Mass–Elite Congruence and Representation in Argentina

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Online Appendix

Table A1. Regression estimates for Figure 2

	Ideology	Democracy	Economic policy	Populism	Order versus liberty
GBA resident	0.02	0.22	0.05*	0.04*	-0.36*
	(0.01)	(0.25)	(0.01)	(0.01)	(0.11)
Age	-0.00	0.01	0.00	0.00	-0.00
	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)
Female	0.00	-0.07	0.02	0.01	0.04
	(0.01)	(0.25)	(0.01)	(0.01)	(0.11)
Dissident Peronist	-0.03*	-0.88*	-0.10*	0.06*	-0.04
	(0.01)	(0.40)	(0.02)	(0.02)	(0.17)
Non-Peronist opposition	-0.01	-0.16	-0.09*	0.03*	0.15
	(0.01)	(0.43)	(0.02)	(0.02)	(0.19)
Regionalist party	-0.05	-5.10*	-0.26*	0.04	-1.74*
	(0.08)	(2.48)	(0.13)	(0.09)	(0.64)
No party	0.02*	-0.33	-0.10*	0.05*	-0.23
	(0.01)	(0.31)	(0.02)	(0.01)	(0.14)
SES level 2 (C2)	0.02	-0.18	0.01	-0.06	-0.90*
	(0.03)	(0.84)	(0.04)	(0.03)	(0.30)
SES level 3 (C3)	-0.00	-0.82	-0.02	-0.09	-0.84*
	(0.02)	(0.79)	(0.04)	(0.03)	(0.29)
SES level 4 (D1, D2, E)	0.00	-1.14	-0.02	-0.11	-1.19*
	(0.02)	(0.78)	(0.04)	(0.03)	(0.28)
Elite executive	-0.01	-0.88*	0.01	-0.00	-0.05
	(0.02)	(0.32)	(0.02)	(0.01)	(0.11)
Elite dissident Peronist	0.03	0.64	-0.05*	-0.05*	-0.04
	(0.02)	(0.36)	(0.02)	(0.01)	(0.12)
Elite non-Peronist opposition	-0.01	0.44	0.01	-0.04*	-0.06
	(0.02)	(0.33)	(0.02)	(0.01)	(0.11)
Elite regional party	0.00	0.83	0.01	-0.01	0.14
	(0.05)	(0.75)	(0.03)	(0.03)	(0.24)
Constant	0.78*	3.19*	0.72*	0.77*	1.00*
	(0.03)	(0.09)	(0.05)	(0.04)	(0.33)
Citizen random effects?	Yes	Yes	Yes	Yes	Yes
Elite random effects?	Yes	Yes	Yes	Yes	Yes
Observations	105,216	149,028	75,684	123,228	125,860
R^2	0.644	0.975	0.509	0.672	0.577

Standard errors in parentheses. * $p < 0.05$

Table A2. Regression estimates for Figure 3

	Ideology	Democracy	Economic policy	Populism	Order versus liberty
SES level 2 (C2)	0.00	0.02	-0.02	0.07	0.25*
	(0.04)	(0.04)	(0.07)	(0.05)	(0.10)
SES level 3 (C3)	0.04	0.06	0.02	0.12*	0.24*
	(0.04)	(0.04)	(0.06)	(0.05)	(0.09)
SES level 4 (D1, D2, E)	0.04	0.07	0.03	0.16*	0.33*
	(0.04)	(0.04)	(0.06)	(0.05)	(0.09)
Constant	0.48*	0.05	0.29*	0.26*	0.31*
	(0.04)	(0.04)	(0.06)	(0.04)	(0.09)
Observations	852	1178	742	1017	1131
R^2	0.005	0.008	0.003	0.022	0.016

Standard errors in parentheses. * $p < 0.05$. We use a linear probability model for the "Order versus liberty" dependent variable, though the result is robust to using a logit model (see replication code).

Table A3. Dyadic analysis with only legislative elites

	Ideology	Democracy[†]	Economic policy	Populism	Order versus liberty
GBA resident	0.02	0.13*	0.05*	0.04*	-0.36*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.11)
Age	-0.00	0.01*	0.00	0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Female	0.00	-0.05*	0.02	0.01	0.04
	(0.01)	(0.01)	(0.01)	(0.01)	(0.11)
Dissident Peronist	-0.04*	-0.50*	-0.10*	0.07*	-0.04
	(0.01)	(0.02)	(0.02)	(0.02)	(0.18)
Non-Peronist opposition	-0.01	-0.11*	-0.09*	0.04*	0.15
	(0.01)	(0.03)	(0.02)	(0.02)	(0.19)
Regionalist party	-0.05	-2.34*	-0.25*	0.05	-1.72*
	(0.09)	(0.13)	(0.13)	(0.10)	(0.87)
No party	0.02	-0.19*	-0.10*	0.06*	-0.23
	(0.01)	(0.02)	(0.02)	(0.01)	(0.14)
SES level 2 (C2)	0.02	-0.12*	0.01	-0.07	-0.89*
	(0.03)	(0.06)	(0.04)	(0.04)	(0.36)
SES level 3 (C3)	-0.00	-0.49*	-0.02	-0.09*	-0.84*
	(0.02)	(0.05)	(0.04)	(0.03)	(0.34)
SES level 4 (D1, D2, E)	0.00	-0.67*	-0.02	-0.12*	-1.17*
	(0.02)	(0.05)	(0.04)	(0.03)	(0.34)
Elite executive	--	--	--	--	--
Elite dissident Peronist	0.07*	0.00	-0.07*	-0.05*	0.10
	(0.03)	(0.02)	(0.02)	(0.02)	(0.15)
Elite non-Peronist opposition	0.02	0.00	0.01	-0.04*	0.04
	(0.02)	(0.02)	(0.02)	(0.01)	(0.12)
Elite regional party	0.12*	0.00	0.02	0.05	0.54
	(0.07)	(0.05)	(0.05)	(0.04)	(0.34)
Constant	0.76*	1.51*	0.72*	0.77*	0.89*
	(0.03)	(0.06)	(0.05)	(0.04)	(0.39)
Citizen random effects?	Yes	No	Yes	Yes	Yes
Elite random effects?	Yes	Yes	Yes	Yes	Yes
Observations	75,624	106,126	52,836	89,976	92,225
R^2	0.678	0.017	0.498	0.759	0.567

Standard errors in parentheses. * $p < 0.05$. † Perfect collinearity forces us to drop citizen random effects for this issue dimension; standard errors for these estimates may be biased downward.

Table A4. Mass-elite congruence on economic policy by elite class background

	(1)	(2)	(3)	(4)
GBA resident	0.05*	--	0.05*	--
	(0.01)		(0.01)	
Age	0.00	--	0.00	--
	(0.00)		(0.00)	
Female	0.02	--	0.02	--
	(0.01)		(0.01)	
Dissident Peronist	-0.10*	--	-0.10*	--
	(0.02)		(0.02)	
Non-Peronist opposition	-0.09*	--	-0.09*	--
	(0.02)		(0.02)	
Regionalist party	-0.26*	--	-0.26*	--
	(0.13)		(0.13)	
No party	-0.10*	--	-0.10*	--
	(0.02)		(0.02)	
SES level 2 (C2)	0.01	--	0.01	--
	(0.04)		(0.04)	
SES level 3 (C3)	-0.02	--	-0.02	--
	(0.04)		(0.04)	
SES level 4 (D1, D2, E)	-0.02	--	-0.02	--
	(0.04)		(0.04)	
Elite executive	0.01	--	0.01	--
	(0.02)		(0.02)	
Elite dissident Peronist	-0.04*	--	-0.05*	--
	(0.02)		(0.02)	
Elite non-Peronist opposition	-0.01	--	0.03	--
	(0.01)		(0.02)	
Elite regional party	-0.00	--	0.01	--
	(0.03)		(0.04)	
Elite parents' education	-.03*	-0.03*	--	--
	(0.01)	(0.01)		
Elite grandparents' education	--	--	-0.03*	-0.03*
			(0.01)	(0.01)
Constant	0.75*	0.68*	0.74*	0.68*
	(0.05)	(0.02)	(0.05)	(0.02)
Citizen random effects?	Yes	Yes	Yes	Yes
Elite random effects?	Yes	Yes	Yes	Yes
Observations	75,684	82,880	60,690	66,600
R^2	0.509	0.485	0.498	0.483

Standard errors in parentheses. * $p < 0.05$

Bayesian Replication

Our main results rely on a maximum likelihood (ML) estimator, which is subject to two concerns. First is computational complexity. The ML estimator struggles with collinearity among the thousands of random effects. Second, hypothesis testing is complicated in a (generalized) linear mixed model environment, as it requires assumptions about the sampling distributions of the parameters that may not hold in practice (see Bates et al. 2015). To address these concerns, we study results from a Bayesian estimator, which eases computational constraints by assigning weakly informative priors, and allows us to directly study the posterior distributions of estimated parameters.

In the following Table, we present results from this Bayesian approach, implemented via the `MCMCglmm` package in `R`. For these results, the model is specified as

$$y_{ij} = \beta_k \boldsymbol{X}_{ij} + \alpha_i + \alpha_j + \varepsilon_{ij},$$

$$\alpha_i, \alpha_j, \epsilon_{ij} \sim \text{Inv-}\mathcal{W}(\Psi, \nu),$$

$$\beta_k \sim \mathcal{N}(0, \sigma_k^2),$$

$$\sigma_k^2 \sim \text{Inv-}\chi^2(n_j, s_j),$$

where Inv-$\mathcal{W}$ is the Inverse-Wishart distribution with $\Psi = 1$ and $\nu = .05$. The covariance matrix for the regression parameters σ_k^2 is generated from `MCMCglmm`'s built-in `gelman.diag` function, which scales and centers covariates, as well as assigns them independent *t*-distributions with a single degree of freedom (i.e. scaled Cauchy distributions), as recommended by Gelman et al. (2008). As before, $\boldsymbol{X}$ is the vector of covariates, while α_i and α_j are citizen and elite random effects, respectively.

For the model with a binary dependent variable ("Democracy" and "Order versus liberty"), we used two chains of 25,000 Markov chain Monte Carlo iterations, of which the first 5,000 of each were discarded, with a thinning interval of 20. For continuous dependent variables, we used 13,000 iterations, discarded the first 3,000, and thinned by 10. Diagnostics are not presented in this appendix but can be found in the replication code.

Table A5. Bayesian replication of Table A1

	Ideology	Democracy	Economic policy	Populism	Order versus liberty
GBA resident	0.02	0.20	0.06*	0.04*	-0.34*
	[-0.00, 0.03]	[-0.27, 0.62]	[0.03, 0.08]	[0.01, 0.05]	[-0.57, -0.13]
Age	-0.00	0.01	0.00	0.00	-0.00
	[-0.00, 0.00]	[-0.00, 0.03]	[-0.00, 0.00]	[-0.00, 0.00]	[-0.01, 0.00]
Female	0.00	-0.11	0.02	0.01	0.05
	[-0.01, 0.02]	[-0.55, 0.35]	[-0.01, 0.04]	[-0.01, 0.03]	[-0.19, 0.25]
Dissident Peronist	-0.04*	-0.73*	-0.10*	0.07*	0.00
	[-0.06, -0.01]	[-1.33, -0.00]	[-0.15, -0.07]	[0.03, 0.10]	[-0.35, 0.31]
Non-Peronist opposition	-0.00	-0.06	-0.09*	0.04*	0.21
	[-0.04, 0.02]	[-0.83, 0.63]	[-0.13, -0.04]	[0.00, 0.07]	[-0.21, 0.53]
Regionalist party	-0.02	-1.05	-0.26*	0.06	-0.97
	[-0.21, 0.12]	[-2.45, 1.08]	[-0.51, -0.02]	[-0.13, 0.22]	[-2.17, 0.65]
No party	0.02*	-0.26	-0.11*	0.05*	-0.26
	[0.00, 0.04]	[-0.82, 0.23]	[-0.13, -0.07]	[0.03, 0.08]	[-0.46, 0.06]
SES level 2 (C2)	0.03	0.21	0.01	-0.07	-0.65*
	[-0.03, 0.07]	[-0.81, 1.27]	[-0.07, 0.09]	[-0.12, 0.00]	[-1.32, -0.04]
SES level 3 (C3)	0.00	-0.37	-0.04	-0.08*	-0.67
	[-0.05, 0.05]	[-1.27, 0.60]	[-0.10, 0.06]	[-0.164 -0.02]	[-1.19, 0.02]
SES level 4 (D1, D2, E)	-0.00	-0.71	-0.04	-0.11*	-0.84*
	[-0.04, 0.05]	[-1.55, 0.24]	[-0.10, 0.05]	[-0.16, -0.05]	[-1.51, -0.31]
Elite executive	-0.01	-0.81*	0.01	-.00	-0.06
	[-0.05, .03]	[-1.25, -0.18]	[-0.03, 0.04]	[-0.03, 0.02]	[-0.26, 0.19]
Elite dissident Peronist	0.03*	0.58	-0.05*	-0.04*	-0.02
	[0.01, 0.08]	[-0.08, 1.12]	[-0.09, -0.01]	[-0.08, -0.02]	[-0.30, 0.19]
Elite non-Peronist opposition	-0.01	0.44	0.02	-0.05*	-0.08
	[-0.05, 0.04]	[-0.15, 0.93]	[-0.02, 0.05]	[-0.07, -0.02]	[-0.29, 0.14]
Elite regional party	0.01	0.36	0.00	.00	0.08
	[-0.09, 0.10]	[-0.59, 1.60]	[-0.05, 0.08]	[-0.08, 0.05]	[-0.38, 0.59]
Constant	0.77*	2.15*	0.74*	0.75*	0.84
	[0.72, 0.84]	[1.09, 3.56]	[0.63, 0.81]	[0.69, 0.83]	[-0.02, 1.47]
Citizen random effects?	Yes	Yes	Yes	Yes	Yes
Elite random effects?	Yes	Yes	Yes	Yes	Yes
Observations	105,216	149,028	75,684	123,228	125,860

Coefficients are posterior modes. 95% credible (highest posterior density) intervals in brackets.
* 0 lies outside the credible interval.

References

Bates, Douglas, Martin Maechler, Benjamin M. Bolker, and Steven Walker. 2015. “Fitting Linear Mixed-Effects Models using `lme4`.” *Journal of Statistical Software*. In press.

Gelman, Andrew, Aleks Jakulin, Maria Grazia Pittau, and Yu-Sung Su. 2008. “A Weakly Informative Default Prior Distribution for Logistic and Other Regression Models.” *The Annals of Applied Statistics* 2 (4): 1360-1383.