Supplementary Materials for Implementing Presidential Particularism

Nicholas G. Napolio

Contents

A1 Agencies in Analysis

The following agencies are included in the analysis.

Table A1: Agencies in Analysis

Agency for International Development	Air Force
Army	Department of Agriculture
Department of Commerce	Department of Defense
Department of Education	Department of Energy
Department of Health and Human Services	Department of Homeland Security
Department of Housing and Urban Development	Department of Justice
Department of Labor	Department of the Interior
Department of the Treasury	Department of Transportation
Department of Veterans Affairs	Environmental Protection Agency
Navy	Nuclear Regulatory Commission
Small Business Administration	

A2 Testing Linearity

The data meet the assumptions of multiplicative interaction models. First, the marginal effect of *presidential co-partisan* on outlays is linear in *agency–president distance*, and second, there is common support for *presidential co-partisan* across *agency–president distance* (Hainmueller, Mummolo and Xu 2019). Figure A1 displays diagnostics for the multiplicative interaction assumptions. The five dot-and-whiskers represent the binned estimates (*i.e.*, not assuming functional form) and the lines and ribbons represent the marginal effect of *presidential co-partisan* over *agency–president distance* assuming linearity. The bins fit quite well with the lines and ribbons and are monotonically decreasing, indicating that the marginal effect of *presidential co-partisan* approaches linearity over *agency–president distance*. The histograms at the bottom of the graphs indicate that, across all values of *agency–president distance*, observations share common support for placement into either presidential co- or contra-partisanship, meaning placement into *presidential co-partisan* is not restricted to certain levels of *agency–president distance*.
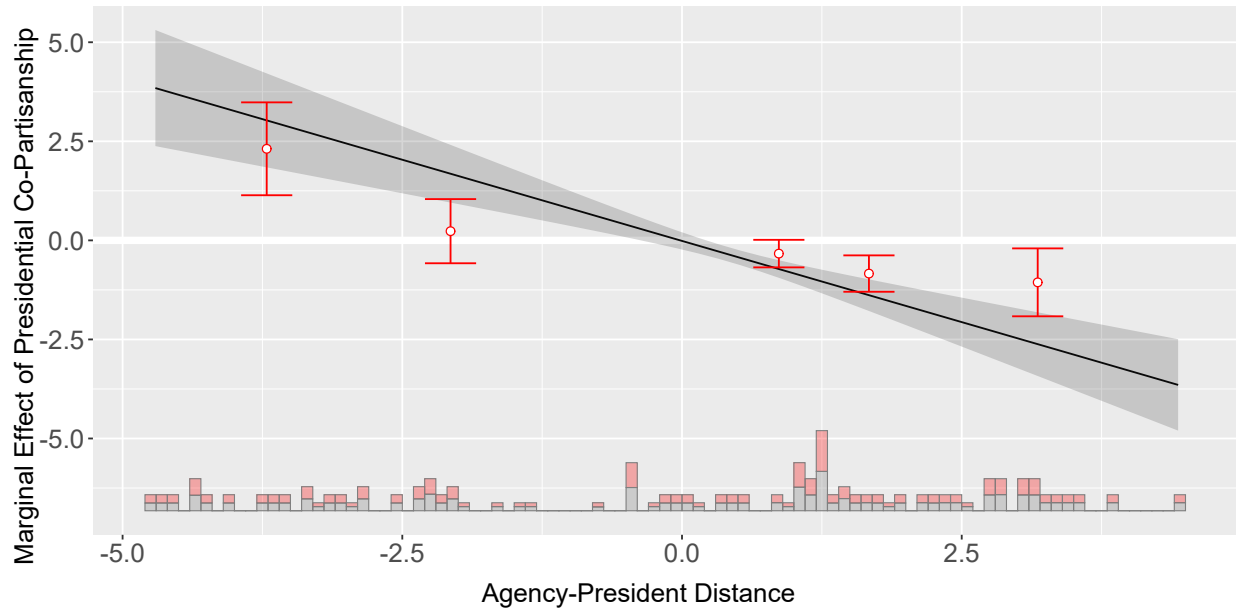
Figure A1: **Testing Linearity.** Figure created with the `interflex` package developed by Hainmueller, Mummolo and Xu (2019).

Since I find no convincing results for agency politicization, testing the interactive assumptions is not necessary.

A3 Fixed Effects Adjustment

Interpreting substantive effects from these models with dual fixed effects requires some additional explanation. First, *presidential co-partisan* is about evenly distributed across observations, so within each agency-legislator a shift from not shared to shared partisanship with the president is plausible (see Figure A1 for visual evidence of common support). *agency–*
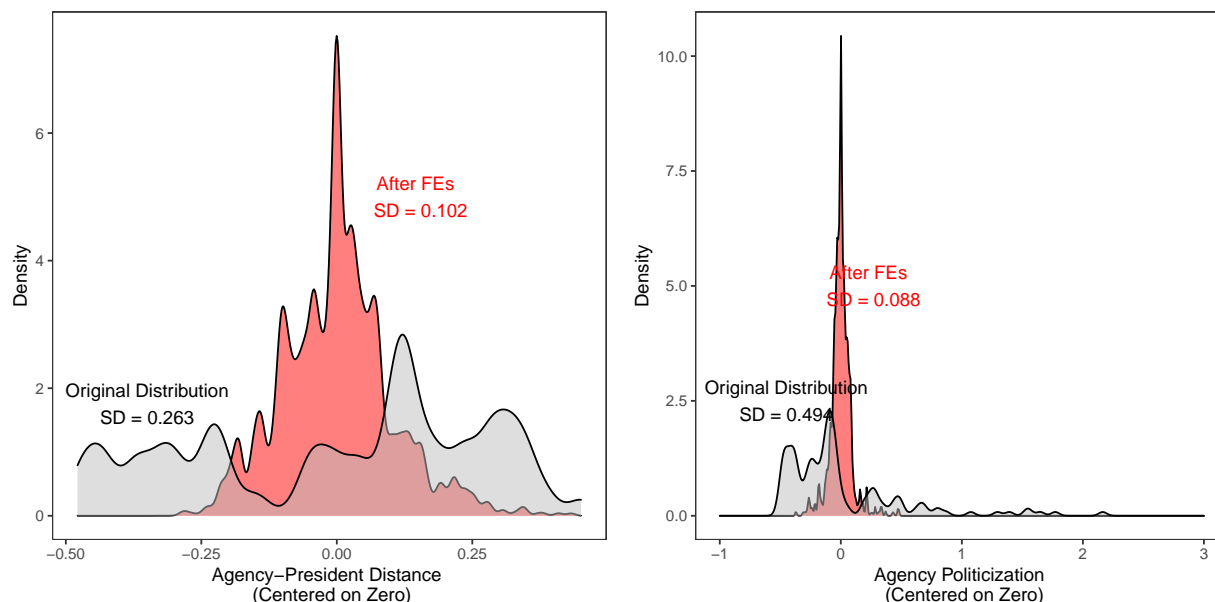

Figure A2: **Fixed Effects Adjustments.**

president distance on the other hand, is constrained within agencies, calling for a more nuanced discussion of the substantive effects. Employing the method proposed by Mummolo and Peterson (2019) (residualizing *agency–president distance* with respect to the agency-legislator and Congress fixed effects), I am able to identify a plausible counterfactual (see figure A2). The standard deviation of the residualized values of *agency–president distance* with respect to the fixed effects is 0.102 (the standard deviation of *agency–president distance* before adjusting for the fixed effects is 0.263). This represents a typical deviation from the mean of *agency–president distance*.

Further, Figure A3 shows the distribution of within-agency ranges in *agency–president distance*, which has a median of 0.639, indicating that, on average, the within-agency range of

agency–president distance is about 0.639. The substantive effect of *agency–president distance* and its interaction with *presidential co-partisan* at its most extreme may therefore be derived from a counterfactual move of about 0.639. The median, within-agency range of *politicization* is about 0.122.
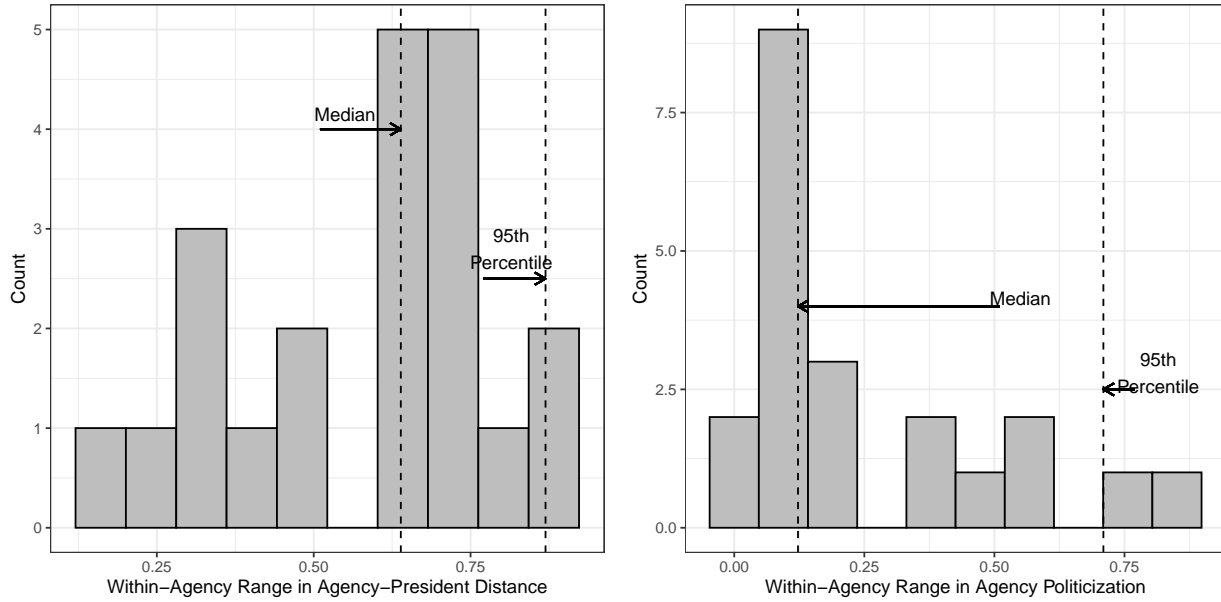

Figure A3: **Within-Agency Ranges.**

A4   Reanalysis with Alternative Clusters

In the main analysis, I report heteroskedasticity-corrected errors clustered by agency-legislator since the variation in the independent variables occurs at this level. However, the results from the main analyses are robust to estimating heteroskedasticity-corrected errors clustered by agency or legislator. Table A2 reports results from estimating the main models clustering standard errors by agency (models 1 and 2) and legislator (models 3 and 4).

Table A2: Reanalysis with Alternative Clusters

	Dependent variable:			
	Logged Outlays			
	Clustered by Agency		Clustered by Legislator	
	(1)	(2)	(3)	(4)
Presidential	0.396***	−0.026	0.396***	−0.026
Co-Partisan	(0.108)	(0.163)	(0.070)	(0.203)
Agency–President	0.350*	0.304	0.350***	0.304
Distance	(0.202)	(0.222)	(0.069)	(0.189)
Politicization	−0.064	−0.081	−0.064***	−0.081***
Ratio	(0.080)	(0.085)	(0.017)	(0.017)
Pres. Co-Partisan ×	−0.805***	−0.713**	−0.805***	−0.713*
Ag.–Pres. Dist.	(0.108)	(0.320)	(0.131)	(0.373)
Pres. Co-Partisan ×	−0.063**	−0.032	−0.063***	−0.032**
Politicization Ratio	(0.030)	(0.020)	(0.012)	(0.013)
$\beta_2 + \beta_4$	−0.455**	−0.409	−0.455***	−0.409**
(Ag.–Pres. Dist.)	(0.229)	(0.321)	(0.067)	(0.185)
$\beta_3 + \beta_5$	−0.127*	−0.113*	−0.127***	−0.113***
(Politicization)	(0.079)	(0.087)	(0.010)	(0.019)
Congress FEs	YES	YES	YES	YES
Agency-Legislator FEs	YES	YES	YES	YES
Time-Varying Covariates		YES		YES
Observations	63,075	63,075	63,075	63,075
Adjusted R^2	0.592	0.596	0.592	0.596

*p<0.1; **p<0.05; ***p<0.01

Note: Unit of analysis is the agency-district-Congress. Models 2 and 4 control for whether each member of Congress in each Congress is in the majority party, sits on the appropriations committee, sits on the ways and means committee, whether each member of Congress won their previous election with a margin less than 0.05, each district's logged population and logged median income, and the distance between each agency's Chen and Johnson (2015) ideal point estimate and each member's DW-NOMINATE ideal point estimate.

A5 Reanalysis with High-Variance Programs

This section replicates the main results but subsetting outlays to only those disbursed pursuant to high-variance programs. High-variance programs are defined as those with a coef-

Table A3: Reanalysis with High-Variance Programs

	Dependent variable:	
	Logged Outlays	
	(1)	(2)
Presidential	0.034	−0.354***
Co-Partisan	(0.025)	(0.069)
Agency–President	0.077***	−0.053
Distance	(0.024)	(0.073)
Politicization	−0.050***	−0.050**
Ratio	(0.015)	(0.021)
Pres. Co-Partisan	−0.171***	0.085
× Ag.–Pres. Dist.	(0.043)	(0.143)
Pres. Co-Partisan	−0.014**	−0.014*
× Politicization Ratio	(0.006)	(0.008)
$\beta_2 + \beta_4$	−0.094***	0.032
(Ag.–Pres. Dist.)	(0.024)	(0.072)
$\beta_3 + \beta_5$	−0.127***	−0.113***
(Politicization)	(0.012)	(0.020)
Congress FEs	YES	YES
Agency-Legislator FEs	YES	YES
Time-Varying Covariates		YES
Observations	63,075	63,075
Adjusted R^2	0.550	0.552

*p<0.05; **p<0.01; ***p<0.001

Note: Unit of analysis is the agency-district-Congress. Heteroskedasticity-corrected errors clustered by agency-legislator reported in parentheses. Model 2 controls for whether each member of Congress in each Congress is in the majority party, sits on the appropriations committee, sits on the ways and means committee, whether each member of Congress won their previous election with a margin less than 0.05, each district's logged population and logged median income, and the distance between each agency's Chen and Johnson (2015) ideal point estimate and each member's DW-NOMINATE ideal point estimate.

ficient of variance greater than 0.75 (Berry, Burden and Howell 2010). Using high-variance programs as a proxy for programs over which agencies have discretion is suboptimal since it conflates high-variance formula grants with agency-allocated program grants, and excludes low-variance program grants. While model 1 in table A3 reports similar results to the main specification, the model with covariates does not. Since some formula grants are included in this model, the legislator-level variables swamp out the agency-level ones, since Congress is ultimately responsible for allocating those grants.

A6 Reanalysis Excluding Defense Agencies

There is notable missingness in FAADS data with respect to defense agencies (see, *e.g.*, Hammond and Rosenstiel 2020), so in this section, I reanalyze the data but dropping the four defense agencies in the main sample (Department of Defense, Air Force, Army, and Navy). Table A4 shows the results are robust to dropping defense agencies and the reanalysis passes the placebo test as the main analysis does, suggesting that the main results are not driven by data that are missing systematically.

Table A4: Reanalysis Excluding Defense Agencies

	Dependent variable:			
	Logged Outlays			
	Program Grants		Formula Grants (Placebo)	
	(1)	(2)	(3)	(4)
Presidential	0.330***	−0.109	0.172***	−0.119
Co-Partisan	(0.049)	(0.103)	(0.040)	(0.093)
Agency–President	0.268***	0.206***	0.591***	0.407***
Distance	(0.050)	(0.079)	(0.047)	(0.072)
Politicization	−0.087***	−0.101***	−0.156***	−0.164***
Ratio	(0.020)	(0.020)	(0.021)	(0.021)
Pres. Co-Partisan ×	−0.822***	−0.694***	−0.437***	−0.079
Ag.–Pres. Dist.	(0.063)	(0.136)	(0.063)	(0.126)
Pres. Co-Partisan ×	−0.053***	−0.027***	−0.002	0.010
Politicization Ratio	(0.008)	(0.008)	(0.008)	(0.008)
$\beta_2 + \beta_4$	−0.554***	−0.488***	0.154***	0.331***
(Ag.–Pres. Dist.)	(0.051)	(0.078)	(0.046)	(0.072)
$\beta_3 + \beta_5$	−0.140***	−0.129***	−0.158***	−0.129***
(Politicization)	(0.017)	(0.020)	(0.021)	(0.021)
Congress FEs	YES	YES	YES	YES
Agency-Legislator FEs	YES	YES	YES	YES
Time-Varying Covariates		YES		YES
Observations	50,895	50,895	50,895	50,895
Adjusted R^2	0.599	0.603	0.615	0.616

*p<0.1; **p<0.05; ***p<0.01

Note: Unit of analysis is the agency-district-Congress. Heteroskedasticity-corrected errors clustered by agency-legislator reported in parentheses. Models 2 and 4 control for whether each member of Congress in each Congress is in the majority party, sits on the appropriations committee, sits on the ways and means committee, whether each member of Congress won their previous election with a margin less than 0.05, each district's logged population and logged median income, and the distance between each agency's Chen and Johnson (2015) ideal point estimate and each member's DW-NOMINATE ideal point estimate.

A7 Reanalysis by Agency Structure Subsets

This section replicates the main results but subsetting the analysis on cabinet departments and independent agencies individually. Table A5 shows the magnitude of effects are similar

Table A5: Reanalysis by Agency Structure Subsets

	Dependent variable:			
	Logged Outlays			
	Cabinet Departments		Independent Agencies	
	(1)	(2)	(3)	(4)
Presidential	0.324**	−0.106	0.235***	−0.030
Co-Partisan	(0.132)	(0.259)	(0.084)	(0.223)
Agency–President	0.474	0.423	0.297***	0.242
Distance	(0.577)	(0.834)	(0.075)	(0.171)
Politicization	−0.166	−0.178	0.050*	0.018
Ratio	(0.102)	(0.110)	(0.029)	(0.031)
Pres. Co-Partisan ×	−1.041***	−0.931**	−0.525***	−0.416
Ag.–Pres. Dist.	(0.093)	(0.423)	(0.134)	(0.330)
Pres. Co-Partisan	−0.057**	−0.036	−0.098***	−0.035
× Politicization Ratio	(0.025)	(0.023)	(0.027)	(0.039)
$\beta_2 + \beta_4$	−0.567	−0.508	−0.227***	−0.175
(Ag.–Pres. Dist.)	(0.585)	(0.884)	(0.066)	(0.163)
$\beta_3 + \beta_5$	−0.223**	−0.213**	−0.049*	−0.017
(Politicization)	(0.115)	(0.112)	(0.030)	(0.033)
Congress FEs	YES	YES	YES	YES
Agency-Legislator FEs	YES	YES	YES	YES
Time-Varying Covariates		YES		YES
Observations	41,760	41,760	21,315	21,315
Adjusted R^2	0.569	0.573	0.577	0.581

*p<0.1; **p<0.05; ***p<0.01

Note: Unit of analysis is the agency-district-Congress. Heteroskedasticity-corrected errors clustered by agency-legislator reported in parentheses. Models 2 and 4 control for whether each member of Congress in each Congress is in the majority party, sits on the appropriations committee, sits on the ways and means committee, whether each member of Congress won their previous election with a margin less than 0.05, each district's logged population and logged median income, and the distance between each agency's Chen and Johnson (2015) ideal point estimate and each member's DW-NOMINATE ideal point estimate.

for both types of agencies, yet several coefficients do not meet standard levels of significance, perhaps due to the smaller effective sample sizes in each subgroup, especially with clustered

standard errors. Since I did not have clear expectations about subgroups *ex ante*, I decline to read too much into these results to avoid hypothesizing after the results are known.

References

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