***Supporting Information to* "Partisan Presidential Influence over U.S. Federal Budgetary Outcomes: Evidence from a Stochastic Decomposition of Executive Budget Proposals"**

(George A. Krause and Ian Palmer Cook)

Supporting Information, A: Estimation of a Generalized Budget Proposal

Extracting presidents' partisan policy priorities from their observed executive budget proposal requires estimating a generalized proposal model. Estimation of the generalized proposal model displayed in Equation (9) appearing in the manuscript necessitates a double two−stage iterative estimation approach. Asymmetric funding aversion is estimated using an ARCH−Mean regression approach (Engle, Lillien, and Robins 1987). This particular econometric model is analytically consistent with the stochastic piecewise Linlin loss function proposed in the manuscript.[1] Unfortunately, ARCH−Mean models cannot be easily estimated in this context for two reasons. First, this class of models cannot be feasibly estimated for panel data designs where the number of cross−sectional units is neither small in absolute terms nor relative to the number of time series observations. In this study, for example, the number of U.S.

[1] In theoretical terms, the conditional forecast error standard deviation is equivalent to the expected value of the absolute residuals in the current period, conditional on information observed from the previous period(s) denoted as the parameter vector, θ:

$$\sqrt{h_t} = SD\left(\varepsilon \middle| \theta\right) = E_{t-1}\left(\sqrt{\varepsilon_t^2} \middle| \theta\right) = E_{t-1}\left(\left|\varepsilon_t\right| \middle| \theta\right).$$

This set-up is analogous to the common formulation (Bollerslev, Engle, and Nelson 1994: 2962). The use of absolute residuals is preferable in estimating the conditional volatility in the presence of heavy tails in the error distribution (e.g., Schwert 1989; Taylor 1986) which often plagues U.S. budgetary data (Baumgartner, Jones, and True 1998; Jones, Sulkin, and Larsen 2003).

federal public agencies under investigation is moderately large in both absolute terms (N = 32), and roughly similar, relative to the mean number of time points (T ≈ 40). Typically, panel ARCH−type models pertain to N=7 to N=14 range with a substantially larger T than compared to the data design of this study (e.g., see Grier and Ceremono 2006; Lee 2010).

For the purposes of this study, a second problem associated with estimation of conventional ARCH type models pertains to the construction of interaction variables between the conditional forecast error standard deviation variable ($\sqrt{h_{it}}$) and the vector of covariates hypothesized as affecting presidents' implicit budgetary preferences (i.e., *Party* and/or *Agency Ideology* covariates). Because the conditional forecast error standard deviation variable ($\sqrt{h_{it}}$) must be generated **prior** to specifying this multiplicative term, canonical ARCH−mean type models cannot account for such conditional relationships with fixed regressors. This is problematic for the purposes of estimating internally−induced presidential budgetary preferences since standard inference will generate biased estimates of $\sqrt{h_{it}}$. Moreover, valid estimates of ($\sqrt{h_{it}}$) in (9) are not only required to test for both excess funding biases and asymmetric funding aversion, but also to generate an unbiased predictor of executive budget proposals – the generalized proposal estimates, ($\hat{r}_{it}^{Linlin}$) – that is used to subsequently extract presidents' internally−induced budgetary preferences from their executive budget proposals.

The solution adopted in this study for overcoming both econometric dilemmas is to generate predicted values of the preliminary generalized proposal according to the equations used to arrive at (9), through the application of a nonparametric bootstrap procedure. This nonparametric bootstrap procedure is applied to generate median coefficient estimates for both generated and exogenous covariates. These are subsequently used to compute predicted values of

the generalized proposal dependent variable. Put simply, median coefficients are generated from 10,000 sets of observations based on random resampling, and the resulting set of estimates constitutes the empirical distribution function. Predicted values for each dependent variable in these preliminary generalized proposal models are computed from the median coefficient estimates generated from the empirical distribution function.

To start, the deterministic portion of (9) is estimated by pooled OLS, using only externally−induced budgetary preferences and excess funding biases using. This is done to arrive at initial generalized proposal model estimates. The model is given as:[2]

$$\begin{aligned} r_{it} = {} & \beta_0 + \phi r_{it}^{*} + \beta_1 Party_t + \beta_2 ModAgency_i + \beta_3 LibAgency_i \\ & + \beta_4 \left(Party_t \times ModAgency_i \right) + \beta_5 \left(Party_t \times LibAgency_i \right) + \varepsilon_{it} \end{aligned} . \qquad \text{(A.1)}$$

Next, constructing the conditional volatility autoregression involves the lagged absolute residuals corresponding to a Linlin loss function, and is estimated using residuals generated from the bootstrap predicted values of r_{it} in (A.1).[3] This conditional volatility autoregression model takes the form of a standard ARCH(j) residual process, while accounting for agency−level unit−effects within a panel data framework.[4]

---

[2] Pooled OLS estimation is implemented for the estimating conditional mean equations pertaining to the generalized proposal process since both agency−level and time−specific unit fixed effects have been previously netted out when estimating externally−induced budgetary preferences in the preceding stage.

[3] Please note that $\left| \hat{\varepsilon}_{it-j} \right| = \sqrt{\hat{\varepsilon}_{it-j}^2}$ by definition.

[4] Agency−level unit effects are specified in (A.2) since they have yet to been accounted for in the conditional standard deviation equation.

$$\left|\hat{\varepsilon}_{it}\right| = \pi_0 + \sum_{j=1}^{q} \pi_j \left|\hat{\varepsilon}_{it-j}\right| + \nu_{it}\,. \tag{A.2}$$

Predicted values of the absolute residuals generated by (A.2) are constructed from the median coefficient values for each parameter based upon 10,000 sets of bootstrapped estimates:

$$\sqrt{h_{it}} \equiv \left|\hat{\hat{\varepsilon}}_{it}\right| \equiv E\left[\left|\hat{\varepsilon}_{it}\right| \; \pi_0 + \sum_{j=1}^{q} \pi_j \left|\hat{\varepsilon}_{it-j}\right|\right]. \tag{A.3}$$

The median coefficient estimates obtained from (A.3) constitute a valid estimate of the predicted conditional forecast error standard deviation given that it is generated from an approximation to its true sampling distribution. An ARCH(1) process is employed to compute conditional volatility risk terms in both (A.2) and subsequently in (A.5).[5] The predicted values generated by (A.3) serve as the initial estimate of the conditional forecast error standard deviation. Next, these values are inserted back into a modified version of (A.1) that accounts for asymmetric funding aversion contained in presidential budget proposals:

$$\begin{aligned} r_{it} = \; & \beta_0' + \phi' \hat{r}_{it}^{*} + \beta_1' Party_t + \beta_2' ModAgency_i + \beta_3' LibAgency_i \\ & + \beta_4' \left(Party_t \times ModAgency_i\right) + \beta_5' \left(Party_t \times LibAgency_i\right) \\ & + \delta_1 \sqrt{\hat{h}_{it}} + \delta_2 \left(\sqrt{\hat{h}_{it}} \times Party_t\right) + \delta_3 \left(\sqrt{\hat{h}_{it}} \times ModAgency_i\right) + \delta_4 \left(\sqrt{\hat{h}_{it}} \times LibAgency_i\right) \\ & + \delta_5 \left(\sqrt{\hat{h}_{it}} \times Party_t \times ModAgency_i\right) + \delta_6 \left(\sqrt{\hat{h}_{it}} \times Party_t \times LibAgency_i\right) + \varepsilon_{it}' \end{aligned} \tag{A.4}$$

[5] The choice of an ARCH(1) process is best in terms of both model fit and parsimony. Moreover, these conditional volatility risk terms are highly correlated (ρ = 0.99) with higher−order ARCH processes.

It is worth noting that the common coefficients (ϕ, β) and residual term (ε) that appear in both (A.1) and (A.4) are different since they are based on a different set of covariates, thus the latter set of estimates in (A.4) are denoted by primes.

The discrepancy between (A.1) and (A.4) is problematic since the interaction terms between the conditional volatility risk terms, presidents' party, and agency ideology covariates do not account for the conditional volatility risk terms by construction. Therefore, residual estimates from (A.4) must be obtained once again through estimating volatility with a first−order autoregression (also containing agency−specific unit effects), in order to generate a revised estimate of the conditional forecast error standard deviation:

$$\left|\hat{\varepsilon}'_{it}\right| = \pi'_0 + \sum_{j=1}^{q} \pi'_j \left|\hat{\varepsilon}'_{it-j}\right| + \nu'_{it} \ . \tag{A.5}$$

Predicted values of the dependent variable are generated from (A.5) – as done in (A.2) -- by computing the median coefficient value for each parameter, based on 10,000 sets of bootstrapped estimates:

$$\sqrt{h'_{it}} \equiv \left|\hat{\hat{\varepsilon}}'_{it}\right| \equiv E\left[\left|\hat{\varepsilon}_{it}\right| \ \pi'_0 + \sum_{j=1}^{q} \pi'_j \left|\hat{\varepsilon}'_{it-j}\right|\right]. \tag{A.6}$$

Next, these revised estimates of the conditional forecast error standard deviation are employed as additive and multiplicative covariates in re−estimating the conditional mean equation portrayed below in (A.7) which is identical to (9) reported in the manuscript:

$$\begin{aligned} r_{it} = \ & \beta''_0 + \phi'' \hat{r}^{*}_{it} + \beta''_1 Party_t + \beta''_2 ModAgency_i + \beta''_3 LibAgency_i \\ & + \beta''_4 \left(Party_t \times ModAgency_i\right) + \beta''_5 \left(Party_t \times LibAgency_i\right) \\ & + \delta'_1 \sqrt{\hat{h}'_{it}} + \delta_2 \left(\sqrt{\hat{h}'_{it}} \times Party_t\right) + \delta'_3 \left(\sqrt{\hat{h}'_{it}} \times ModAgency_i\right) + \delta'_4 \left(\sqrt{\hat{h}'_{it}} \times LibAgency_i\right) \\ & + \delta'_5 \left(\sqrt{\hat{h}'_{it}} \times Party_t \times ModAgency_i\right) + \delta'_6 \left(\sqrt{\hat{h}'_{it}} \times Party_t \times LibAgency_i\right) + \varepsilon''_{it} \end{aligned} \tag{A.7}$$

Note that covariates in (A.7) are generated regressors that may yield both biased and inconsistent standard error estimates from standard parametric approaches, given that its true sampling distributions are unknown (Murphy and Topel 1985; Pagan 1984). Therefore, standard errors and confidence intervals are computed by bootstrapping the variance−covariance matrix estimates to ensure valid statistical inference.

Supporting Information, B: Statistical Robustness Checks

The first supporting information table (**Table SI−1**) lists the descriptive statistics for the variables analyzed in the manuscript in the standard form. The remainder of this section focuses on statistical robustness checks. The externally−induced presidential budgetary model estimates

[Insert Table SI−1 About Here]

are *conditional* on the choice of covariates selected. Four alternative model specifications are provided. Unrestricted models contain both agency−specific and time−specific unit effects to account for both spatial and temporal sources of unobserved heterogeneity. Restricted models contain only agency−specific unit effects. This modeling strategy is intended to account for omitted variable bias to ensure valid coefficient estimates, and hence, generate valid predicted values of externally−induced presidential budgetary preference estimates culled from observed executive budget proposals. The models denoted by "**AI Adjustment**" consist of altering the legislative partisan seat share *(% Democratic Seats* & *% Democratic Senate seats*), as well as the individual characteristics of Appropriations subcommittee chairmen charged with initially vetting executive budget proposals (*Appropriations Subcommittee Chairman Experience* &

Appropriations Subcommittee Chairman Ideology), so that they assess the extent to which they are ideologically synchronous with a given agency's ideological orientation.[6]

[6] Ideological synchronicity is operationalized as follows: the subcommittee chairman's partisan affiliation and agency ideology are compatible (i.e., Democratic chair and liberal agency; Republican chair and conservative agency) are coded as + 1; incompatible (i.e., Democratic chair and conservative agency; Republican chair and liberal agency) are coded as −1; and moderate agencies (irrespective of the chairman's partisan affiliation) are coded as 0.

The results in **Table SI−2** show that the patterns obtained in the unrestricted and restricted externally−induced presidential budgetary model specifications reported in the manuscript are quite consistent with those from models that make the AI adjustment for selected covariates. As noted in the manuscript (see **Note ?? [former manuscript version: Note 18]**), the key difference between model specifications pertains to the loss of statistical significance for several covariates when *both* agency−specific and time−specific unit effects are jointly specified. Yet, the unrestricted model specifications produce a superior model fit, even when one penalizes for additional number of parameters as shown by lower AIC and BIC statistics.

[Insert Table SI−2 About Here]

Table SI−3 displays the results for alternative generalized budget proposal (GP) model specifications. The estimates produce rather similar patterns as those reported in the manuscript. Once again, the unrestricted model specifications appear to provide better model fit to actual executive budget proposals than compared to their restricted model counterparts that do not incorporate annual dummies to account for unobserved temporal heterogeneity. The most important consequence of these alternative model specifications is that they generate internally−induced presidential budgetary preference estimates which are extremely similar ($0.879 \leq \rho \leq 0.974$). Moreover, a series of Ramsey RESET tests indicate that these models neither suffer from model specification errors regarding omitted variable bias nor unaccounted nonlinear functional forms.[7]

[7] For the unrestricted EIP model specification, Ramsey RESET 4th order: $F_{(3, 31)} = 0.45$ [p = 0.72], Ramsey RESET 3rd Order: $F_{(2, 31)} = 0.58$ [p = 0.57], Ramsey RESET 2nd order: $F_{(1, 31)} = 0.89$ [p = 0.35]; and for the restricted EIP model specification, Ramsey RESET 4th order: $F_{(3, 31)} =$

We can therefore be confident that subsequent tests of presidential budgetary influence are neither sensitive to model misspecification related to omitted variable bias nor incorrect functional forms that occurs in preceding stages of statistical estimation.

[Insert Table SI−3 About Here]

The first set of robustness checks analyzing the congressional appropriations growth regressions pertain to symmetric presidential budgetary influence and are presented in **Tables SI−4 & SI−5**. In these particular set of appropriations growth regression models, the 'information set' covariates used in estimation of the externally−induced presidential budgetary preference models are included as covariates analogous to instrumental variable estimation approaches that include such covariates in the structural equation model specification. In other words, these models allow for both *direct* and *indirect* effects attributable to political and policy conditions.[8] The core findings pertaining to presidential budgetary influence are consistent

0.69 [p = 0.56], Ramsey RESET 3rd Order: $F_{(2, 31)} = 0.73$ [p = 0.49], Ramsey RESET 2nd order: $F_{(1, 31)} = 1.21$ [p = 0.28]. For the alternative−unrestricted EIP model specification, Ramsey RESET 4th order: $F_{(3, 31)} = 0.26$ [p = 0.85], Ramsey RESET 3rd Order: $F_{(2, 31)} = 0.12$ [p = 0.89], Ramsey RESET 2nd order: $F_{(1, 31)} = 0.19$ [p = 0.67]. For the alternative-restricted EIP model specification, Ramsey RESET 4th order: $F_{(3, 31)} = 0.78$ [p = 0.52], Ramsey RESET 3rd Order: $F_{(2, 31)} = 0.46$ [p = 0.64], Ramsey RESET 2nd order: $F_{(1, 31)} = 0.68$ [p = 0.42].

[8] The interpretation of these externally−induced presidential budgetary preference estimates' coefficients must account for the fact that the direct effect of political and policy conditions on legislators' appropriation decisions is being netted out by construction. Therefore, substituting Equation (8) into Equation (10) found in the manuscript will yield:

across model specifications for the generalized proposal model estimates in **Table SI−4**. In the unrestricted EIP model specifications, the president's budget proposal growth exerts a statistically significant, proportional impact on appropriations growth (1.007, 1.031). In the restricted EIP models, however, the generalized proposal estimate has a larger than proportional impact on congressional appropriations (1.488, 1.713). The more conservative effects observed in the unrestricted EIP formulation make sense since they account for time shocks in the formulation of the generalized proposal estimates. Across each of the four model specifications analyzing externally−induced and internally−induced budgetary preference estimates separately (**Table SI−5**), internally−induced budgetary preferences exert a positive impact on appropriations decisions. Surprisingly, externally−induced presidential budgetary preference coefficients are only statistically significant, as well as reasonably valued, based on the unrestricted EIP model specifications. Based on the AIC and BIC statistics, exclusion of time−unit effects for the restricted EIP model specifications results in poorer model fit when comparing similar models (e.g., non−AI adjustment models to one another).

[Insert Table SI−4 & Table SI−5 About Here]

$$a_{it} = \lambda_0 + \lambda_1\left[\hat{\alpha}_0 + \sum_{i=2}^{N}\hat{\alpha}_{1i}u_i + \sum_{t=2}^{T}\hat{\alpha}_{2t}v_t + \sum_{s=1}^{S}\hat{\alpha}_{3s}X_{s\,it-p}\right] + \sum_{s=1}^{S}\lambda_{2s}\,X_{s\,it-p} + \sum_{i=2}^{N}\lambda_{3i}\,u_i + \sum_{m=2}^{M}\lambda_{4m}\,Ad\min_t + \varepsilon_{it}.$$

The items denoted inside brackets represent the *indirect* impact of political and policy conditions on appropriation outcomes that reflect presidents' tactical responses to political and policy conditions when formulating their budget proposals; whereas, the terms appearing outside the brackets represent the *direct* impact of political and policy conditions on appropriation outcomes that are independent of executive budget proposals.

The results of presidential budgetary influence from these predicted estimates culled from the generalized proposal and each component of budgetary preferences testing for unified versus divided party government distinctions appear in **Tables SI−6** & **SI−7**. In **Table SI−6**, the generalized proposal model preference estimates reveal that presidents are significantly more influential over shaping final budgetary outcomes under divided government (range between 1.298 to 2.020) than compared to unified government (range between 0.30 to 0.79). In turn, this evidence is consistent with the importance associated with negative presidential power in budgetary matters (e.g., Cameron 2000; Gilmour 1995; Rohde and Simon 1985). Specifically, presidents' threat (and use) of executive veto authority becomes more potent under divided government, and thus actually augments executive budgetary influence via proposal power. In the unrestricted EIP model specifications, the impact of the generalized proposal estimate ($\hat{r}_{it}^{Linlin}$) on congressional appropriations growth is small (0.34 and 0.30) and not statistically discernible from zero [H_o: $\hat{r}_{it}^{Linlin}$ + ($\hat{r}_{it}^{Linlin}$ × UPG) = 0, p = 0.304 and 0.261]. In the less conservative restricted EIP model specifications, the effect of the GP estimate on budgetary outcomes is less than positive unity (0.66 and 0.79), but remains significantly greater than zero [H_o: $\hat{r}_{it}^{Linlin}$ + ($\hat{r}_{it}^{Linlin}$ × UPG) = 0, p = 0.046 and 0.022].

[Insert Table SI−6 & Table SI−7 About Here]

Table SI−7 displays the regression results analyzing asymmetric presidential budgetary influence under unified versus divided government in relation to the constitutive components of the generalized proposal estimates. The statistical evidence indicates that the magnitude and significance associated with externally−induced presidential budgetary influence is sensitive to the unrestricted versus restricted EIP model specification distinction. In the former case,

externally− induced budgetary preferences exert a positive and statistically significant impact on congressional appropriations under divided party government, yet this effect sharply drops and becomes indiscernible from zero under unified party government. In the latter case, the coefficients associated with externally−induced budgetary preference estimates under divided party government are both larger (1.850 and 10.072), yet also estimated with considerably more imprecision. Nonetheless, presidential budgetary influence is significantly lower under unified party government consistent with the executive veto threat hypothesis noted earlier. Presidents' partisan policy priorities, reflected via internally−induced budgetary preference estimates, exert a statistically significant impact on budgetary outcomes under divided party government regimes, but it does not result in a significant decline in influence during times of unified party government. In all but the Restricted EIP model, these partisan presidential policy priorities remain significantly influential in shaping congressional appropriation decisions. In this lone exceptional case, however, it is worth noting that the sum of these coefficients barely misses attaining statistical significance from zero at the $p \leq 0.10$ level [H_o: $\hat{r}'_{it} + (\hat{r}'_{it} \times \text{UPG}) = 0$, $p = 0.113$].

Asymmetric presidential budgetary influence consistent with bilateral veto bargaining theories is presented in **Tables SI−8** & **SI−9**. The results in **Table SI−8** do not offer support for the bilateral veto bargaining theory since presidential budgetary influence is not predicated on executive requests not exceeding congressional appropriations. Presidential budgetary influence, as evinced by the generalized proposal model estimates, is both robust and significant regardless of the relative size of the president's budget request in relation to the congressional appropriation. Although the impact of presidential budgetary influence modestly wanes when the executive request does not exceed appropriations – i.e., $\hat{r}'_{it} + (\hat{r}'_{it} \times R_{it} \leq A_{it}\, Dummy)$ –

coefficients range from 0.85 to 1.51, the full impact still remains significantly above zero at the $p < 0.01$ level.

[Insert Table SI−8 & Table SI−9 About Here]

Table SI−9 displays the regression results for asymmetric presidential influence via the bilateral bargaining model decomposing the generalized proposal model estimates into externally−induced and internally−induced budgetary preferences, respectively. Only for the unrestricted EIP models does the statistical evidence reveal that both components of presidential budgetary preferences significantly shape congressional appropriation decisions – this is true whether or not the president's budget request does not exceed the congressional appropriation for that agency in a given fiscal year. In both the pair of unrestricted EIP model specifications and the restricted EIP model specification containing the AI adjustment, the internally−induced budgetary preference estimate is statistically discernible from zero when presidential proposals exceed congressional appropriations consistent with what is reported in the manuscript in **Table 5**. Although significant differences do not appear between these two budgetary regimes [H_o: $\hat{r}'_{it} \times (R_{it} \leq A_{it}\, Dummy) = 0$], the sum of the internally−induced presidential budgetary preference coefficients when $R_{it} \leq A_{it}$ is statistically significant at the $p \leq 0.01$ level [H_o: $\hat{r}'_{it} + (\hat{r}'_{it} \times R_{it} \leq A_{it}\, Dummy) = 0$]. Although the unrestricted EIP models uncover a surge in presidential budgetary influence when $R_{it} \leq A_{it}$, such executive influence also occurs when the opposite condition holds. That is, although presidents become more successful translating their intrinsic partisan policy priorities into budgetary outcomes when their budget requests do not exceed what Congress wishes to appropriate, these estimates are somewhat imprecise.

Findings from Preliminary Stages of Generalized Budget Proposal (GP) Model Estimation

The preliminary regression results that serve as the basis to formulate the generalized proposal regression represented by Equation (9) in the manuscript appear in **Table SI−10** through **Table SI−10**. **Table SA-10** displays the first−stage EIP model estimates for excess funding bias that is represented by equation (A.1). The findings reveal that president's externally−induced budgetary preference estimates ($\hat{r}_{it}^{*}$) possess approximately a one−to−one correspondence to the observed executive budget proposals (r_{it}). This is hardly surprising since these model specifications restrictively assume symmetric loss underlying executive budget proposals. Once again, the results presented here are robust across model specifications. **Table SI−11** reports the first−stage ARCH(1) residual model estimates (in absolute deviation form that is equivalent to the conditional standard deviation (see **Note 3** in *Supporting Information, A: Estimation of a Generalized Budget Proposal*). These estimates reveal significant first−order ARCH effects. The parameter estimates from these ARCH(1) residual model estimates are quite similar across each of the four model specifications.[9] Additional robustness checks revealed that this lag length not only produced a superior model fit relative to higher−order ARCH processes (up through a fourth−order ARCH(4) residual process), but also generate predicted values of the conditional volatility term that are highly correlated with one another across different orders of the ARCH residual process.

[Insert Table SI−10 −− Table SI−13 About Here]

[9] The correlation among the first−stage ARCH(1) estimates from Equation (A.2) across models reported in **Table SI−11** range between 0.9877 and 0.9966.

Table SI−12 displays the first−stage Generalized Proposal estimates that are represented by Equation (A.4) in *Supplementary Appendix, A: Estimation of a Generalized Budget Proposal*. The findings reveal that the EIP estimate no longer has a strict one−to−one correspondence to their observed executive budget proposals (coefficients in the 0.842 − 0.888 range). The results presented here are generally robust across model specification, with a few minor exceptions (e.g., attenuated coefficient and lack of statistical significance for Republican presidents funding preferences with respect to liberal agencies [Liberal Agency]). These differences have no bearing on the resulting internally−induced budgetary preference estimates.

Table SI−13 reports the second−stage ARCH(1) residual model estimates that are represented by Equation (A.5) in the Technical Appendix. These updated estimates reveal significant first−order ARCH effects. Similar to the first−stage ARCH(1) residual model estimates presented in **Table SI−11**, the parameter values are quite consistent across each of the four model specifications. Once again, additional robustness checks demonstrate that this lag length produces superior model fit relative to a higher−order ARCH process (up through a fourth−order ARCH residual process), and generates predicted values of the conditional volatility term across these various ARCH model specifications that are extremely similar (correlations ranging between 0.9850 − 0.9991). Yet, the correlation between the first−stage ARCH(1) and second−stage ARCH(1) predicted value estimates of conditional volatility for a given AP model specification only ranges between 0.5882 and 0.6101. This ancillary evidence thus highlights the necessity of the double two−stage iterative estimation strategy since the predicted values generated from the ARCH (1) models at each stage are conditional upon notably different conditional mean equation model specifications [cf. Equation (A.1) and Equation (A.4)].

Summary Findings from Additional Robustness Checks: EIP Models − Absence of Unit Effects

In addition to the previous set of robustness checks comparing EIP unrestricted model specifications containing two−way (agency−level & time−specific) unit effects with those possessing only one−way (agency−specific) unit effects, EIP models without any such unit effects are also estimated via pooled OLS regression methods. The basis for this robustness check is that controlling for unobserved heterogeneity may be highly collinear with the political and policy covariates that are responsible for predicting executive budget proposals. For brevity purposes, we only report a comparison of the EIP restricted model estimates for the pooled OLS (absence of unit effects) and OLS−LSDV models containing only agency−specific unit effects. These results appear in **Table SI−14**. When comparing similar models with or without AI adjustments to the shaded legislative covariates (Columns 1 & 3 and Columns 2 & 4), the coefficient estimates and resulting inferences are strikingly similar, with the exception of the *Major Wars* covariate (both comparisons) and *Gramm−Rudman−Hollings Restrictions* (AI adjustment comparison). The reason why the restricted EIP model estimates containing one−way unit effects are used for comparison purposes in both the manuscript and elsewhere in the **Supporting Information** document is because of its conservative nature, as well as its superior model fit compared to the more parsimonious pooled OLS models that omit unit effects altogether (**Without AI Adjustment:** $AIC_{\text{Restricted EIP [One−Way Unit Effects]}} = 13{,}257.01$ versus $AIC_{\text{Restricted EIP [Pooled OLS]}} = 13{,}310.77$, $BIC_{\text{Restricted EIP [One−Way Unit Effects]}} = 13{,}318.88$ versus $AIC_{\text{Restricted EIP [Pooled OLS]}} = 13{,}377.8$; **With AI Adjustment:** $AIC_{\text{Restricted EIP [One−Way Unit Effects]}} = 13{,}260.9$ versus $AIC_{\text{Restricted EIP [Pooled OLS]}} = 13{,}314.73$, $BIC_{\text{Restricted EIP [One−Way Unit Effects]}} = 13{,}322.8$ versus $AIC_{\text{Restricted EIP [Pooled OLS]}} = 13{,}381.76$).

[Insert Table SI−14 −− Table SI−16 About Here]

The results reported in **Table SI−15** highlight the central set of findings based on the Generalized Proposal estimates for the unrestricted model containing two−way unit effects reported in **Table 5** & **Tables SI−4**, **SI−6**, and **SI−8** (***U: EIP***), the restricted model containing agency−level fixed effects reported in **Tables SI−4**, **SI−6**, and **SI−8** (***R: EIP***), and the restricted model containing no fixed effects estimated via pooled OLS (***R: EIP*** $_{Pooled\ OLS}$). The core findings are robust across alternative EIP model specifications. Namely, the generalized proposal estimate exerts a bigger influence over legislative appropriation decisions in times of divided party government than unified party government. This omnibus executive influence is also greater when the president's budget request exceeds what Congress wishes to appropriate. Yet, the significant Wald hypothesis tests indicate that executive influence is also manifested when budget requests do not exceed appropriations.

Table SI−16 allows for a comparison of these same three sets of externally−induced presidential budgetary preference estimates based on the distinction between externally and internally−induced budgetary preference estimates. The results centered on partisan budgetary priorities captured by the internally−induced budgetary preference estimates reveal remarkable consistency across these three EIP model specifications. Specifically, presidents are able to convey their partisan budgetary priorities (via their internally−induced budgetary preferences) into final budgetary outcomes on a general level (***Symmetric Influence models***), are significantly more influential in shaping appropriations under divided party government than compared to unified party government (***Unified/Divided Party Government models***), and also exhibit influence irrespective of whether or not they seek less or more funding than what Congress permits – though presidents are somewhat more influential when their funding requests do not exceed appropriations (***Bilateral Veto Bargaining models***). In closing, these results, and those

reported elsewhere in the ***Supporting Information*** document, demonstrate the robustness of the results summarized in **Figures 1−3** of the manuscript, as well as appearing in the *Supporting Information* document (***Tables SI−4 − SI−9***). Once again, the unrestricted EIP model specifications produce the best fitting models to explaining these congressional appropriations data based on both the AIC and BIC statistics.

TABLE SI−1

Descriptive Statistics for Variables Used in Statistical Analyses Reported in Manuscript

	Sample Mean	Sample SD	Minimum	Maximum	Sample Size
Budgetary Measures					
Observed Executive Budget Proposal (Growth)	3.853	48.89	−408.803	425.995	1282
Externally−Induced Preference Estimates	3.853	26.19	−403.617	175.178	1282
Generalized Proposal Preference Estimates	2.361	21.101	−199.759	137.949	1202
Internally−Induced Preference Estimates	−0.764	4.859	−12.962	61.282	1195
Appropriations Growth	2.599	52.608	−683.334	702.664	1195
Political Conditions					
% Democratic Seats (House)	56.710	6.461	46.437	67.8	1282
% Democratic Seats (Senate)	53.417	6.796	44	68	1282
Congressional Election Year	0.511	0.501	0	1	1282
Congressional Majority Party Change	−0.008	0.427	−2	2	1282
Appropriations Subcommittee Chairman Experience	5.819	4.451	1	21	1282
Appropriations Subcommittee Chairman Ideology	−0.116	0.351	−0.61	0.59	1282
Lagged Appropriations – Request Gap	5.497	60.786	−1043.24	397.403	1282
Policy Conditions					
Unemployment Rate (President)	5.967	1.441	3.417	10.25	1282
Unemployment Rate (Congress)	5.919	1.504	3.467	10.3	1195
Federal Surplus/Deficit	−2.319	1.867	−6	2.4	1282
Major Wars (Department of Defense)	.0110	0.104	0	1	1282
Budget Impoundment Act of 1974	0.786	0.411	0	1	1282
Gramm−Rudman−Hollings Restrictions	0.150	0.357	0	1	1282
Supplemental Appropriations Dummy	0.187	0.390	0	1	1282
Excess Funding Bias					
President's Party	0.288	0.453	0	1	1202
Liberal Agency	0.348	0.477	0	1	1202
Moderate Agency	0.250	0.433	0	1	1202
Asymmetric Funding Aversion					
$\sqrt{\hat{h}'_{it}}$	51.024	79.278	1.027	1020.774	1202
Asymmetric Presidential Budgetary Influence					
Unified Party Government	0.330	0.470	0	1	1195
$R_{it} \leq A_{it}$ *Dummy*	0.615	0.487	0	1	1195

TABLE SI−2

Alternative Externally−Induced Executive Budgetary Preference (EIP) Regression Model Estimates
(OLS−LSDV Estimates with Robust Standard Errors Clustered by Agencies)

	Unrestricted EIP (Reported)	Unrestricted EIP (AI Adjustment)	Restricted EIP (Reported)	Restricted EIP (AI Adjustment)
Political Conditions				
% Democratic Seats (House)$_t$	−2.044 (1.501)	0.107 (0.325)	−0.565 (0.473)	0.026 (0.284)
% Democratic Seats (Senate)$_t$	1.359 (1.046)	0.364 (0.227)	1.057*** (0.362)	0.244 (0.277)
Congressional Election Year$_t$	17.853 (10.934)	16.551 (9.473)	6.347** (2.423)	6.634** (2.553)
Congressional Majority Party Change$_t$	−2.763 (1.843)	−2.896 (2.065)	−2.898 (1.793)	−3.097 (1.952)
Appropriations Subcommittee Chairman Experience$_{it}$	−0.108 (0.366)	−0.803 (0.497)	−0.030 (0.324)	−0.713 (0.475)
Appropriations Subcommittee Chairman Ideology$_{it}$	0.237 (5.040)	4.872 (8.034)	−0.712 (3.363)	5.233 (7.280)
Lagged Appropriations – Request Gap$_{it-1}$	0.408*** (0.078)	0.408*** (0.075)	0.421*** (0.078)	0.424*** (0.078)
Policy Conditions				
Unemployment Rate (President)$_t$	5.995 (4.763)	1.939 (1.956)	2.000 (2.047)	0.256 (1.396)
Federal Surplus/Deficit$_{t-1}$	1.505 (1.549)	2.042 (1.478)	2.431*** (1.118)	1.827* (1.044)
Major Wars (Defense−Related Agencies)$_{it}$	−6.010*** (2.105)	−4.264*** (1.946)	−3.966** (1.660)	−5.167*** (1.495)
Budget Impoundment Act of 1974$_t$	−8.531 (10.248)	−15.502* (8.931)	3.804 (2.531)	−3.477 (2.416)
Gramm−Rudman−Hollings Restrictions $_t$	3.777 (10.798)	−2.321 (7.535)	−1.280 (3.092)	−3.016 (2.512)
Supplemental Appropriations Dummy $_{it}$	−1.602 (3.076)	−2.376 (2.933)	−2.323 (2.416)	−2.508 (2.175)
Constant	12.495 (26.895)	5.365 (13.401)	−34.633*** (9.180)	6.429 (8.143)
Effective Sample Size ($N \times T$)	1282	1282	1282	1282
N	32	32	32	32
$\overline{T}$	40.1	40.1	40.1	40.1
Overall Model R^2	0.256	0.1874	0.224	0.1994
AIC Statistic	13,238.58	13,235.8	13,257.01	13,260.9
BIC Statistic	13,298.42	13,395.6	13,318.88	13,322.8

Notes: Robust standard errors (clustered by agency) are inside parentheses. Unrestricted EIP model specification contains both agency−specific and time−specific unit effects to account for both unobserved spatial and temporal heterogeneity. Restricted EIP model specification contains only agency−specific unit effects to account for unobserved spatial heterogeneity.

*** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$.

TABLE SI−3

Alternative Generalized Budgetary Proposal (GP) Regression Model Estimates: Equation (9) / (A.5)
(Pooled OLS with Bootstrapped Standard Errors, Clustered Random Resampling by Agencies)

	Unrestricted EIP (Reported)	Unrestricted EIP (AI Adjustment)	Restricted EIP	Restricted EIP (AI Adjustment)
Excess Funding Bias				
Externally−Induced Preference Estimates$_{it}$	0.917*** (0.219)	0.917*** (0.216)	0.872*** (0.250)	0.873*** (0.253)
President's Party$_t$	0.303 (4.415)	2.570 (4.623)	−0.331 (4.679)	3.597 (4.013)
Moderate Agency$_i$	2.043 (2.674)	3.517 (2.869)	0.533 (2.638)	0.912 (2.841)
Liberal Agency$_i$	−4.576 (4.161)	−2.872 (4.577)	−5.121 (4.227)	−4.297 (4.631)
President's Party$_t$ × *Moderate Agency*$_i$	−8.486* (4.825)	−11.376** (5.151)	−6.099 (5.104)	−7.163* (4.404)
President's Party$_t$ × *Liberal Agency*$_i$	1.804 (8.182)	−3.859 (8.249)	2.061 (8.670)	−1.586 (8.088)
Asymmetric Funding Aversion				
$\sqrt{\hat{h}'_{it}}$	0.032 (0.035)	0.039 (0.035)	0.014 (0.035)	0.015 (0.036)
$\sqrt{\hat{h}'_{it}}$ × *President's Party*$_t$	0.023 (0.064)	0.002 (0.082)	0.032 (0.071)	0.013 (0.060)
$\sqrt{\hat{h}'_{it}}$ × *Moderate Agency*$_i$	−0.008 (0.054)	−0.028 (0.052)	0.029 (0.055)	0.022 (0.054)
$\sqrt{\hat{h}'_{it}}$ × *Liberal Agency*$_i$	0.035 (0.049)	0.030 (0.051)	0.057 (0.049)	0.061 (0.054)
$\sqrt{\hat{h}'_{it}}$ × *President's Party*$_t$ × *Moderate Agency*$_i$	−0.004 (0.084)	0.028 (0.096)	−0.043 (0.084)	−0.027 (0.071)
$\sqrt{\hat{h}'_{it}}$ × *President's Party*$_t$ × *Liberal Agency*$_i$	−0.002 (0.087)	0.030 (0.010)	−0.003 (0.100)	0.014 (0.090)
Constant	−1.728 (2.095)	−2.562 (2.281)	−1.044 (2.015)	−2.214 (2.346)
Effective Sample Size ($N \times T$)	1202	1202	1202	1202
N	32	32	32	32
$\overline{T}$	37.6	37.6	37.6	37.6
Overall Model R^2	0.216	0.219	0.178	0.177
AIC Statistic	12,315.00	12,311.4	12,372.4	12,373.0
BIC Statistic	12,381.19	12,377.6	12,438.6	12,439.2

Notes: Bootstrap standard errors inside parentheses are based on 10,000 replications and cluster random resampling by agencies. Unrestricted EIP model specification contains both agency−specific and time−specific unit effects to account for both unobserved spatial and temporal heterogeneity. Restricted EIP model specification contains only agency−specific unit effects to account for unobserved spatial heterogeneity.

*** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$.

TABLE SI−4

Alternative Congressional Appropriations Growth Regression Models:
Symmetric Presidential Influence – Generalized Proposal Estimates
(OLS: Agency−Specific & Administration−Specific Unit Effects)

	Unrestricted EIP (Reported)	**Unrestricted EIP (AI Adjustment)**	**Restricted EIP**	**Restricted EIP (AI Adjustment)**
Generalized Proposal Estimate ($\hat{r}_{it}^{Linlin}$)	1.007*** (0.348)	1.031*** (0.361)	1.488*** (0.399)	1.713*** (0.438)
Political Conditions				
% Democratic Seats (House)$_t$	−0.328 (0.550)	−0.397 (0.505)	−0.297 (0.564)	−0.501 (0.531)
% Democratic Seats (Senate)$_t$	0.428 (0.630)	−0.070 (0.393)	0.048 (0.698)	−0.171 (0.371)
Congressional Election Year$_t$	3.834 (2.523)	4.038 (2.533)	0.273 (2.938)	−0.900 (3.163
Congressional Majority Party Change$_t$	−1.206 (2.402)	−2.136 (2.670)	0.002 (2.705)	−0.476 (2.769)
Appropriations Subcommittee Chairman Experience$_{it}$	−0.143 (0.510)	0.486 (0.677)	−0.270 (0.503)	0.957 (0.818)
Appropriations Subcommittee Chairman Ideology$_{it}$	−7.493* (4.357)	5.059 (9.900)	−4.850 (4.225)	2.560 (11.247)
Lagged Appropriations – Request Gap$_{it-1}$	−0.816*** (0.186)	−0.828*** (0.194)	−0.986*** (0.219)	−1.076*** (0.235)
Policy Conditions				
Unemployment Rate (Congress)$_t$	2.633 (3.040)	1.861 (2.708)	−2.337 (2.440)	−1.524 (2.384)
Federal Surplus/Deficit$_{t-1}$	0.746 (1.065)	−0.151 (1.151)	−2.031* (1.216)	−2.914 (1.460)
Major Wars (Defense−Related Agencies)$_{it}$	8.556** (3.943)	8.152* (4.251)	9.645** (4.183)	13.147*** (5.097)
Budget Impoundment Act of 1974$_t$	−5.942 (11.224)	−9.295 (12.175)	−8.846 (11.831)	2.016 (9.719)
Gramm−Rudman−Hollings Restrictions $_t$	−5.941 (7.060)	7.045 (5.835)	−0.764 (6.460)	5.416 (5.888)
Supplemental Appropriations Dummy $_{it}$	1.343 (4.200)	1.689 (4.238)	2.353 (4.215)	2.732 (4.360)
Constant	−20.496 (22.769)	−16.380 (18.301)	−20.697 (25.565)	−9.981 (17.204)
Effective Sample Size ($N \times T$)	1195	1195	1195	1195
N	32	32	32	32
$\overline{T}$	37.3	37.3	37.3	37.3
Overall Model R^2	0.119	0.086	0.096	0.056
AIC Statistic	12,656.6	12,658.0	12,670.5	12,670.1
BIC Statistic	12,758.4	12,759.7	12,772.2	12,771.8

Notes: Bootstrap standard errors inside parentheses are based on 10,000 replications and cluster random resampling by agencies. Unrestricted EIP model specification contains both agency−specific and time−specific unit effects to account for both unobserved spatial and temporal heterogeneity. Restricted EIP model specification contains only agency−specific unit effects to account for unobserved spatial heterogeneity.

*** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$.

TABLE SI−5

Alternative Congressional Appropriations Growth Regression Models:
Symmetric Presidential Influence – Externally & Internally−Induced Budgetary Preference Estimates
(OLS: Agency−Specific & Administration−Specific Unit Effects)

	Unrestricted EIP (Reported)	**Unrestricted EIP (AI Adjustment)**	**Restricted EIP**	**Restricted EIP (AI Adjustment)**
Externally−Induced Preferences ($\hat{r}^{*}_{it}$)	0.881*** (0.333)	0.926*** (0.339)	1.100 (1.624)	7.389 (11.318)
Internally−Induced Preferences ($\hat{r}'_{it}$)	1.531*** (0.408)	1.536*** (0.434)	1.507*** (0.413)	1.703*** (0.441)
Political Conditions				
% Democratic Seats (House)$_t$	−0.276 (0.543)	−0.456 (0.524)	0.125 (0.830)	−0.643 (0.540)
% Democratic Seats (Senate)$_t$	0.628 (0.621)	−0.050 (0.378)	0.453 (1.616)	1.554 (2.922)
Congressional Election Year$_t$	4.682* (2.526)	4.789* (2.485)	2.789 (10.907)	−38.59 (75.119)
Congressional Majority Party Change$_t$	−1.536 (2.338)	−2.480 (2.625)	−1.100 (5.124)	17.127 (35.318)
Appropriations Subcommittee Chairman Experience$_{it}$	−0.159 (0.506)	0.429 (0.676)	−0.279 (0.517)	5.012 (7.876)
Appropriations Subcommittee Chairman Ideology$_{it}$	−7.060* (4.323)	5.455 (10.438)	−4.913 (4.253)	−27.398 (60.038)
Lagged Appropriations – Request Gap$_{it-1}$	−0.751*** (0.179)	−0.770*** (0.188)	−0.821 (0.688)	−3.483 (4.802)
Policy Conditions				
Unemployment Rate (Congress)$_t$	1.924 (2.915)	−1.415 (2.619)	−2.504 (3.209)	−2.122 (2.712)
Federal Surplus/Deficit$_{t-1}$	0.650 (1.057)	−0.253 (1.164)	−1.270 (3.609)	−12.913 (20.272)
Major Wars (Defense−Related Agencies)$_{it}$	8.198** (3.880)	8.277* (4.266)	8.038 (6.766)	42.533 (57.371)
Budget Impoundment Act of 1974$_t$	−7.073 (11.602)	−9.289 (12.347)	−7.719 (12.339)	21.933 (40.514)
Gramm−Rudman−Hollings Restrictions $_t$	4.559 (6.949)	6.661 (5.813)	−1.772 (5.996)	23.467 (34.620)
Supplemental Appropriations Dummy $_{it}$	0.934 (4.203)	1.195 (4.253)	1.415 (4.970)	17.004 (27.349)
Constant	−33.738 (24.827)	−15.071 (18.127)	−35.098 (62.848)	−48.957 (85.533)
Effective Sample Size ($N \times T$)	1195	1195	1195	1195
N	32	32	32	32
$\overline{T}$	40.1	40.1	40.1	40.1
Overall Model R^2	0.128	0.085	0.111	0.010
AIC Statistic	12,654.8	12,656.4	12,672.4	12,671.9
BIC Statistic	12,761.6	12,763.2	12,779.2	12,778.7

Notes: Bootstrap standard errors inside parentheses are based on 10,000 replications and cluster random resampling by agencies. Probability values inside brackets. Unrestricted EIP model specification contains both agency−specific and time−specific unit effects to account for both unobserved spatial and temporal heterogeneity. Restricted EIP model specification contains only agency−specific unit effects to account for unobserved spatial heterogeneity.

*** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$.

TABLE SI−6

Alternative Congressional Appropriations Growth Regression Models, Unified/Divided Government:
Asymmetric Presidential Influence – Generalized Proposal Estimates
(OLS Agency−Specific & Administration−Specific Unit Effects)

	Unrestricted EIP (Reported)	**Unrestricted EIP (AI Adjustment)**	**Restricted EIP (Reported)**	**Restricted EIP (AI Adjustment)**
Generalized Proposal Estimate ($\hat{r}_{it}^{Linlin}$)	1.298*** (0.402)	1.368*** (0.419)	1.853*** (0.455)	2.020*** (0.441)
Generalized Proposal Estimate × Unified Party Government	−0.962*** (0.441)	−0.993** (0.428)	−1.193** (0.556)	−1.231** (0.542)
Unified Party Government	−15.482*** (5.033)	−15.047*** (5.157)	−12.168** (4.859)	−9.453* (4.872)
Political Conditions				
% Democratic Seats (House)$_t$	−0.528 (0.496)	−0.728 (0.583)	0.490 (0.540)	−0.881 (0.653)
% Democratic Seats (Senate)$_t$	0.644 (0.588)	0.193 (0.424)	0.127 (0.637)	0.131 (0.437)
Congressional Election Year$_t$	3.500 (2.358)	3.865 (2.450)	0.561 (2.597)	−0.451 (2.858)
Congressional Majority Party Change$_t$	0.812 (2.018)	−0.814 (2.082)	2.477 (2.414)	0.829 (2.160)
Appropriations Subcommittee Chairman Experience$_{it}$	−0.141 (0.540)	0.433 (0.661)	−0.353 (0.558)	0.825 (0.763)
Appropriations Subcommittee Chairman Ideology$_{it}$	−7.192** (4.278)	10.825 (9.743)	−5.002 (4.219)	10.402 (11.045)
Lagged Appropriations – Request Gap$_{it-1}$	−0.793*** (0.150)	−0.820*** (0.162)	−0.957*** (0.172)	−1.021*** (0.168)
Policy Conditions				
Unemployment Rate (Congress)$_t$	5.460 (3.402)	4.268 (3.074)	−0.601 (2.537)	−0.750 (2.379)
Federal Surplus/Deficit$_{t-1}$	−0.500 (1.067)	−1.457 (1.284)	−2.745** (1.202)	−3.672** (1.518)
Major Wars (Defense−Related Agencies)$_{it}$	8.747** (3.666)	9.408** (4.310)	9.264** (3.705)	13.612*** (4.695)
Budget Impoundment Act of 1974$_t$	−16.900 (12.811)	−21.496 (13.979)	−20.710 (13.490)	−2.530 (9.956)
Gramm−Rudman−Hollings Restrictions $_t$	10.930 (7.722)	12.330* (6.714)	2.190 (6.662)	7.128 (5.715)
Supplemental Appropriations Dummy $_{it}$	1.712 (4.541)	2.206 (4.630)	2.660 (4.611)	2.878 (4.773)
Constant	−16.474 (26.710)	−8.906 (16.930)	−27.214 (30.951)	0.738 (15.396)
Effective Sample Size ($N \times T$)	1195	1195	1195	1195
N	32	32	32	32
$\overline{T}$	37.3	37.3	37.3	37.3
Overall Model R^2	0.144	0.099	0.125	0.071
AIC Statistic	12,611.5	12,609.5	12,614.2	12,611.8
BIC Statistic	12,723.4	12,721.4	12,726.1	12,723.7

Notes: Bootstrap standard errors inside parentheses are based on 10,000 replications and cluster random resampling by agencies. Unrestricted EIP model specification contains both agency−specific and time−specific unit effects to account for both unobserved spatial and temporal heterogeneity. Restricted EIP model specification contains only agency−specific unit effects to account for unobserved spatial heterogeneity. *** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$.

TABLE SI−7

Alternative Congressional Appropriations Growth Regression Models, Unified/Divided Government:
Asymmetric Presidential Influence – Externally & Internally−Induced Budgetary Preference Estimates
(OLS Agency−Specific & Administration−Specific Unit Effects)

	Unrestricted EIP (Reported)	**Unrestricted EIP (AI Adjustment)**	**Restricted EIP**	**Restricted EIP (AI Adjustment)**
Externally−Induced Preferences ($\hat{r}_{it}^{*}$)	1.173*** (0.382)	1.264*** (0.397)	1.850 (1.666)	10.072 (11.863)
Internally−Induced Preferences ($\hat{r}_{it}'$)	1.678*** (0.479)	1.731*** (0.534)	1.698*** (0.444)	1.767*** (0.438)
Externally−Induced Preferences × Unified Party Government	−0.961** (0.440)	−0.993** (0.425)	−1.173** (0.536)	−1.191** (0.520)
Internally−Induced Preferences × Unified Party Government	−0.600 (0.756)	−0.646 (0.709)	−0.773 (0.776)	−0.511 (0.889)
Unified Party Government	−14.152*** (4.565)	−13.709*** (4.786)	−11.466** (4.989)	−9.275* (5.182)
Political Conditions				
% Democratic Seats (House)$_t$	−0.453 (0.488)	−0.785 (0.600)	0.519 (0.818)	−1.093* (0.607)
% Democratic Seats (Senate)$_t$	0.818 (0.595)	0.204 (0.402)	0.115 (1.721)	1.873 (3.103)
Congressional Election Year$_t$	4.227* (2.317)	4.516* (2.378)	0.535 (11.221)	−53.895 (78.855)
Congressional Majority Party Change$_t$	0.441 (1.940)	−1.142 (2.033)	2.447 (4.747)	25.912 (36.716)
Appropriations Subcommittee Chairman Experience$_{it}$	−0.167 (0.534)	0.398 (0.674)	−0.355 (0.552)	6.624 (8.347)
Appropriations Subcommittee Chairman Ideology$_{it}$	−6.627 (4.131)	11.089 (10.182)	−4.829 (4.152)	−32.319 (64.284)
Lagged Appropriations – Request Gap$_{it-1}$	−0.728*** (0.144)	−0.764*** (0.1560)	−0.958 (0.727)	−4.440 (5.051)
Policy Conditions				
Unemployment Rate (Congress)$_t$	4.726 (3.296)	3.812 (3.019)	−0.586 (3.303)	−1.488 (3.049)
Federal Surplus/Deficit$_{t-1}$	−0.538 (1.048)	−1.490 (1.281)	−2.731 (3.835)	−17.890 (21.388)
Major Wars (Defense−Related Agencies)$_{it}$	8.494** (3.636)	9.614** (4.356)	9.273 (6.724)	55.340 (59.857)
Budget Impoundment Act of 1974$_t$	−17.600 (12.947)	−21.025 (13.095)	−20.680 (13.305)	25.965 (42.388)
Gramm−Rudman−Hollings Restrictions $_t$	9.406 (7.576)	11.684* (6.623)	2.081 (6.347)	32.742 (36.661)
Supplemental Appropriations Dummy $_{it}$	1.253 (4.565)	1.680 (4.674)	2.562 (4.941)	23.079 (28.271)
Constant	−30.371 (28.867)	−8.866 (16.934)	−28.845 (73.459)	−56.167 (91.278)
Effective Sample Size ($N \times T$)	1195	1195	1195	1195
N	32	32	32	32
$\overline{T}$	40.1	40.1	40.1	40.1
Overall Model R^2	0.154	0.096	0.125	0.009
AIC Statistic	12,611.3	12,609.5	12,617.7	12,614.0
BIC Statistic	12,733.3	12,731.6	12,739.8	12,736.0

Notes: Bootstrap standard errors inside parentheses are based on 10,000 replications and cluster random resampling by agencies. Probability values inside brackets. Unrestricted EIP model specification contains both agency−specific and time−specific unit effects to account for both unobserved spatial and temporal heterogeneity. Restricted EIP model specification contains only agency−specific unit effects to account for unobserved spatial heterogeneity.

*** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$.

TABLE SI−8

Alternative Congressional Appropriations Growth Regression Models, Bilateral Veto Bargaining:
Asymmetric Presidential Influence − Generalized Proposal Estimates
(OLS Agency−Specific & Administration−Specific Unit Effects)

	Unrestricted EIP (Reported)	**Unrestricted EIP (AI Adjustment)**	**Restricted EIP (Reported)**	**Restricted EIP (AI Adjustment)**
Generalized Proposal Estimate ($\hat{r}_{it}^{Linlin}$)	1.412*** (0.464)	1.411*** (0.467)	1.860*** (0.426)	2.090*** (0.481)
Generalized Proposal Estimate × $R_{it} \leq A_{it}$ *Dummy*	−0.566 (0.348)	−0.515 (0.352)	−0.579* (0.355)	−0.577 (0.396)
$R_{it} \leq A_{it}$ *Dummy*	25.537*** (5.392)	25.137*** (5.311)	24.990*** (5.287)	24.685*** (5.203)
Political Conditions				
% Democratic Seats (House)$_t$	−0.822 (0.527)	−0.393 (0.600)	−0.259 (0.537)	−0.464 (0.608)
% Democratic Seats (Senate)$_t$	0.851 (0.600)	−0.043 (0.397)	0.516 (0.652)	−0.168 (0.376)
Congressional Election Year$_t$	2.056 (2.484)	2.313 (2.457)	−1.344 (2.904)	−2.370 (3.118)
Congressional Majority Party Change$_t$	−0.496 (1.914)	−0.712 (2.114)	0.692 (2.194)	0.920 (2.115)
Appropriations Subcommittee Chairman Experience$_{it}$	−0.185 (0.436)	0.658 (0.615)	−0.306 (0.450)	1.081 (0.744)
Appropriations Subcommittee Chairman Ideology$_{it}$	−5.662 (3.876)	−1.775 (8.078)	−3.205 (3.662)	−3.617 (9.826)
Lagged Appropriations – Request Gap$_{it-1}$	−0.840*** (0.180)	−0.857*** (0.189)	−0.992*** (0.212)	−1.086*** (0.228)
Policy Conditions				
Unemployment Rate (Congress)$_t$	1.070 (2.855)	0.146 (2.542)	−3.622 (2.438)	−3.048 (2.384)
Federal Surplus/Deficit$_{t-1}$	−0.647 (1.036)	−1.303 (1.166)	−3.176*** (1.139)	−3.871*** (1.430)
Major Wars (Defense−Related Agencies)$_{it}$	4.075 (3.152)	2.875 (3.440)	6.017* (3.405)	8.150* (4.222)
Budget Impoundment Act of 1974$_t$	−3.593 (10.207)	−8.725 (11.577)	−6.605 (11.036)	1.497 (9.731)
Gramm−Rudman−Hollings Restrictions $_t$	2.922 (6.290)	5.350 (5.314)	−3.783 (6.003)	3.603 (5.474)
Supplemental Appropriations Dummy $_{it}$	1.883 (4.147)	2.158 (4.251)	2.665 (4.226)	2.969 (4.418)
Constant	−27.438 (21.748)	−24.977 (18.756)	−26.701 (23.356)	−18.308 (17.612)
Effective Sample Size ($N \times T$)	1195	1195	1195	1195
N	32	32	32	32
$\overline{T}$	37.3	37.3	37.3	37.3
Overall Model R^2	0.177	0.134	0.148	0.093
AIC Statistic	12,577.2	12,582.6	12,597.1	12,598.1
BIC Statistic	12,689.1	12,694.5	12,700.0	12,710.0

Notes: Bootstrap standard errors inside parentheses are based on 10,000 replications and cluster random resampling by agencies. Probability values inside brackets. Unrestricted EIP model specification contains both agency−specific and time−specific unit effects to account for both unobserved spatial and temporal heterogeneity. Restricted EIP model specification contains only agency−specific unit effects to account for unobserved spatial heterogeneity.

*** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$.

TABLE SI−9

Alternative Congressional Appropriations Growth Regression Models, Bilateral Veto Bargaining:
Asymmetric Presidential Influence − Externally & Internally−Induced Budgetary Preference Estimates
(OLS Agency−Specific & Administration−Specific Unit Effects)

	Unrestricted EIP (Reported)	**Unrestricted EIP (AI Adjustment)**	**Restricted EIP (Reported)**	**Restricted EIP (AI Adjustment)**
Externally−Induced Preferences ($\hat{r}_{it}^{*}$)	1.305*** (0.479)	1.315*** (0.468)	1.582 (1.573)	6.227 (10.816)
Internally−Induced Preferences ($\hat{r}_{it}'$)	1.176** (0.555)	1.234** (0.626)	0.995 (0.678)	1.284* (0.667)
Externally−Induced Preferences × $R_{it} \leq A_{it}$ *Dummy*	−0.531 (0.349)	−0.487 (0.352)	−0.502 (0.359)	−0.527 (0.395)
Internally−Induced Preferences × $R_{it} \leq A_{it}$ *Dummy*	1.010 (0.779)	0.905 (0.940)	1.453 (1.031)	1.331 (1.092)
$R_{it} \leq A_{it}$ *Dummy*	26.543*** (5.476)	26.092*** (5.471)	26.367*** (5.395)	26.348*** (5.443)
Political Conditions				
% Democratic Seats (House)$_t$	−0.772 (0.506)	−0.432 (0.581)	−0.427 (0.769)	−0.568 (0.603)
% Democratic Seats (Senate)$_t$	1.019* (0.589)	0.033 (0.368)	0.830 (1.444)	−1.090 (2.762)
Congressional Election Year$_t$	2.583 (2.437)	2.842 (2.381)	0.318 (9.858)	−29.759 (71.318)
Congressional Majority Party Change$_t$	−0.645 (1.857)	−0.922 (2.048)	0.086 (4.558)	13.819 (33.484)
Appropriations Subcommittee Chairman Experience$_{it}$	−0.207 (0.431)	0.591 (0.609)	−0.338 (0.435)	4.004 (7.547)
Appropriations Subcommittee Chairman Ideology$_{it}$	−5.764 (3.927)	−2.270 (7.901)	−3.932 (3.714)	−26.300 (56.685)
Lagged Appropriations – Request Gap$_{it-1}$	−0.785*** (0.176)	−0.805*** (0.183)	−0.875 (0.641)	−2.833 (4.569)
Policy Conditions				
Unemployment Rate (Congress)$_t$	0.443 (2.775)	−0.261 (2.488)	−3.207 (3.121)	−3.366 (3.055)
Federal Surplus/Deficit$_{t-1}$	−0.637 (1.066)	−1.285 (1.198)	−2.444 (3.243)	−11.105 (19.228)
Major Wars (Defense−Related Agencies)$_{it}$	4.335 (3.197)	3.968 (3.658)	5.216 (6.362)	30.387 (54.734)
Budget Impoundment Act of 1974$_t$	−3.254 (10.099)	−7.336 (11.165)	−4.289 (11.278)	16.857 (38.277)
Gramm−Rudman−Hollings Restrictions $_t$	2.003 (6.369)	5.250 (5.468)	−3.867 (5.799)	17.336 (33.026)
Supplemental Appropriations Dummy $_{it}$	−1.336 (4.107)	1.561 (4.201)	1.506 (4.851)	12.726 (26.102)
Constant	−39.072* (23.905)	−23.155 (18.322)	−36.470 (54.355)	−46.590 (81.686)
Effective Sample Size ($N \times T$)	1195	1195	1195	1195
N	32	32	32	32
$\overline{T}$	37.3	37.3	37.3	37.3
Overall Model R^2	0.191	0.147	0.169	0.025
AIC Statistic	12,570.3	12,577.0	12,588.7	12,590.8
BIC Statistic	12,692.4	12,699.1	12,710.8	12,712.8

Notes: Bootstrap standard errors inside parentheses are based on 10,000 replications and cluster random resampling by agencies. Probability values inside brackets. Unrestricted EIP model specification contains both agency−specific and time−specific unit effects to account for both unobserved cross-sectional and temporal heterogeneity. Restricted EIP model specification contains only agency−specific unit effects to account for unobserved cross−heterogeneity.
*** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$.

TABLE SI−10

Generalized Proposal Model Alternative First−Stage Excess Funding Bias Model Estimates: Eq. (A.1)

	Unrestricted EIP (Reported)	Unrestricted EIP (AI Adjustment)	Restricted EIP	Restricted EIP (AI Adjustment)
Externally−Induced Preference Estimates$_{it}$ ($\hat{r}^{*}_{it}$)	1.003*** (0.166)	1.004*** (0.162)	1.002*** (0.183)	0.998*** (0.185)
Excess Funding Bias				
President's Party$_t$	−1.147 (2.851)	0.710 (2.866)	−0.820 (2.836)	3.088 (2.810)
Moderate Agency$_i$	1.302 (1.183)	1.956 (1.221)	1.126 (1.188)	1.076 (1.225)
Liberal Agency$_i$	−1.191 (1.356)	0.037 (1.343)	−1.209 (1.444)	−0.248 (1.508)
President's Party$_t$ × *Moderate Agency*$_i$	−3.171 (3.565)	−5.534 (3.673)	−2.797 (3.565)	−3.900 (3.674)
President's Party$_t$ × *Liberal Agency*$_i$	4.441 (4.536)	−0.174 (4.577)	4.476 (4.734)	0.645 (4.885)
Constant	0.277 (0.958)	−1.044 (2.015)	0.198 (0.978)	−0.773 (1.123)
Effective Sample Size ($N \times T$)	1282	1282	1282	1282
N	32	32	32	32
$\overline{T}$	40.1	40.1	40.1	40.1
Overall Model R^2	0.288	0.289	0.256	0.253
AIC Statistic	13,189.0	13,186.4	13,245.7	13,249.9
BIC Statistic	13,225.1	13,222.4	13,281.8	13,286.0

Notes: Bootstrap standard errors inside parentheses are based on 10,000 replications and cluster random resampling by agencies. Unrestricted EIP model specification contains both agency−specific and time−specific unit effects to account for both unobserved spatial and temporal heterogeneity. Restricted EIP model specification contains only agency−specific unit effects to account for unobserved spatial heterogeneity.

*** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$.

TABLE SI−11

Generalized Proposal Model Alternative First−Stage ARCH(1) Model Estimates: Eq. (A.2)

	Unrestricted EIP (Reported)	Unrestricted EIP (AI Adjustment)	Restricted EIP	Restricted EIP (AI Adjustment)
Excess Funding Bias				
Lagged Conditional Volatility$_{it}$ ($\left\|\hat{\varepsilon}_{it-1}\right\|$)	0.375*** (0.026)	0.384*** (0.026)	0.369*** (0.026)	0.366*** (0.026)
Constant	11.855*** (1.018)	11.776*** (1.012)	11.721*** (1.036)	11.770*** (1.036)
Effective Sample Size ($N \times T$)	1241	1241	1241	1241
N	32	32	32	32
$\overline{T}$	38.8	38.8	38.8	38.8
Overall Model R^2	0.220	0.229	0.216	0.220
AIC Statistic	11,986.0	11,965.2	12,315.00	12,079.0
BIC Statistic	11,997.1	11,975.5	12,381.19	12,089.3

Notes: OLS-LSDV estimation with standard errors inside parentheses. Unrestricted EIP model specification contains both agency−specific and time−specific unit effects to account for both unobserved spatial and temporal heterogeneity. Restricted EIP model specification contains only agency−specific unit effects to account for unobserved spatial heterogeneity.

*** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$.

TABLE SI−12

Alternative First−Stage Generalized Proposal (GP) Model Estimates: Eq. (A.3)

	Unrestricted EIP (Reported)	Unrestricted EIP (AI Adjustment)	Restricted EIP	Restricted EIP (AI Adjustment)
Externally−Induced Preference Estimates$_{it}$ $(\hat{r}^{*}_{it})$	0.888*** (0.211)	0.880*** (0.216)	0.845*** (0.230)	0.842*** (0.224)
Excess Funding Bias				
President's Party$_t$	−1.053 (5.074)	0.712 (5.546)	0.303 (5.376)	2.910 (5.486)
Moderate Agency$_i$	−1.031 (3.825)	−0.251 (3.862)	−1.573 (3.664)	−1.567 (3.825)
Liberal Agency$_i$	−7.796* (4.718)	−5.839 (4.805)	−7.656 (4.616)	−6.517 (4.790)
President's Party$_t$ × *Moderate Agency*$_i$	−11.236* (6.131)	−13.248** (6.462)	−10.638* (6.248)	−10.592* (6.363)
President's Party$_t$ × *Liberal Agency*$_i$	−2.454 (9.740)	−6.959 (9.947)	−2.926 (10.748)	−4.680 (10.253)
Asymmetric Funding Aversion				
$\sqrt{\hat{h}'_{it}}$	−0.141 (0.144)	−0.131 (0.148)	−0.129 (0.148)	−0.128 (0.149)
$\sqrt{\hat{h}'_{it}}$ × *President's Party*$_t$	0.085 (0.257)	0.088 (0.286)	0.004 (0.264)	0.043 (0.282)
$\sqrt{\hat{h}'_{it}}$ × *Moderate Agency*$_i$	0.100 (0.158)	0.098 (0.160)	0.132 (0.159)	0.136 (0.161)
$\sqrt{\hat{h}'_{it}}$ × *Liberal Agency*$_i$	0.249 (0.176)	0.223 (0.180)	0.249 (0.176)	0.245 (0.181)
$\sqrt{\hat{h}'_{it}}$ × *President's Party*$_t$ × *Moderate Agency*$_i$	0.307 (0.326)	0.303 (0.344)	0.294 (0.325)	0.248 (0.339)
$\sqrt{\hat{h}'_{it}}$ × *President's Party*$_t$ × *Liberal Agency*$_i$	0.474 (0.428)	0.470 (0.441)	0.560 (0.510)	0.462 (0.468)
Constant	3.127 (3.660)	2.408 (3.712)	2.700 (3.541)	1.720 (3.702)
Effective Sample Size ($N \times T$)	1241	1241	1241	1241
N	32	32	32	32
$\overline{T}$	38.8	38.8	38.8	38.8
Overall Model R^2	0.229	0.228	0.191	0.188
AIC Statistic	12,676.6	12,678.1	12,736.1	12,740.8
BIC Statistic	12,743.2	12,744.7	12,802.8	12,807.4

Notes: Bootstrap standard errors inside parentheses are based on 10,000 replications and clustered random resampling by agencies. Unrestricted EIP model specification contains both agency−specific and time−specific unit effects to account for both unobserved spatial and temporal heterogeneity. Restricted EIP model specification contains only agency−specific unit effects to account for unobserved spatial heterogeneity.

*** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$.

TABLE SI−13

Generalized Proposal Model Alternative Second−Stage ARCH(1) Model Estimates: Eq. (A.4)

	Unrestricted EIP (Reported)	Unrestricted EIP (AI Adjustment)	Restricted EIP	Restricted EIP (AI Adjustment)
Excess Funding Bias				
Lagged Conditional Volatility$_{it}$ ($\left\|\hat{\varepsilon}'_{it-1}\right\|$)	0.444*** (0.065)	0.446*** (0.062)	0.469*** (0.067)	0.460*** (0.065)
Constant	25.680*** (2.095)	25.635*** (2.531)	24.308 (2.687)	24.751*** (2.582)
Effective Sample Size ($N \times T$)	1202	1202	1202	1202
N	32	32	32	32
$\overline{T}$	37.6	37.6	37.6	37.6
Overall Model R^2	0.279	0.282	0.310	0.303
AIC Statistic	13,395.3	13,388.3	13,422.8	13,427.3
BIC Statistic	13,405.5	13,398.4	13,433.0	13,437.5

Notes: Bootstrap standard errors inside parentheses are based on 10,000 replications and clustered random resampling by agencies. Unrestricted EIP model specification contains both agency−specific and time−specific unit effects to account for both unobserved spatial and temporal heterogeneity. Restricted EIP model specification contains only agency−specific unit effects to account for unobserved spatial heterogeneity.

*** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$.

TABLE SI−14

Alternative Externally−Induced Executive Budgetary Preference (EIP) Regression Model Estimates
(Pooled OLS versus OLS−LSDV Estimates: Robust Standard Errors Clustered by Agencies)

	Restricted EIP: Pooled OLS	**Restricted EIP: Pooled OLS (AI Adjustment)**	**Restricted EIP (Reported)**	**Restricted EIP (AI Adjustment)**
Political Conditions				
% Democratic Seats (House)$_t$	−0.502 (0.465)	−0.166 (0.214)	−0.565 (0.473)	0.026 (0.284)
% Democratic Seats (Senate)$_t$	1.036*** (0.361)	0.230 (0.234)	1.057*** (0.362)	0.244 (0.277)
Congressional Election Year$_t$	6.340** (2.449)	6.597*** (2.593)	6.347** (2.423)	6.634** (2.553)
Congressional Majority Party Change$_t$	−3.221 (1.963)	−3.495 (2.125)	−2.898 (1.793)	−3.098 (1.952)
Appropriations Subcommittee Chairman Experience$_{it}$	−0.041 (0.301)	−0.643 (0.420)	−0.030 (0.324)	−0.713 (0.475)
Appropriations Subcommittee Chairman Ideology$_{it}$	−0.479 (3.509)	7.974 (6.080)	−0.712 (3.363)	5.233 (7.280)
Lagged Appropriations – Request Gap$_{it-1}$	0.367*** (0.070)	0.371*** (0.068)	0.421*** (0.078)	0.424*** (0.078)
Policy Conditions				
Unemployment Rate (President)$_t$	2.070 (2.060)	0.439 (1.384)	2.000 (2.047)	0.256 (1.396)
Federal Surplus/Deficit$_{t-1}$	2.435** (1.049)	1.797* (1.023)	2.431*** (1.118)	1.827* (1.044)
Major Wars (Defense−Related Agencies)$_{it}$	−3.489 (2.549)	−1.844 (2.533)	−3.966** (1.660)	−5.167*** (1.495)
Budget Impoundment Act of 1974$_t$	3.161 (2.560)	−4.545* (2.427)	3.804 (2.531)	−3.477 (2.416)
Gramm−Rudman−Hollings Restrictions $_t$	−1.375 (3.301)	−2.889 (2.511)	−1.280 (3.092)	−3.016 (2.512)
Supplemental Appropriations Dummy $_{it}$	−4.544 (2.891)	−4.434 (2.634)	−2.323 (2.416)	−2.508 (2.175)
Constant	−36.175*** (11.477)	5.070 (7.306)	−34.633*** (9.180)	6.429 (8.143)
Effective Sample Size ($N \times T$)	1282	1282	1282	1282
N	32	32	32	32
$\overline{T}$	40.1	40.1	40.1	40.1
Overall Model R^2	0.224	0.222	0.224	0.1994
AIC Statistic	13,310.77	13,314.73	13,257.01	13,260.9
BIC Statistic	13,377.8	13,381.76	13,318.88	13,322.8

Notes: Robust standard errors (clustered by agency) are inside parentheses. Unrestricted EIP model specification contains both agency−specific and time−specific unit effects to account for both unobserved spatial and temporal heterogeneity. Restricted EIP model specification contains only agency−specific unit effects to account for unobserved spatial heterogeneity.

*** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$.

TABLE SI−15

Congressional Appropriations Growth Regression Models: Comparison Among EIP Model Specifications (*Generalized Proposal Estimate Effects)*

Variables	Symmetric Influence			Unified/Divided Party Government			Bilateral Veto Bargaining		
	U:EIP	**R:EIP**	**R:EIP$_{\text{Pooled OLS}}$**	**U:EIP**	**R:EIP**	**R:EIP$_{\text{Pooled OLS}}$**	**U:EIP**	**R:EIP**	**R:EIP$_{\text{Pooled OLS}}$**
Generalized Proposal Estimate ($\hat{r}_{it}^{Linlin}$)	1.007*** (0.348)	1.488*** (0.399)	1.294*** (0.370)	1.298*** (0.402)	1.853*** (0.455)	1.499*** (0.386)	1.412*** (0.464)	1.860*** (0.426)	1.717*** (0.556)
Generalized Proposal Estimate × Unified Party Government	_____	_____	_____	−0.962** (0.441)	−1.193** (0.556)	−1.045** (0.439)	_____	_____	_____
Generalized Proposal Estimate × $R_{it} \leq A_{it}$ Dummy	_____	_____	_____	_____	_____	_____	−0.566 (0.349)	−0.579* (0.355)	−0.668 (0.563)
Unified Party Government (UPG)	_____	_____	_____	−15.482*** (5.033)	−12.168** (4.859)	−12.287** (5.253)	_____	_____	_____
$R_{it} \leq A_{it}$ *Dummy*	_____	_____	_____	_____	_____	_____	25.537*** (5.392)	24.990*** (5.287)	25.04*** (5.308)
H_o: $\hat{r}_{it}^{Linlin}$ + ($\hat{r}_{it}^{Linlin}$ × UPG) = 0	_____	_____	_____	1.06 [0.304]	3.98** [0.046]	1.81 [0.179]	_____	_____	_____
H_o: $\hat{r}_{it}^{Linlin}$ + ($\hat{r}_{it}^{Linlin}$ × $R_{it} \leq A_{it}$ *Dummy*) = 0	_____	_____	_____	_____	_____	_____	7.86*** [0.005]	10.25*** [0.001]	6.92*** [0.009]
Effective Sample Size ($N \times T$)	1195	1195	1196	1195	1195	1196	1195	1195	1196
N	32	32	32	32	32	32	32	32	32
$\overline{T}$	37.3	37.3	37.4	37.3	37.3	37.4	37.3	37.3	37.4
Overall Model R^2	0.119	0.097	0.134	0.144	0.125	0.163	0.177	0.148	0.194
Akaike Information Criterion Statistic	12,656.6	12,670.5	12,684.41	12,611.5	12,614.2	12,644.92	12577.2	12,597.1	12,608.71
Bayesian Information Criterion Statistic	12,758.4	12,772.2	12,786.14	12,723.4	12,726.1	12,756.83	12,689.1	12,700.0	12,720.62

Notes: Bootstrap standard errors inside parentheses are based on 10,000 replications and cluster random resampling by agencies [p−values inside brackets]. All models contain covariates in the EIP unrestricted model specification, agency−level fixed effects, and administration−specific fixed effects. For purposes of brevity, the results of these additional covariates are not reported and can be found in the data documentation obtained from the authors.

*** p < 0.01 ** p < 0.05 * p < 0.10.

TABLE SI−16

Congressional Appropriations Growth Regression Models: Comparison Among EIP Model Specifications (*EIP & IP Estimate Effects)*

Variables	Symmetric Influence			Unified/Divided Party Government			Bilateral Veto Bargaining		
	U:EIP	**R:EIP**	**R:EIP$_{\text{Pooled OLS}}$**	**U:EIP**	**R:EIP**	**R:EIP$_{\text{Pooled OLS}}$**	**U:EIP**	**R:EIP**	**R:EIP$_{\text{Pooled OLS}}$**
Externally−Induced Preference Estimate ($\hat{r}_{it}^{*}$)	0.881*** (0.333)	1.100 (1.624)	1.128 (1.572)	1.173*** (0.382)	1.850 (1.666)	1.898 (1.613)	1.305*** (0.480)	1.582 (1.573)	1.622 (1.565)
Internally−Induced Preference Estimate ($\hat{r}_{it}'$)	1.531*** (0.408)	1.507*** (0.413)	1.301*** (0.388)	1.678*** (0.479)	1.698*** (0.444)	1.426*** (0.423)	1.176** (0.555)	0.995 (0.678)	1.189** (0.523)
Externally−Induced Preference Estimate × Unified Party Government	_____	_____	_____	−0.961** (0.440)	−1.173** (0.536)	−1.036** (0.444)	_____	_____	_____
Internally−Induced Preference Estimate × Unified Party Government	_____	_____		−0.600 (0.756)	−0.773 (0.776)	−0.870 (0.540)	_____	_____	_____
Externally−Induced Preference Estimate × $R_{it} \leq A_{it}$ Dummy	_____	_____	_____	_____	_____	_____	−0.531 (0.349)	−0.502 (0.359)	−0.637 (0.541)
Internally−Induced Preference Estimate × $R_{it} \leq A_{it}$ Dummy	_____	_____	_____	_____	_____	_____	1.011 (0.779)	1.453 (1.031)	0.550 (0.745)
Unified Party Government	_____	_____	_____	−14.152** (4.565)	−11.466** (4.989)	−12.479** (5.403)	_____	_____	_____
$R_{it} \leq A_{it}$ *Dummy*	_____	_____	_____	_____	_____	_____	26.543*** (5.476)	26.367*** (5.395)	25.687*** (5.300)
H_o: $\hat{r}_{it}^{*} + (\hat{r}_{it}^{*} \times \text{UPG}) = 0$	_____	_____	_____	0.38 [0.538]	0.13 [0.716]	0.24 [0.627]	_____	_____	_____
H_o: $\hat{r}_{it}' + (\hat{r}_{it}' \times \text{UPG}) = 0$	_____	_____	_____	3.30* [0.069]	2.52 [0.113]	2.00 [0.157]	_____	_____	_____
H_o: $\hat{r}_{it}^{*} + (\hat{r}_{it}^{*} \times R_{it} \leq A_{it}\,Dummy) = 0$	_____	_____	_____	_____	_____	_____	6.77*** [0.009]	0.53 [0.466]	0.47 [0.495]
H_o: $\hat{r}_{it}' + (\hat{r}_{it}' \times R_{it} \leq A_{it}\,Dummy) = 0$	_____	_____	_____	_____	_____	_____	12.56*** [0.000]	13.57*** [0.002]	8.82*** [0.003]
Effective Sample Size ($N \times T$)	1195	1195	1196	1195	1195	1196	1195	1195	1196
N	32	32	32	32	32	32	32	32	32
$\overline{T}$	37.3	37.3	37.4	37.3	37.3	37.4	37.3	37.3	37.4
Overall Model R^2	0.128	0.111	0.134	0.154	0.125	0.163	0.191	0.169	0.198
Akaike Information Criterion Statistic	12,654.8	12,672.44	12,686.39	12,611.3	12,617.73	12,648.72	12,202.4	12,588.7	12,606.08
Bayesian Information Criterion Statistic	12,761.6	12,779.24	12,793.21	12,733.3	12,739.79	12,770.8	12,314.3	12,710.8	12,728.16

Notes: Bootstrap standard errors inside parentheses are based on 10,000 replications and cluster random resampling by agencies [p−values inside brackets]. All models contain covariates in the EIP unrestricted model specification, agency−level fixed effects, and administration−specific fixed effects. For purposes of brevity, the results of these additional covariates are not reported but can be obtained in the data documentation obtained from the authors.

*** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$.

References

Baumgartner, Frank R., Bryan D. Jones, and James L. True. 1998. “Policy Punctuations: U.S. Budget Authority, 1947–1995.” *Journal of Politics* 60(February): 1–33.

Bollerslev, Tim, Robert F. Engle, and Dan B. Nelson. 1994. “ARCH Models." In Handbook of Econometrics, Volume IV. Robert F. Engle and Daniel L. McFadden, editors. Amsterdam: North−Holland.

Cameron, Charles M. 2000. *Veto Bargaining: Presidents and the Politics of Negative Power*. Cambridge, Cambridge University Press.

Engle, Robert F., David M. Lilien, and Russell P. Robbins. 1987. “Estimating Time−Varying Risk Premia in the Term Structure: The ARCH−M Model" *Econometrica* 55(March): 391−407.

Gilmour, John B. 1995. *Strategic Disagreement: Stalemate in American Politics*. Pittsburgh, PA: University of Pittsburgh Press.

Grier, Kevin B., and Rodolfo Ceremono. 2006. “Conditional Heteroskedasticity and Cross−Sectional Dependence in Panel Data: An Empirical Study of Inflation Uncertainty in the G7 Countries." Panel Data Econometrics: Theoretical Contributions and Empirical Applications. Badi Baltagi, editor. New York: Elsevier Press.

Jones, Bryan D., Tracy Sulkin, and Heather A. Larsen. 2003. “Policy Punctuations in American Political Institutions.” *American Political Science Review* 97(February): 151−169.

Lee, Jim. 2010. “The Link Between Output Growth and Volatility: Evidence from a GARCH Model with Panel Data." *Economics Letters* 106(February): 143−145.

Murphy, Kevin, and Robert J. Topel. 1985. “Estimation and Inference in Two-Step Econometric Models." *Journal of Business and Economic Statistics* 3(October): 370−379.

Pagan, Adrian. 1984. “Econometric Issues in the Analysis of Regressions with Generated

Regressors." *International Economic Review* 25(February): 221−247.

Rohde, David W., and Dennis M. Simon. 1985. “Presidential Vetoes and Congressional Response: A Study of Institutional Conflict.” *American Journal of Political Science* 29(August) 397−427.

Schwert, G. William. 1989. “Why Does Stock Market Volatility Change Over Time?” *Journal of Finance* 44(December): 1115−1153.

Taylor, Stephen J. 1986. *Modeling Financial Time Series*. Wiley and Sons. New York.