Preregistration Title

Cross-Country Correlations

Description

Reviewing the literature on cross-country correlations and how many analyses control for non-independence between countries.

Summary

We plan to replicate twelve previous cross-country correlations related to economic development and values:

Reference	Outcome variable	Predictor variable	Covariates?	Model	Number of countries in replication
Economic development					
Beck, Demirgüç-Kunt, and Levine (2003)	Stock market development	Settler mortality	No	Linear regression	70
Beck, Demirgüç-Kunt, and Levine (2005)	Average GDP per capita 1990-2000	Small and medium enterprise sector's employment share	No	Linear regression	45
Bockstette, Chanda, and Putterman (2002)	Average GDP growth 1960 - 1995	State antiquity	No	Linear regression	103
Easterly and Levine (2003)	Log GDP per capita 1995	Institutional development index 1998	No	Linear regression	63
Easterly (2007)	Gini coefficient	Log wheat sugar ratio	No	Linear regression	98
Skidmore and Toya (2002)	Per capita GDP growth 1960-1990	Log number of natural disasters per one mil km sq	No	Linear regression	88
Values					
Adamczyk and Pitt (2009)	Disapproval of homosexuality	Survival vs. self-expression values	Yes – see Model 5 in paper	Multilevel linear regression	33
Alesina, Giuliano, and Nunn (2013)	Female labour force participation in 2000	Traditional plough use	No	Linear regression	75
Fincher, Thornhill, Murray, and Schaller (2008)	Individualism (Hofstede)	Historical pathogen prevalence	No	Linear regression	66
Gelfand et al. (2011)	Tightness	Natural disaster vulnerability	Yes - log GNI 2000	Linear regression	28
Inglehart and Baker (2000)	Traditional vs. secular-rational values	Proportion in industrial sector	No	Linear regression	49
Knack and Keefer (1997)	Confidence in institutions	Percent trusting	No	Linear regression	28

We have already collected the data for these replications and have run initial Bayesian linear / multilevel regressions replicating the original effect sizes.

Once we have pre-registered, we plan to run these regressions again *simultaneously controlling for both geographic and linguistic distances between countries*. Geographic distance is the standardised geodesic distance between country population centroids. Linguistic distance is the standardised cultural distances between all languages spoken within those countries, weighted by speaker percentages (see here for further details).

We will fit these Bayesian models in R v4.0.2 (R Core Team, 2021) using the *brms* package (Bürkner, 2017) running Stan (Stan Development Team, 2016). To control for geographic and linguistic distances between countries, we will allow country-level random intercepts to covary according to geographic and linguistic proximity by using Gaussian Processes and/or covarying random effects as outlined in this phylogenetic vignette. The exact method employed will depend on model convergence.

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