Supplementary Materials: Problems with IIA Tests in Models of Government Formation.

The status of the published tests of the IIA assumption in the government formation literature is unclear. Such tests are usually formulated by dropping some alternatives and assessing the variation in coefficients across models with different alternatives. This is straightforward in the context in which such tests were developed: where there are a small number of alternatives that are constant across choice situations. But how should this be done in the unusual context of coalition formation, where there are often thousands of alternatives that vary across choice situations? Any decision that one makes is debatable—e.g., should one drop only one alternative at a time, or all the alternatives that include a given party, or some random selection of alternatives?—and more importantly, the consequences of these decisions for the properties of such tests are not well understood (certainly no one in the political science literature has actually proven anything about the various proposals). Thus, concluding on the basis of such tests that IIA is a "problem" for the usual models and data used to study government formation is dubious at best. A better approach is simply to compare results from a conditional logit model and a mixed logit model with the same covariates and evaluate whether there is any real difference in the substantive effects one cares about. Such a comparison has been done in part by Glasgow, Golder, and Golder (2012). Their direct comparison of model coefficients (258) reveals no consequential differences between estimates of average effects in the two models (though some unwary readers might have mistakenly concluded there are differences in the models since some of the coefficients were presented with reversed signs, accompanied by a note that "readers should reverse the sign"). That said, we should be clear that we are not arguing in favor of the use of conditional logit models over alternatives like mixed logit in general. It is clearly the case that one can gain important insights from mixed logit models that are simply not available in conditional logit models—e.g., estimates of the distributions of random coefficients that can be used to characterize cross-national variation in the impact of different covariates on formation probabilities. However, the positive argument for the usefulness of mixed logit models in studying coalition formation should not be confused with the

negative argument that conditional logit models should not be used in this area due to the (largely unsupported) claim that they violate IIA.