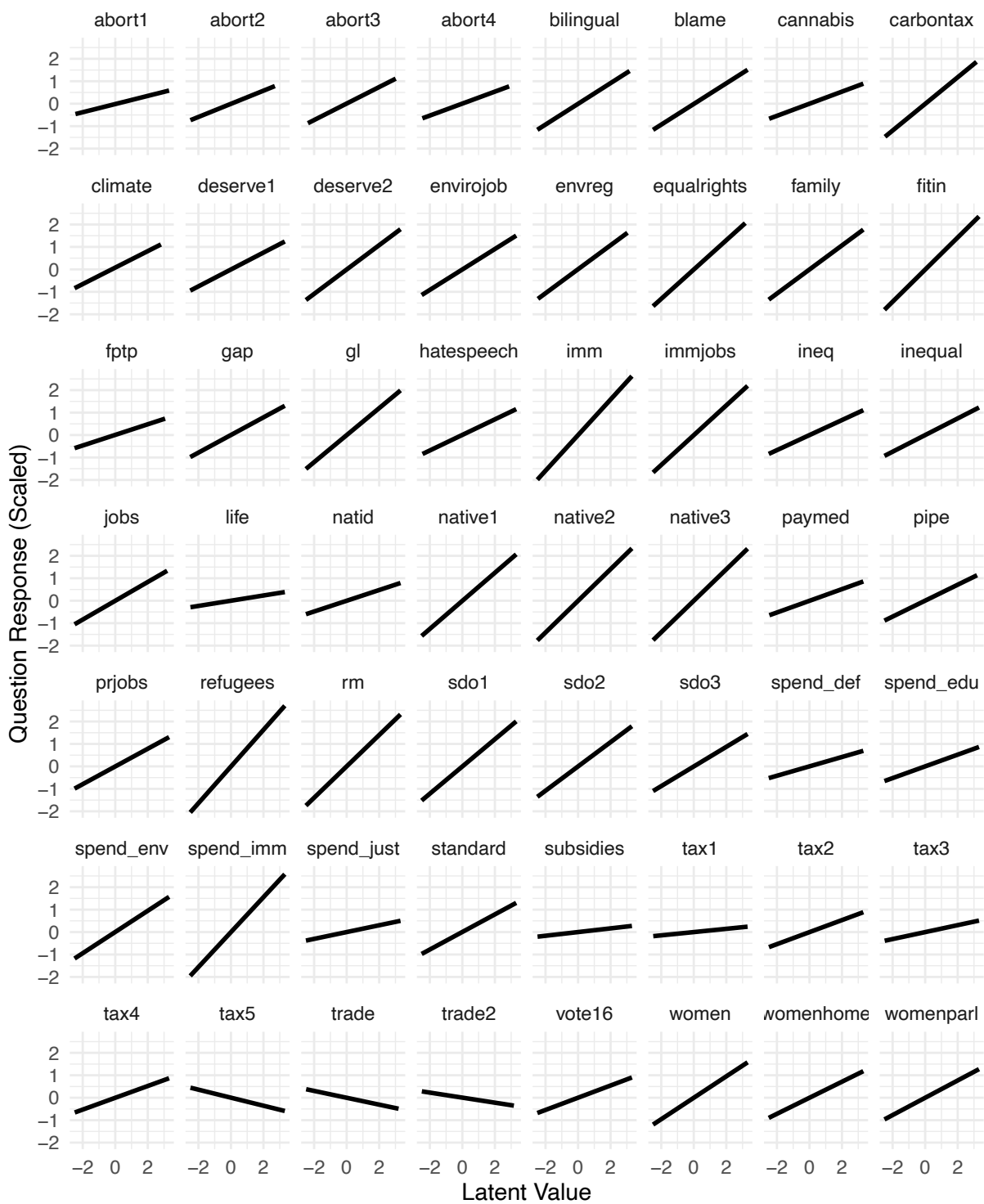


Figure 7: Survey Items and Latent Measure

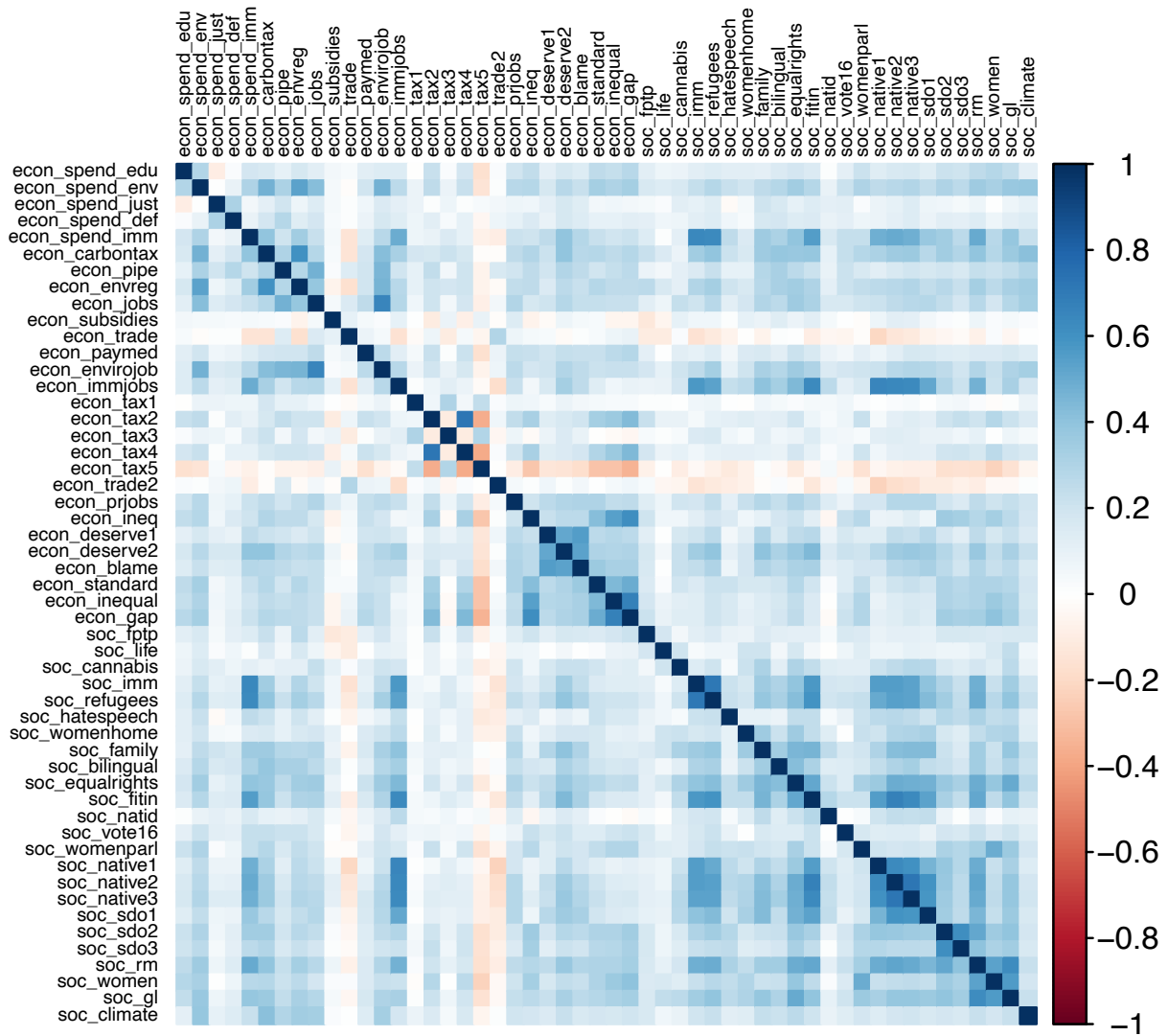


Figure 8: Inter-item Correlations

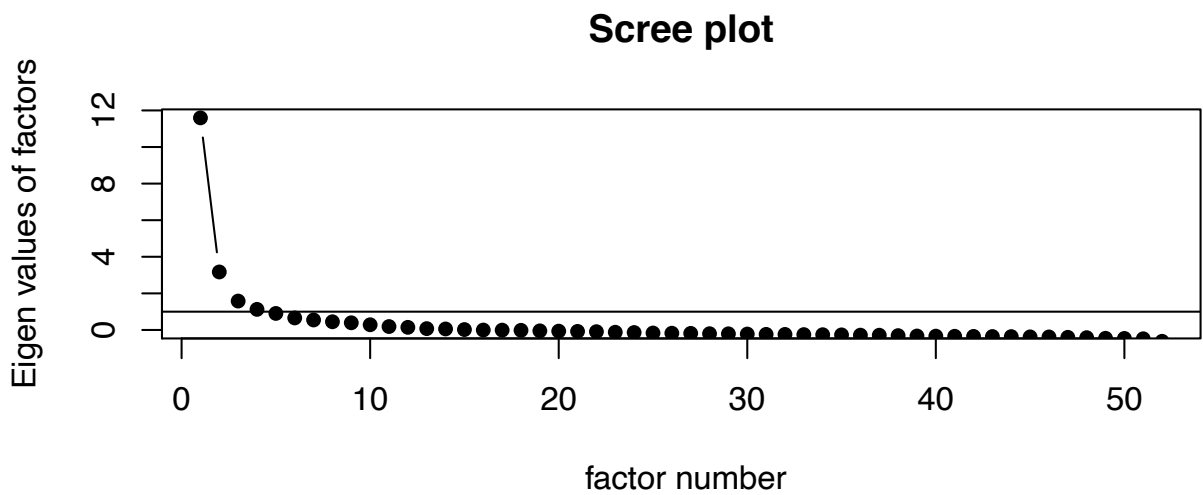


Figure 9: Scree Plot

## 2 MRP Estimates of Local Ideology

To fit the Bayesian multilevel models in our MRP estimates, we use `stan` (via `rstanarm` in R) for federal electoral districts and municipalities, extracting the posterior median, posterior 2.5 percentile, and posterior 97.5 percentile value for each municipality or federal electoral district. We prefer the Bayesian model for the ease with which it enables us to construct uncertainty intervals for MRP estimates and for varying intercepts. Our models show good evidence of convergence, with 1.0  $\hat{r}$  values and clear mixing in traceplots. As a robustness test, we also fit multilevel models in a maximum likelihood framework; the resulting estimates correlated with the estimates from the Bayesian model at 0.99.

In figure [10](#), we plot the estimates for aggregate predictors, demographic intercepts, and region intercepts in both the electoral districts and municipality models. These coefficients are useful and interesting for understanding the sources of demographic and geographic variation in ideology. Notice, for instance, the role of university education in predicting ideology among middle-aged and older Canadians.

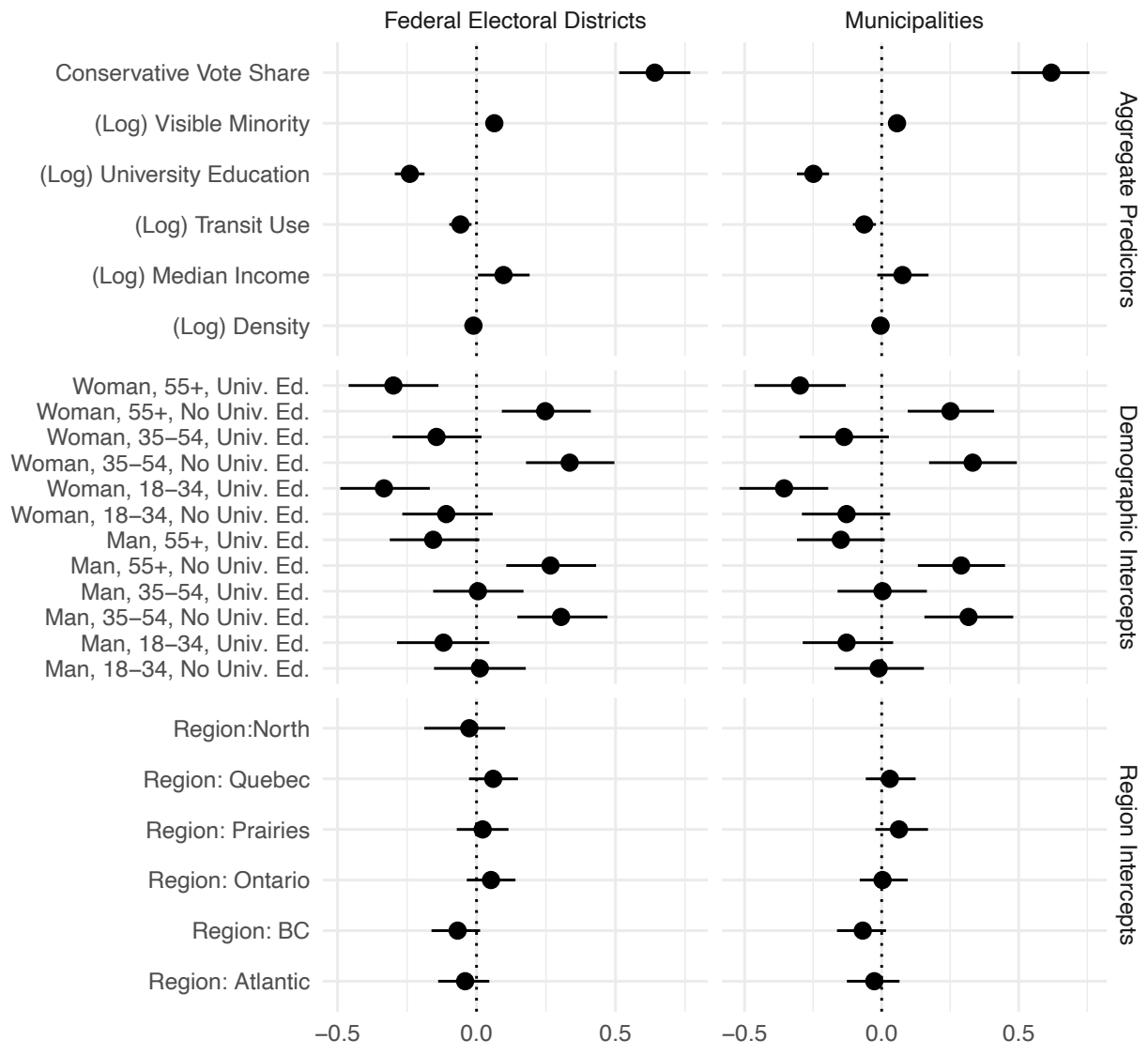


Figure 10: Intercepts and Predictors, MRP Model

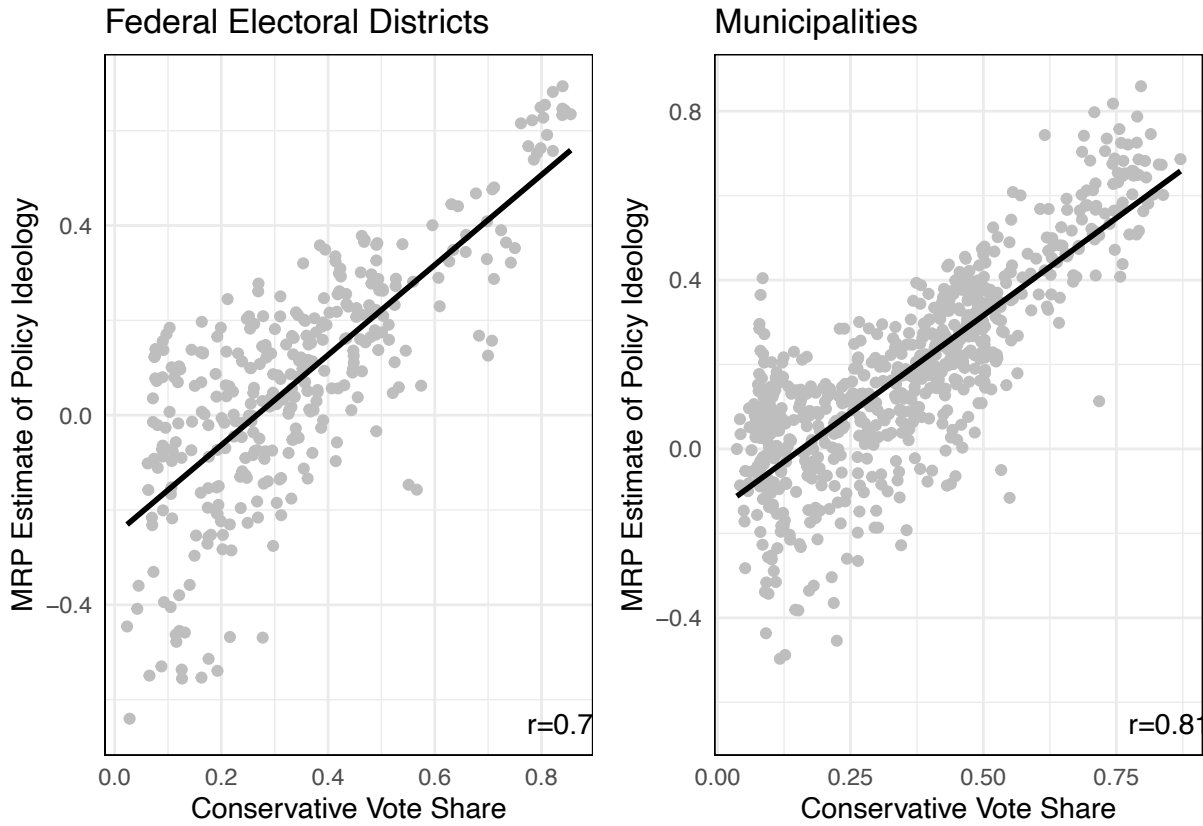


Figure 11: Policy Ideology and Federal Conservative Vote Share

### 3 Aggregate Ideology Measure: Additional Validation

To provide a further validation test of our measure of policy ideology at the municipal and district scales, figure [11](#) plots the relationship between our district-level and municipality-level ideology and 2019 Conservative Party vote share. We use Conservative vote share for this validation test because the federal party system currently arrays a single major party of the right (the Conservatives) against several competing parties of the centre-left and left (NDP, Green, Liberal, and, to a lesser extent, Bloc Québécois). District-level vote share is drawn from official Elections Canada data; municipal-level vote share is drawn from areal weighted interpolation as described in Lucas (2020). The figure provides clear evidence that our estimate of policy ideology is very strongly correlated with Conservative Party vote share both in federal electoral districts ( $r=0.75$ ) and in municipalities ( $r=0.81$ ).



## 4 Municipal Politicians: Surveys and Measures

Our data on municipal politicians are drawn from the Canadian Municipal Barometer, an annual survey of municipal mayors and councillors. In 2020, the Canadian Municipal Barometer administered its annual survey in January and February of 2020, as well as a shorter COVID-19 survey in April 2020. We also had access to a second municipal COVID-19 survey administered by the Policy, Elections, and Representation Lab at the University of Toronto. We summarize the source of our ideology indicators across these surveys in the table below. For ideological self-placement, we draw 731 values from the January-February survey, add an additional 42 values from the April survey (as these are panel data, the 42 responses are *new* respondents who did not complete the annual survey), and 135 additional values from the September-October survey. We thus have a total of 908 ideological self-placements available. The policy ideology measure was included only in the January-February survey, and we have a total of 786 responses available for that measure.

Table 2: Municipal Politician Ideology: Sources

Survey	Field Dates	Self-Placement	Policy Ideology
Annual Survey	January 6 - February 28	731	786
COVID-19 1	April 3 - April 17	42	0
COVID-19 2	September 9 - October 29	135	0

We measure each municipal politician’s policy ideology by constructing a Bayesian latent variable model using responses to seven policy attitude questions. Using JAGs, we ran 1,000 iterations on each of two MCMC chains, following a burn-in period of 2,000 iterations. The model shows good evidence of convergence, with R-hat values of 1.0 for all parameters and good mixing in traceplots. The resulting measure correlates with ideological self-placement and partisanship in the expected directions.

The policy attitude questions are listed below. Response options for all questions were strongly disagree, somewhat disagree, somewhat agree, strongly agree, and don’t know.

- Municipalities should provide subsidized programs to low-income residents, even if doing so comes at the expense of businesses and/or wealthy residents.
- It is good for a neighbourhood when it experiences rising property values, even if it means that some current residents might have to move out.
- Municipalities should play a strong role in reducing the effects of climate change, even if it means sacrificing revenues and/or expending financial resources.
- Municipalities should make their roads accessible to active transportation (walking, cycling) even if it means sacrificing driving lanes and/or parking.

- Municipalities should encourage increased housing density in established neighbourhoods, even if some local residents object.
- Privatizing municipal services can provide municipalities with significant cost savings, even if it reduces municipal control of service provision.
- Municipalities should have access to more revenue tools, even if it means higher municipal taxes.

Because these questions are not identical to those in the Canadian Election Study survey, we cannot compare values of the latent variable directly; instead we can compare the overall relationship between the two variables, as we do in the main text. We note, however, that these questions are exclusively oriented to municipal politics, providing additional evidence that municipal politics is not only ideologically structured, but also that there is a clear relationship between *municipal* policy ideology and more general policy ideology in Canada (Anzia 2021).

To provide an additional validity check for these policy ideology estimates, figure ?? replicates figure 2 (main text) for municipal politicians, plotting the relationship between municipal politicians' policy ideology and their ideological self-placement on the left and the distribution of policy ideology by partisanship on the right. The relationship between policy ideology and ideological self-placement is strong ( $r=0.59$ ) and positive. Ideological distributions are also in keeping with expectations.

Figure 13 plots eigenvalues from a frequentist factor analysis of the items in the politicians' policy ideology battery. The steep decline from the first to the second factor illustrates that a unidimensional measure of policy ideology is appropriate for these data.

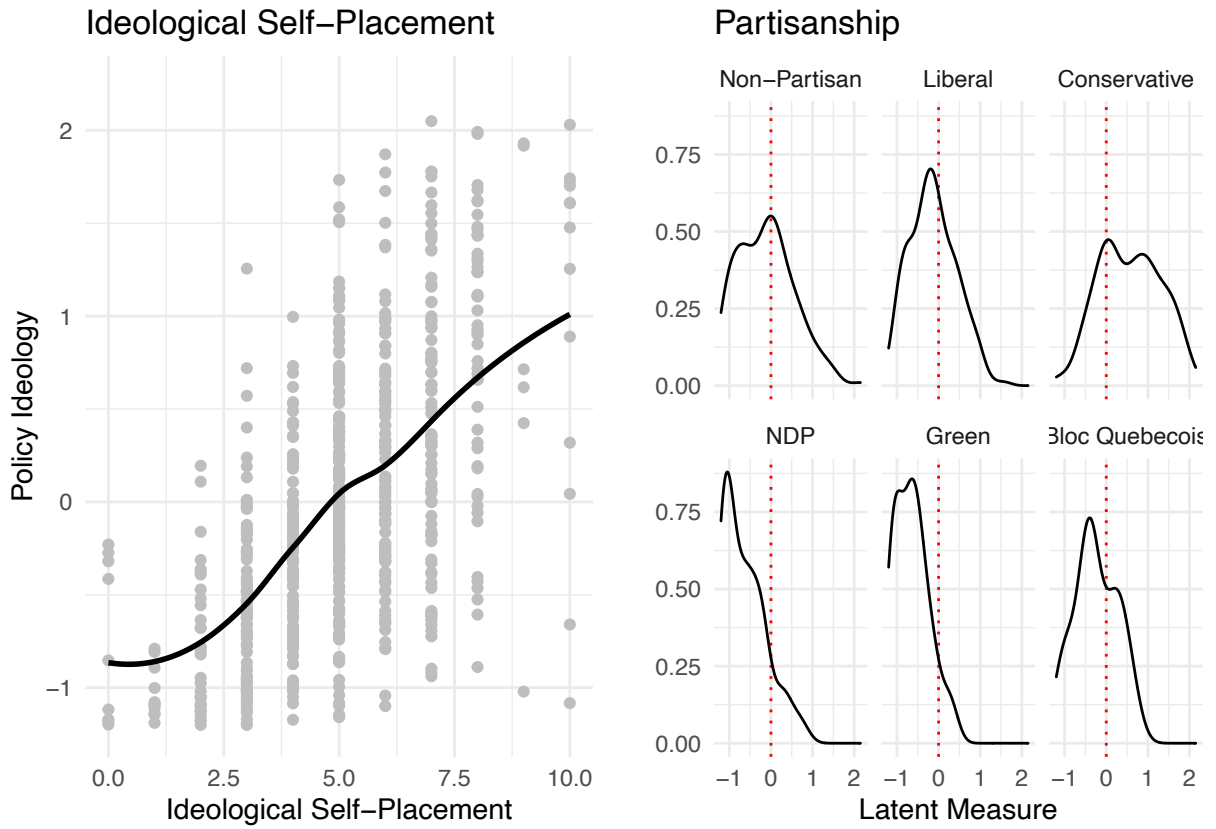


Figure 12: Validation Test: Municipal Politician Ideology

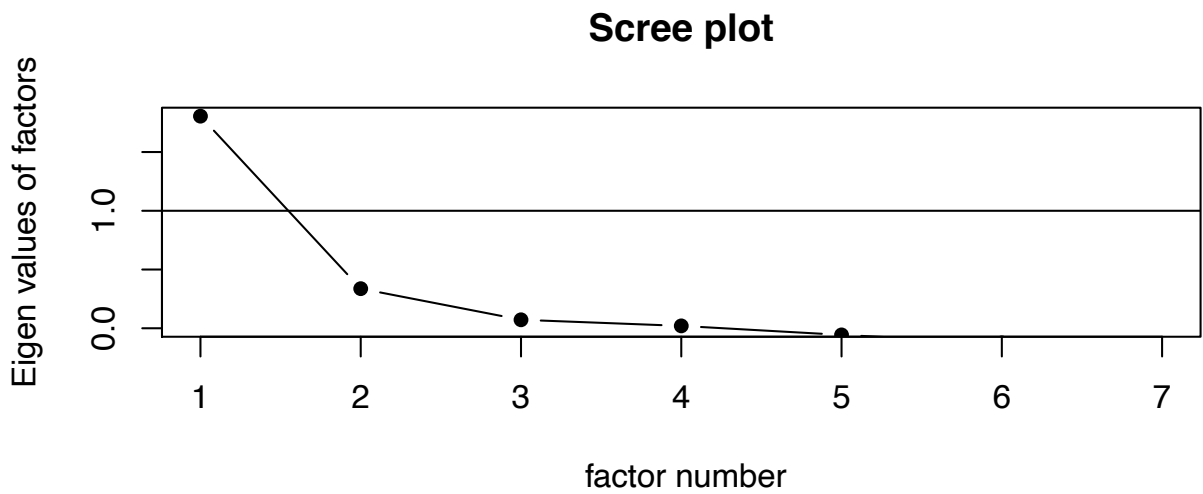


Figure 13: Scree Plot: Municipal Politician Ideology