

Legislative Responses to Shared Executive Authority: How the Prospects for Executive Branch Coordination Affects Congressional Budgetary Authority under Separated Powers

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Abstract

How do the prospects for executive branch coordination affect legislatures' willingness to delegate budget authority? A theory is advanced predicting that Congress entrusts its budget authority to executive agencies headed by reliably strong presidential loyalists vis-à-vis reliably low weak presidential loyalists when its policy and electoral interests are aligned with the president, while engaging in mean-reversion budgetary behavior when these interests are opposed to the president. The theory also posits that Congress's budget authority exhibits relatively lower volatility in response to unreliable executive agency heads when they do not have shared policy and electoral interests with the president compared to when they do so. The evidence offers compelling, albeit mixed support for the theory's testable predictions, while gleaning novel empirical insights for understanding how the prospects for executive branch coordination via leadership appointees affects the contingent nature of Congress's decisions to grant discretionary budget authority to executive agencies.

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The degree of cohesiveness displayed between presidents and federal agencies is a critical element of executive branch governance and—more broadly—the governmental system in the United States (e.g., Krause 2009; Lowande 2018; Rudalevige 2021). It is commonly accepted that such executive branch coordination is contingent upon the nature of the relationship between presidents and their appointed executive agency heads (e.g., Lewis 2008; Moe 1982; Seidman 1997). In the realm of the U.S. federal budgetary process, executive agency heads serve as vital intermediaries between the public agencies they are charged with leading and both political branches. These appointed officials provide the requisite guidance and information for both the Office of Management and Budget (OMB) and relevant congressional committees to understand how agency budget requests are formulated for units within their agency to best achieve program and management objectives (Christensen 2012: 2; see also Murray 2012). They also play the vital role of coordinating agency budget documents with policy objectives on behalf of resource management offices (RMOs) operating within the OMB (Pasachoff 2016: 2188-2194).

Yet, executive agency heads vary considerably in the extent that they are expected to be faithful, loyal agents of the president based upon background characteristics known at the time of their nomination (Krause and O’Connell 2016, 2019; Ouyang, Haglund, and Waterman 2017; Waterman and Ouyang 2020), as well as varying (ideological) policy preferences (Bonica, Chen, and Johnson 2015; Clinton, et al. 2012; Hollibaugh and Rothenberg 2018; Nixon 2004). Congress’s willingness to afford authority to the executive branch is dependent upon the extent to which the legislative branch can entrust the executive branch’s use of such delegated powers via appointed executive agency heads (McCarty 2004; Bertelli and Grose 2009, 2011). The

relationship between presidents and their appointed executive agency heads thus offers Congress an informative signal *ex ante* regarding the prospects for executive branch coordination.

This study proposes a theory rooted in executive appointee reliability to understand *ex ante* how legislative budget authority is shaped by the prospects for executive branch coordination between presidents and agency heads. This logic is premised on Congress's willingness to entrust budget authority to the executive branch (Kiewiet and McCubbins 1991) that is consistent with the view that agent selection *ex ante* is an effective approach to assuage moral hazard problems *ex post* (Fearon 1999; Mansbridge 2009). Congress's willingness to confer budget authority to executive agencies jointly depends upon whether its policy and electoral interests are aligned or conflict with those of the president, and the extent to which the president and agency heads are inclined to form cohesive relationships.

This logic yields several novel predictions for understanding how Congress allocates budgetary authority in response to the prospects of executive branch coordination between presidents and agency heads. First, Congress should grant greater budgetary authority under unified government when executive agency heads can be classified as reliably strong presidential loyalist vis-à-vis reliably weak presidential loyalists. Congress will thus support the president's efforts towards executive branch coordination when their policy and electoral fortunes are aligned with one another. Second, Congress displays a 'mean-reverting' tendency in granting budgetary authority for both reliably strong and weak presidential loyalist agency heads in times of divided partisan control. That is, Congress will benefit less from executive branch coordination attributable to reliably strong presidential loyalists, while also incurring lower costs arising from a lack of such coordination attributable to agency heads characterized as reliably weak presidential loyalists, when both policy and electoral fortunes of these political branches

are divorced from one another. Finally, unreliable executive agency heads induce greater coordination uncertainty, and hence, are predicted to be associated with greater budget volatility when Congress has shared policy interests with the president than when they do not.

These testable propositions are evaluated using unbalanced panel data on U.S. federal discretionary budget authority comprised of 26 major, free-standing U.S. federal policy-oriented executive agencies for fiscal years 1995 through 2009. In times of unified party government, executive agencies headed by reliably strong presidential loyalists fare relatively better in the legislative appropriations process than compared to reliably weak presidential loyalist heads. In times of divided party government, however, such estimated effect differences reflect budgetary loss aversion by Congress, as executive agencies headed by reliably weak presidential loyalists faring comparatively better than those led by reliably strong presidential loyalists. Further, evidence of ‘mean reversion’ budgetary behavior displayed by Congress under divided party government vis-à-vis unified party government is asymmetric in that reliably weak presidential loyalist agency heads are typically granted more budget authority than compared to reliably strong presidential loyalist agency heads. Volatility involving Congress’s relative budget authority declines when interbranch policy interests are decoupled compared to when they overlap, yet this pattern is not observed for absolute legislative budget authority and is model-dependent.

The broader lessons suggest the (un)reliability of executive branch agency heads provide Congress with an informative signal regarding the potential extent of executive branch coordination as it seeks to determine budgetary authority for executive agencies relative to what the latter requests. The prospects for executive branch coordination *ex ante* are viewed favorably by Congress when its policy interests and electoral fortunes are shared with those of the

president. Interestingly, Congress's budgetary decisions reveal that this branch places a lower premium on executive branch coherence when its policy interests' conflict with those of the president. Finally, Congress's budgetary response to executive branch uncertainty in relative terms reflects its lower aversion to uncertainty surrounding executive branch coordination when its policy and electoral interests are divorced from those of the president.

Agency Leaders as 'Focal Points' of Executive Branch Coordination: An Application to U.S. Federal Budgeting

U.S. federal executive agency heads play a pivotal role in shaping how legislative authority is delegated in practice. Executive agency heads hold pivotal positions that reside at the intersection between the president, Congress, and their respective agencies. These individuals represent the specific bureaus and offices within their administrative organization to both OMB and legislative committees in terms of linking agency budget requests to administrative activities and operations (Christensen 2012: 2). Besides having both legal and fiduciary responsibility for budgetary and fiscal operations, Reorganization Plan No. 2 of 1970 requires executive agency heads to link them to management and performance functions (Congressional Research Service 2020: 14-15).

Both OMB Circular A-11 and the Government Performance and Results Act (GPRA) of 1993 outline the role and responsibilities of executive agency heads with respect to the budgetary process. OMB Circular A-11 outlines the specific set of budgetary roles, responsibilities, and operations of U.S. federal executive agencies in a given fiscal year cycle. It provides an annual detailed statement of the guidelines that executive agencies must follow that includes "*...an overview of applicable budgetary laws, policies for the preparation and submission of budgetary estimates, and information on financial management and budget data systems. ...and also provides agencies with directions for budget execution and guidance regarding agency*

interaction with Congress and the public” (Congressional Research Service 2020: 14). GPRA (PL 103-62) requires executive agency heads to submit strategic goals and programmatic plan to both OMB and Congress for each fiscal year (PL 103-62: § 306), while also both preparing and submitting regular program performance reports (PL 103-62: § 1116). Under GPRA, agency heads are charged with legal responsibility for setting, planning, and assessment of both agency goals and performance involving a range of tasks that include agency priority goal setting, coordination of personnel for accomplishing goals, and both the reporting and plans for addressing unmet agency goals to Congress (Brass 2012). Agency heads are responsible for linking the budgetary process to administrative policymaking (Christensen 2012).

U.S. federal executive agency heads clearly play a vital role in affecting how budgets are utilized within public agencies – a fact that Congress realizes when allocating its legislative budgetary authority to executive agencies. Congress makes legislative budgetary decisions that are in accordance with its own institutional policy interests. Because Congress has limited external influence over executive branch governance, its budgetary decisions will be informed *ex ante* by the prospects for executive branch coordination. That is, Congress’s budgetary authority will be affected not only by whether agency heads represent ‘good’ (i.e., reliably strong presidential loyalists) or ‘bad’ (i.e., reliably weak presidential loyalists) executive agent types, but also by unreliable executive agents who imply uncertain prospects for executive branch coordination.¹

¹ Reliably weak presidential loyalists may arise for various reasons ranging from a limited available talent pool (e.g., Dewan and Myatt 2010), prioritizing appointee criteria other than loyalty—such as policy-specific expertise (e.g., Waterman and Ouyang 2020)—or the need to

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Budgetary allocations represent the policy priorities of elected officials (e.g., Schick 2008; Wildavsky 1988). How Congress chooses to entrust budget authority to executive agencies is conditioned in part by the extent to which its policy interests align or conflict with the President. *Ceteris paribus*, Congress prefers to expand executive branch authority granted to the President when they experience shared policy interests, while preferring to contract authority when these branches exhibit conflicting policy interests (e.g., Epstein and O'Halloran 1999; Kiewiet and McCubbins 1991). Further, when both the legislative and executive branches share policy interests, the electoral fortunes of majority party legislators are tied to the president's standing with the American public (deBenedictis-Kessner and Warshaw 2020; Jones and McDermott 2004; Key 1966). Congress has clear incentives to facilitate executive branch coordination in times of unified partisan control while seeking to undermine executive branch coordination in times of divided government.

Executive authority is shared between the president and agencies responsible for both crafting and implementing policies (Krause 2009). Executive branch coordination affects governance in multiple ways, ranging from how unilateral executive action is exercised in practice (Rudalevige 2021) to how presidents benefit from delegating to insulated public agencies (Lowande 2018) to how coordination problems can be mitigated within administrative hierarchies (Jo and Rothenberg 2014). Congress makes its budgetary decision based on the prospects for executive branch coordination between the president and executive agencies that,

 make ideological concessions in appointment choices as a means to secure greater executive policymaking authority (e.g., McCarty 2004).

in turn, is predicated on the relationship between presidents and their appointed political executives. Hollibaugh and Krause (2022) argue that Congress benefits from strong executive branch coordination when its interests align with those of the president, while preferring weak executive branch coordination when they do not. Their statistical evidence comports with this logic as the Senate seeks to foster executive appointee reliability (i.e., consistency between policy and non-policy loyalty) when their policy interests are aligned with the president, and induce executive appointee unreliability (i.e., inconsistent policy and non-policy loyalty) in the presence of interbranch conflict.

Reliable executive agency heads offer unambiguous signals to Congress about the extent to which executive branch coordination will be effective (i.e., reliably strong presidential loyalists) or ineffective (i.e., reliably weak presidential loyalists). This is because reliable executive agency heads exhibit strong shared policy interests with the president that are reinforced by strong organizational (non-policy) fealty.² Because Congress can ascertain executive branch coordination, they infer whether expanding or contracting budget authority to the executive branch serves its own policy interests.³

When Congress and the president's policy and electoral interests are aligned, effective executive branch coordination is necessary for shared political goals to be converted into policy

² *Fealty* refers to non-ideological policy loyalty attributable to organizational activities or positions held prior to appointment to the current position (e.g., see Hollibaugh and Krause 2022; Krause and O'Connell 2016, 2019; Waterman and Ouyang 2020).

³ To clarify, "*reliably weak loyalist*" agency heads are those least loyal to the president.

action.⁴ Such coordination effectiveness relies upon the appointee reliability of an executive agency head in terms of serving as a response agent of the president. When Congress is aligned with the president, Congress is willing to expand executive authority when an agency head can be entrusted to serve as a strong presidential loyalist compared to when Congress is confident that an agency head is unlikely to foster effective executive branch coordination. This logic yields the first hypothesis predicting how Congress allocates its budget authority to U.S. executive agencies:

H1 [Reliable Agency Head–Partisan Alignment Hypothesis]: *Congress expands budget authority for executive agencies headed by reliably strong presidential loyalists vis-a-vis reliably weak presidential loyalists under unified partisan control.*

H1 predicts that Congress seeks to expand budget authority for those executive agencies led by reliably strong presidential loyalists vis-à-vis reliably weak counterparts.

Conversely, when its policy and electoral interests' conflict with the president compared to when they are aligned, Congress deems that prospects for executive branch coordination are high in the presence of a reliably strong presidential loyalist head, and hence, will prefer to afford the executive branch relatively less budget authority. The basis for this claim is that a cohesive executive branch standing in policy opposition to Congress is a more potent threat to

⁴ A potential counter argument to the thesis proposed here is that Congress and/or the president may instead prefer to *reduce* budget authority to *improve* executive branch coordination.

However, several studies of cutback budgeting in public administration reveal that such retrenchments often create severe administrative problems that undermine executive branch coordination (e.g., Levine 1978; Pandey 2010; Raudla, Savi, and Randma-Liiv 2015).

impose its policy goals on the legislative branch via executive administration, and hence, will provide the latter a greater incentive to check the former by restricting legislative budgetary authority to an agency led by a reliably strong presidential loyalist. Similarly, a lack of executive branch cohesiveness poses less of a threat to Congress when its policy interests are decoupled from those of the president. Under such conditions, Congress is willing to grant *relatively* greater budget authority compared to when it perceives a lack of executive branch coordination. This yields the second hypothesis:

H2 [Reliable Agency Head ‘Mean Reversion’ Hypothesis]: *Congress contracts (expands) budget authority for executive agencies headed by reliably strong (weak) presidential loyalists under divided partisan control vis-à-vis unified partisan control.*

H2 suggests that Congress is less (more) willing to grant budget authority to executive agencies led by reliably strong (weak) presidential loyalists when both policy and electoral goals between these political branches diverge compared to when they are aligned.

Unlike reliable executive agency heads, Congress receives confounding signals about the prospects for executive branch coordination when executive agency heads are *unreliably* loyal to the president. Unreliable executive agency heads are defined as those of middling loyalty to the president, or with discordant characteristics relating to presidential loyalty (strong shared policy interests and weak organizational ties, or vice versa). In principal-agent parlance, reliable agency heads offer a clear signal regarding an agent’s type – either being ‘good’ (reliably strong presidential loyalist) or ‘bad’ (reliably weak presidential loyalist), while unreliable counterparts provide ‘mixed’ signals that make it difficult to ascertain an agent’s type. Unreliable agency heads thus constitute a source of executive branch uncertainty. Unlike reliable executive agency heads who are hypothesized as shaping the *level* of budget authority Congress grants to the

executive branch, unreliable executive agency heads are posited to influence the *volatility* surrounding such authority. Congress's response to executive branch uncertainty differs with respect to budget authority volatility, dependent upon whether its policy and electoral goals are aligned or diverge from the president's.

Executive branch coordination uncertainty is less deleterious to Congress when its policy and electoral goals are decoupled from those of the president since the legislative branch does not incur costs from a lack of executive branch coordination. Under these conditions, Congress will be less averse to the downside risks associated with uncertain prospects for executive branch coordination from unreliable executive agency heads since it is less costly to Congress given that they neither share the president's policy goals nor are held accountable for the president's policy performance.⁵ This logic yields the final hypotheses predicting how legislative budget authority volatility is differentially affected by unreliable agency heads when interbranch policy interests are aligned or opposed:

H3 [Unreliable Agency Head Hypothesis]: *Congress exhibits lower budget authority volatility for executive agencies led by an unreliable appointee under divided partisan control vis-à-vis unified partisan control.*

H3 implies that Congress is relatively less averse to executive branch uncertainty when its policy and electoral goals are decoupled from the president's relative to when they overlap.

⁵ Although Congress is not absolved of full responsibility for governance, they are nonetheless unlikely to incur blame for separate problems related to executive branch governance. Persuasive evidence of legislative accountability under divided government are premised on evaluations of Congress's own branch performance, apart from the president's (Jones and McDermott 2010).

Data and Empirical Strategy

The testable hypotheses are empirically evaluated using data on 26 major executive departments and agencies with stand-alone chief executives covering fiscal years 1995 through 2009.⁶ Some agency-years were dropped due to unavailable data on the relevant agency heads' reliability, and the final dataset consists of an unbalanced panel with 266 usable agency-year observations.⁷ This sample is constrained due to data availability for both the primary dependent and independent variables employed to evaluate the proposed theory. Nonetheless, the sample constitutes a sufficient volume of agency-fiscal year observations to offer meaningful inferences.⁸

Discretionary budgetary data requests from the executive branch are collected, as are the associated Congressional appropriations, from the budget authorization tables provided in the

⁶ Agencies include all cabinet departments (though the Defense data only includes civil programs), the EPA, the GSA, NASA, the OMB, the SBA, the SSA, the Office of the United State Trade Representative, USAID, and United States Information Agency/Broadcasting Board of Governors.

⁷ The missing data is the direct result of a lack of campaign contributions being made by some executive agency heads that are not contained in the Bonica DIME database (2013, 2014).

⁸ This sample size is noticeably larger than a prior study of U.S. federal budgetary outcomes for U.S. executive agencies (cf. Bertelli and Grose 2011: 777, $N \times T = 146$) similar in empirical design insofar that each employ executive agency head measures not readily available for all agency-fiscal years.

Public Budget Database annual OMB documents for various years.⁹ The relevant executive agency heads in office at the time of final congressional (discretionary) budgetary formulations were identified by the authors.¹⁰

Dependent Variables

These budgetary data are utilized to create two different dependent variables that will enable us to examine the relationships between the reliability of agency heads and the budget discretionary authority allocated to their agencies by Congress. Each measure captures two distinct aspects of legislative budgetary authority – legislative branch willingness to grant resources to agencies in absolute terms, and also relative to the president’s executive request reflected by OMB estimates. The first of these is *Logged Legislative Budget Discretionary Authority*, hereafter referred to as *Logged LDBA*, defined as $\ln(|LDBA_{i,t}| + 1) * \text{sign } LDBA_{i,t}$,

⁹ The data from FY 2000 through FY 2010 Public Budget Database came from the GPO’s *Govinfo* website (<https://www.govinfo.gov/app/collection/budget>, Retrieved, August 2021), while the data from FY 1996 through FY 1999 came from a search conducted by a government reference librarian. The second author discovered that the FY 1996 & FY 1997 Budget Authorization Tables were missing from the *Govinfo* website, while the table posted for FY 1999 was incorrect. These data are the only reliable publicly available data of the OMB Budget Authorization Tables with line item accounts of OMB responses.

¹⁰ In cases where multiple agency heads were in office during a fiscal year, the dominant individual in the budget formulation process during a given fiscal year was identified, which is generally the individual holding office in the late spring and summer months of the budgetary process.

or simply the natural logarithm of one plus the absolute value of the inflation-adjusted legislative discretionary budgetary authority (in thousands of dollars) for agency i in year t , multiplied by the sign of the inflation-adjusted legislative discretionary budgetary authority for agency i in year t . The addition of a constant is done since a few agency-years correspond to zero discretionary authority, while the sign function is also employed since a small handful of agency-years have negative discretionary authority. However, for nearly all observations, this variable is simply equal to $\ln(|LDBA_{i,t}| + 1)$.¹¹

The second dependent variable—and one that captures the extent to which legislative discretionary budgetary authority deviates from what the executive branch is requesting for a given agency, is *Relative Legislative Budget Discretionary Authority (Weighted Average Percentage Change)*, hereafter referred to as *Relative LDBA Change*. This is defined as

$100 \times \left[\frac{LDBA_{i,t} - EDBA_{i,t}}{0.5(LDBA_{i,t}) + 0.5(EDBA_{i,t})} \right]$, or simply the difference between the LDBA and EDBA for agency i in year t , divided by the arithmetic mean of the two. This latter measure captures the extent that Congress's willingness to fund agencies either exceeds or falls below what the president is seeking on behalf of the executive agency.

Primary Covariates of Interest

The most theoretically-relevant independent variables tap into three different constructs—the partisan split between the president and Congress as well as the reliability and loyalty of agency heads. The former is simply measured by a binary variable called *Divided*

¹¹ In the Appendix, we estimate models where we omit those observations with negative LDBA. Results are substantively similar to those presented here.

Government, which equals zero if the presidency and both chambers of Congress are controlled by the same party, and one otherwise.

To capture reliability and loyalty of agency heads, three different independent variables are employed to characterize each agent type — *Reliably Strong Presidential Loyalist*, *Reliably Weak Presidential Loyalist*, and *Unreliable*. These are constructed by leveraging the *Fealty* scores described by Hollibaugh and Krause (2022), which purport to measure appointees’ non-ideological loyalty to their appointing president and party by leveraging biographical indicators widely available at the time of nomination.¹² These scores are analyzed in concert with the ideological distance—as measured by the absolute difference in *CFScores* (Bonica 2013, 2014, 2019; Bonica, Chen, and Johnson 2015)—between the agency head in question and the president that appointed them. With these two data points for each agency head, the following determinations are made for classification purposes among all agency heads:

- ***Reliably Strong Presidential Loyalist***: An agency head whose *Fealty* score is in the top tercile and the absolute ideological distance between their own *CFScore* and that of their appointing president is in the bottom tercile.

¹² The “regression-based” scores employed here are developed by Hollibaugh and Krause (2022). These scores are computed by regressing the loyalty scores generated by Krause and O’Connell (2016) on the non-ideological loyalty indicators identified by Krause and O’Connell (2019) and saving the fitted values. See Hollibaugh and Krause (2022) for details on the construction of *Fealty* scores.

- ***Reliably Weak Presidential Loyalist***: An agency head whose *Fealty* score is in the bottom tercile and the absolute ideological distance between their own *CFScore* and that of their appointing president is in the top tercile.
- ***Unreliable***: An agency head is unreliable if either condition holds:
 - Both their *Fealty* score and the absolute ideological distance between their own *CFScore* and that of their appointing president are in their respective top terciles, or
 - Both their *Fealty* score and the absolute ideological distance between their own *CFScore* and that of their appointing president are in their respective bottom terciles.

Reliable agency heads exhibit mutually reinforcing ideological and non-ideological sources of loyalty, and can therefore, be either reliably strong presidential loyalists (denoted as *lime-shaded* cells) or reliably weak presidential loyalists (denoted as *pink-shaded* cells). That is, reliability is not equated with subservience to the president, but rather, reliability refers to being able to discern an agent's type insofar that their mutually reinforcing sources of loyalty to the president should reduce Congress' risk in delegating authority to the executive branch.¹³

[Figure 1 about here]

¹³ That is, an executive agency head who is both ideologically aligned with their appointing president as well as a committed partisan should, *ceteris paribus*, be more likely to consistently support the president's policy initiatives than one who has a similar party history profile but ideological disagreements with the president, or shared ideology but no history of being a committed partisan.

Conversely, unreliable agency heads exhibit high degrees of one type of loyalty and low degrees of the other (denoted as *yellow-shaded* cells). In turn, these latter sets of cases make it harder for politicians to gauge these ‘mixed’ agent types compared to reliable executive agency heads, even if they are likely to support the president more often than reliably weak presidential loyalist types. The remaining agency heads—that is, those who exhibit moderate levels of one or both types of loyalty—are neither reliable nor unreliable, since their loyalty types are neither mutually reinforcing nor completely opposite to one another.

Additional Covariates

Several additional agency-level characteristics are accounted for as statistical controls that might potentially affect the levels of discretionary authority proffered to them by Congress in either absolute terms, or relative to the president’s budget request. To account for variation in the capabilities of agencies to act without strict oversight, two distinct measures of agency independence (Selin 2015) — *Agency Decision Maker Independence* and *Policy Independence* are included in model specifications. *Agency Decision Maker Independence* captures the extent to which political appointees’ terms of service are insulated from removal by presidents, while *Policy Independence* captures the extent that agency policy decisions are insulated from political influence (Selin 2015). Because higher levels of independence raise the potential costs of “bad” appointments, they increase the downside risks associated with discretionary budgetary authority to certain types of agency heads (Hollibaugh and Rothenberg 2018).

Based on the Clinton and Lewis (2008) expert-based estimates, *Agency Ideology* is measured as 0 (indicating an ideologically moderate agency) if the 95% Bayesian credibility

interval about the agency's score contains zero.¹⁴ For all other agencies, *Agency Ideology* is coded as -1 (ideologically liberal) if the maximum value of the 95% BCI is less than zero, and $+1$ (ideologically conservative) if the minimum value of the 95% BCI is greater than zero. This variable is subsequently multiplied by -1 for Democratic presidents; this intermediate variable—*President-Agency Convergence*—equals 1 if the President is a Democrat (Republican) and the agency is liberal (conservative), -1 if the President is a Republican (Democrat) and the agency is liberal (conservative), and 0 if the agency is moderate. Two binary variables are subsequently generated from this variable: *Presidentially-Aligned Agency* equals 1 if *President-Agency Convergence* equals 1 (and zero otherwise), and *Presidentially-Opposed Agency* equals 1 if *President-Agency Convergence* equals -1 (and zero otherwise). These latter two variables are included in both the mean and variance equations, and are also interacted with *Divided Government*.

It is also worth considering whether salient agencies benefit more legislative budget authority more than less salient counterparts. Agency policy salience is measured as *Priority Agency*, which equals 1 if the State of the Union address (or President Bush's February 27, 2001 address to the joint session of the 107th Congress, since he did not give a State of the Union address during his first year) mentioned policy issues directly relevant to the agency and zero

¹⁴ The Richardson, Clinton, and Lewis (2018) agency ideology scores are inappropriate here since these are based on agency employee surveys outside the temporal frame of the current analysis.

otherwise.¹⁵ Finally, a binary indicator (*Clinton Administration*) captures administration-specific dynamics in some models, which equals 1 if the budget for the agency in question was formulated in the years 1994 to 2000, and zero otherwise.¹⁶

Methods

Because **H1** and **H2** are evaluated for both absolute and relative levels of budgetary discretionary authority, while **H3** pertains to the estimated volatility of this random variable, standard regression models that only estimate the conditional mean are inappropriate. Harvey's (1976) multiplicative heteroskedastic linear regression model is employed since it allows for simultaneous estimation of the relationship of specified covariates to both the conditional mean and conditional variance. Therefore, both **H1** and **H2** are evaluated from the conditional mean equation, while **H3** is evaluated using the conditional variance equation. Therefore, both *Reliably Strong Presidential Loyalist* and *Reliably Weak Presidential Loyalist* agency heads (along with interaction terms with *Divided Government*) are specified in the conditional mean equation, while *Unreliable* agency heads (along with an interaction term with *Divided Government*) is specified in the conditional variance equation.

Statistical Findings

The regression estimates evaluating how the nature of executive branch coordination affects Congress's efforts at distributing budget authority across federal executive agencies appear in **Tables 1** and **2**, with the former including the agency-level covariates and the latter

¹⁵ Each address is connected to the budget for the following fiscal year. For example, President Clinton's 1998 State of the Union Address is connected to the FY1999 budget.

¹⁶ This is coded as 1 if the budget is for fiscal years 1995 through 2001, and zero otherwise.

eschewing them in favor of time-invariant agency-level unit effects. The statistical models are arrayed by dependent variables: *Logged LDBA* (**Models 1 & 2** in **Table 1** and **Models 5 & 6** in **Table 2**) and *Relative LDBA Change* (**Models 3 & 4** in **Table 1** and **Models 7 & 8** in **Table 2**). Models both omit (**Models 1, 3, 5, and 7**) and include (**Models 2, 4, 6, and 8**) a binary time unit effect for the Clinton administration. The top portions list the estimates corresponding to the conditional mean equation, followed by the conditional variance estimates. The quantities of interest germane to the primary hypotheses are also included in **Tables 1** and **2**, as are the likelihood ratio test statistics for the presence of heteroskedasticity (significant in all cases, suggesting our presumption of such was correct). The standard errors for each estimated equation are clustered by agency.

[Tables 1 and 2 about here]

Inspection of the results in **Tables 1** and **2** provides broad support for the *Reliable Agency Head–Partisan Alignment Hypothesis (H1)*. The null hypothesis—that the differences in effects for *Reliably Strong Loyalist Agency Head* (β_1) and *Reliably Weak Loyalist Agency Head* (β_3) under unified government are equal—is rejected for **Models 3** through **7**; however, the evidence fails to reject the null hypothesis in **Models 1, 2, and 8**, largely due to negative *Reliably Weak Loyalist Agency Head* coefficients estimated with high imprecision. The observed differences between reliably strong and weak loyalist executive agency heads range between average relative increases vis-à-vis the executive budget request of 2.91% (**Model 7**) to 64.76% (**Model 4**), and the observed statistically significant differences between reliably strong and weak loyalist agency heads range between an average 56.40% (**Model 2**) and 63.13% (**Model 1**) absolute increase in an executive agency’s discretionary budget authority. Overall, the totality of

the evidence indicates strong support for the *Reliable Agency Head–Partisan Alignment Hypothesis*.

Focusing on the individual components – that is, examining reliably strong and weak presidential loyalist agency heads in isolation as opposed to comparing them against one another – provides some understanding of the specific mechanisms that might be driving empirical evidence consistent with the *Reliable Agency Head–Partisan Alignment Hypothesis*. To wit, examination of the individual coefficients in **Models 1** and **5** reveals that reliably strong presidential loyalist agency heads during times of unified partisan government are consistently afforded greater *absolute* budget authority from Congress compared to executive agencies headed by unreliable agency heads, though the evidence is scant when analyzing the estimates corresponding to *relative* legislative discretionary budget authority (**Models 3, 4, 7, and 8**). In relation to unreliable agency heads, reliably strong presidential loyalist counterparts are proffered between 9.79% and 55.71% higher discretionary budgetary authority in absolute terms based on the estimates from **Models 5** and **1**, respectively.¹⁷

Asymmetric evidence is observed with respect to the *Reliable Agency Head–Mean Reversion Hypothesis (H2)*. Consistent evidence of mean-reversion ‘offsetting’ ($\beta_4 > 0$) for reliably weak presidential loyalist agency heads is observed across estimated models (except for **Model 6**). Additionally, the total effects during times of divided partisan control ($\beta_1 + \beta_2$; $\beta_3 + \beta_4$) are distinct from zero compared to the unified partisan control eras (β_1 ; β_2) in **Models 1, 2, 5, and 7** (though only for reliably weak presidential loyalist types in **Model 1** and reliably strong

¹⁷ Since **Models 1, 2, and 5** appear in log-linear form, this is computed as: $\% \Delta y = (\exp^\beta - 1) * 100$.

presidential loyalists in **Model 5**). Although these results offer asymmetric evidence for the *Reliable Agency Head–Mean Reversion Hypothesis (H2)* with respect to the contraction and expansion of legislative budget authority, they offer a novel insight for understanding how Congress’s budgetary calculus differs when this institution’s policy interests become decoupled from the president compared to when they overlap. The evidence analyzing the *relative change* in *absolute* legislative budget authority (**Models 1, 2, 5, and 6**) indicate a substantial improvement of an average increases of between 119.39% in **Model 5** ($\beta_4 = 0.786$) to 1844.70% in **Model 1** ($\beta_4 = 2.968$) in *absolute* terms of budgetary outcomes for those executive agencies led by a reliably weak presidential loyalists when political branch policy interests are decoupled compared to when they are aligned. Consistent evidence is provided that budgetary authority ‘mean-reversion’ is asymmetric insofar that executive agencies led by reliably weak presidential loyalists experience comparatively stronger budgetary expansion under divided party government than they do under unified party government, while executive agencies headed by reliably strong presidential loyalists exhibit budgetary contractions predicted by **H2** in **Models 1 and 2**. Uncertainty regarding executive branch coordination emanating from unreliable executive agency heads induces greater relative legislative funding volatility when Congress’s policy interests are aligned with the president compared to otherwise ($\delta_2 < 0$), providing support for the *Unreliable Agency Head Hypothesis (H3)* in only **Models 3, 4, and 7**.

[Figure 2 about here]

Figure 2 presents the **Model 1** average marginal effect estimates of agency head type (relative to a baseline agency head type who is neither a reliably strong nor reliably weak presidential loyalist) on legislative discretionary budgetary authority expressed in terms of non-

logged billions of constant (2012) dollars,¹⁸ conditional on the partisan control of government.¹⁹ This evidence underscores the relative asymmetry of the results. In times of unified party government, an executive agency with a reliably strong presidential loyalist head can expect to receive about \$2.05 billion more in discretionary budgetary authority, relative to an executive agency led by a less reliable head; there is no effect for reliably weak presidential loyalist heads under similar partisan regimes. Conversely, in times of divided government, no statistically significant effect is uncovered for reliably strong presidential loyalist heads, but agencies led by reliably weak presidential loyalist heads receive, on average, nearly \$14.41 billion more in discretionary budgetary authority. The bottom row of **Figure 2** underscores this distinction between unified and divided government; under divided government, substantial differences exist between the budgetary authority given to strong versus weak loyalists (to the tune of an average of about \$15.26 billion less given to agencies headed by reliably strong loyalists), but no such distinction occurs under unified government. **Figure 3** presents comparable results—based on **Model 3**—with respect to our relative LDBA measure. Again, substantial differences exist between unified and divided government regimes, with agencies headed by weak loyalists faring particularly poorly under unified government. Overall, although the specific estimates vary

¹⁸ These 2012 constant dollars are both seasonally-adjusted, annualized based on U.S. federal nondefense implicit price deflator for government consumption expenditures and gross investment via the St. Louis Federal Reserve Bank FRED database (series: *A825RD3Q086SBEA*).

¹⁹ These plots include corresponding 90% (vertical dashes) and 95% (thin line) confidence intervals.

across models, the broader patterns illustrated in **Figures 2** and **3** are consistent with the proposed theory, while revealing numerically meaningful effects.

[Figure 3 about here]

In addition, a host of sensitivity analyses are performed to evaluate the robustness of the reported evidence based on alternative model specifications, variable measures, and estimation procedures (see **Appendix Tables** contained at the end of this document). These alternative analyses of the data include employing an arcsine transformation of relative budgetary authority as an alternative dependent variable (**Table A-1**),²⁰ omitting the variance components, and thus restricting estimation to the (conditional) mean equations (**Tables A-2** and **A-3**) adopting a quartile-based measure instead of a tercile-based measure to calculate reliability and unreliability, focusing on whether fealty and ideological divergence lie in the top/bottom quartiles versus the top/bottom terciles (**Tables A-4** and **A-5**), using a quintile-based measure instead of tercile- or quartile-based measure (**Tables A-6** and **A-7**), omitting agencies with fewer than eight agency-year observations (**Tables A-8** and **A-9**), and accounting for lagged logged

²⁰ This alternative dependent variable is defined as $asinh \left(\sqrt{|LDBA_{i,t} - EDBA_{i,t}|} \times \text{sign} [LDBA_{i,t} - EDBA_{i,t}] \right)$, or the square root of the absolute value of the difference between the inflation-adjusted LDBA for agency i in year t , multiplied by the sign of the difference (in order to capture years where the difference is negative, with a hyperbolic arcsine function applied at the end to decrease the weight of observations with disproportionately high absolute differences.

legislative discretionary budget authority as a way of accounting for a “baseline” budget level (Tables A-10 and A-11).²¹

Although some variance arises among these sensitivity analyses in relation to the reported results, nonetheless, consistent support is obtained for the *Reliable Appointee– Partisan Alignment Hypothesis (H1)*,²² and decidedly mixed evidence— consistent with the findings

²¹ Using the default tercile rule employed in the main text, 67 (33 unified party government, 34 divided party government) agency-year observations correspond to agency heads who are reliably strong presidential loyalists, 20 (5 unified, 15 divided) reliably weak presidential loyalists, 82 (30 unified, 52 divided) unreliable, and the remaining 97 (34 unified, 63 divided) are associated with agency heads who are moderately reliable on either the fealty or ideological loyalty dimensions. Using the quartile rule, 46 (20 unified, 26 divided) are associated with reliably strong presidential loyalists, 19 (4 unified, 15 divided) reliably weak presidential loyalists, 40 (16 unified, 24 divided) unreliable, and the remaining 161 (62 unified, 99 divided) are associated with agency heads who are moderately reliable on at least one dimension. Finally, using the quintile rule, 40 (16 unified, 24 divided) are associated with reliably strong presidential loyalists, 12 (2 unified, 10 divided) reliably weak presidential loyalists, 22 (8 unified, 14 divided) unreliable, and the remaining 192 (78 unified, 116 divided) are associated with moderately reliable agency heads on at least one dimension.

²² Specifically, Tables A-1, A-2, A-3, A-5, and A-8 through A-11 generally provide consistent support for Hypothesis 1, contingent upon the dependent variable being analyzed (*absolute* legislative discretionary budget authority versus *relative* legislative discretionary budget authority). Tables A-4, A-6, and A-7 provide some results that are statistically significant and in

reported in the manuscript—is obtained in support of the *Reliable Appointee–Mean Reversion Hypothesis (H2)*. Additionally, it is worth pointing out that the underlying mechanisms producing the *Reliable Appointee–Mean Reversion Hypothesis (H2)* uncover a consistent asymmetry between the mean-reversion effects of reliable executive agency heads when policy interests are decoupled versus being aligned as reported here, with reliably weak presidential loyalist agency heads faring comparatively better than reliably strong presidential loyalist counterparts during eras of unified party government. Consistent with these reported results, limited support is obtained for the *Unreliable Agency Head Hypothesis (H3)*.²³

the opposite direction of those predicted by **Hypothesis 1**, but the log-likelihoods for those models are lower (and BIC statistics higher) than the comparable models presented here with the same dependent variables, suggesting inferior model fit. Additionally, **Tables A-8** and **A-10** provide test statistics in some models suggesting the opposite of **Hypothesis 1**, but those statistics fail to attain statistical significance at conventional levels in every instance.

²³ Importantly, the divergent results from the classifications using the quartile and quintile groupings might be an artifact of sharply winnowing down the bin of observations classified as being reliably strong presidential loyalist, reliably weak presidential loyalist, and unreliable, while also sharply expanding the frequency of the ‘baseline’ cases of executive agency heads who happen to be moderately reliable on at least one dimension. Unsurprisingly, these estimates tend to be less precise than those reported here based on the tercile classifications, as well as yielding substantially poorer model fits to these data—based on the BIC statistics—in all instances.

Discussion and Conclusion

This study seeks to understand how Congress allocates budget authority across the executive branch based on the prospects for executive branch coordination. A logic has been proposed that explains how the perceived (un)reliability of executive branch agency heads affects Congress's willingness to grant legislative budget authority to executive agencies. This logic presumes that Congress delegates budget authority based on the prospects for executive branch coordination by discriminating between types of bureaucratic agents' *ex ante* consistent with selection-oriented theories of political accountability (e.g., Fearon 1999; Mansbridge 2009). This theory is evaluated using data on legislative budgetary discretionary authority from fiscal years 1995 through 2009, as well as information on the perceived reliability of the associated executive agency head. These findings offer some promising evidence consistent with the broader theory and offer insight into how Congress delegates its budgetary authority to the executive branch.

Empirical support is obtained for the notion that, in periods of unified government, Congress *does* strategically allocate budget authority, expanding it when prospects for coordination are high and executive agencies are headed by reliably strong presidential loyalist appointees, and restricting it for those agencies led by reliably weak presidential loyalists. The evidence with respect to budgetary mean-reversion behavior under divided government is decidedly mixed, with the evidence generally stronger when assessing the total effects under divided government compared to the partial differential effects captured by the interaction terms. The statistical evidence also produces some limited empirical results consistent with the notion that Congress responds to perceived *uncertainty* resulting from the distinction between unreliable versus reliable executive agency heads involving the *volatility* of legislative budget authority. In

times of unified government, executive branch uncertainty is seen as hampering Congressional shared policy goals with the president. Yet, Congress experiences two incentives that act at cross-purposes with one another to increase the volatility of legislative budget authority. Budget authority volatility increases in absolute terms, since Congress has incentives to not only allocate high amounts of budget authority, but also to mitigate such authority given the lack of clear signals of an appointee's reliability. Conversely, the evidence reveals that Congress is less averse to the downside risks from weak executive branch coordination during periods of divided party government. This makes sense since Congress's policy fortunes are not directly linked to the president; as such, budget authority volatility tends to decrease in times of divided government when considering how much legislative budget authority is granted vis-a-vis executive requests.

Taken together, these collective set of empirical findings relating to executive appointee reliability during the lawmaking process provides a novel approach for analyzing separation of powers problems. This study demonstrates that Congress strategically alters its delegated budgetary authority based on the perceived reliability of executive agency heads as well as the uncertainty thereof. Although this study only scratches the surface when it comes to the downstream consequences of executive appointments, it nonetheless offers a novel avenue for analyzing how the separation of powers may affect administrative governance through the mechanism of executive branch coordination.

Figures

Figure 1: Typology of Appointee Types

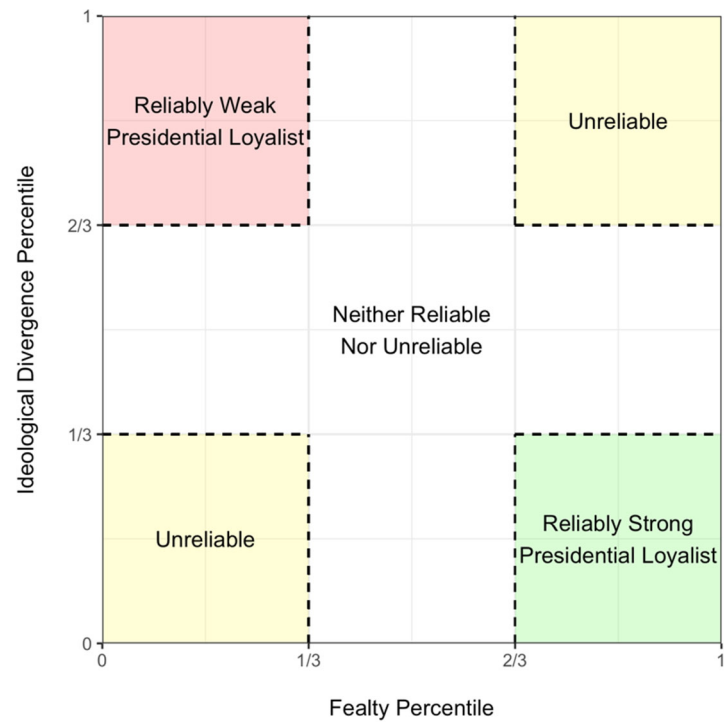


Figure 2: Average Marginal Effects of Agency Head Types on LDBA

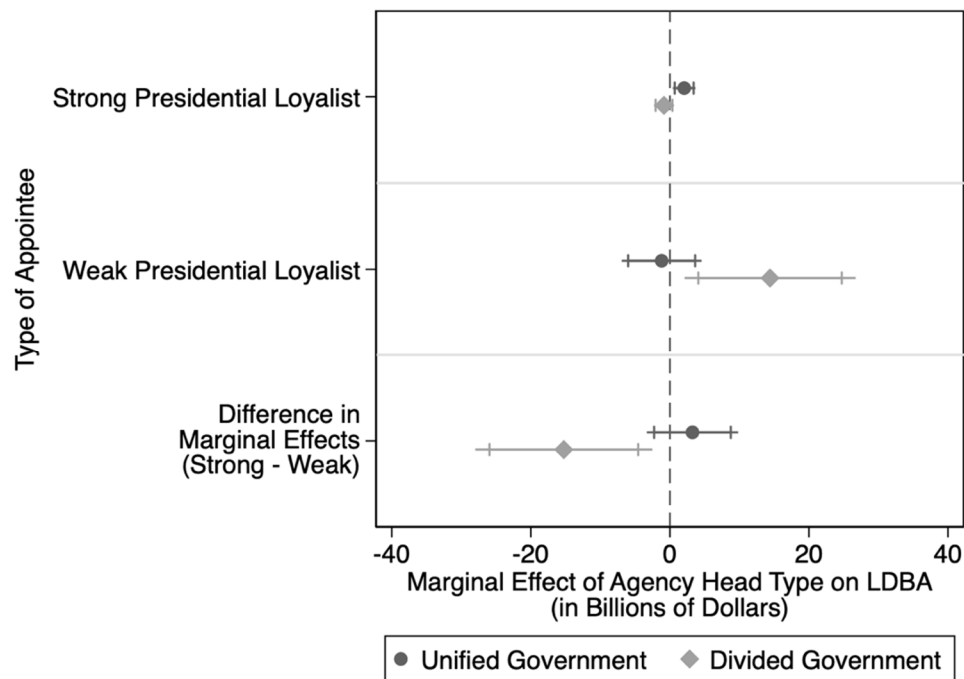
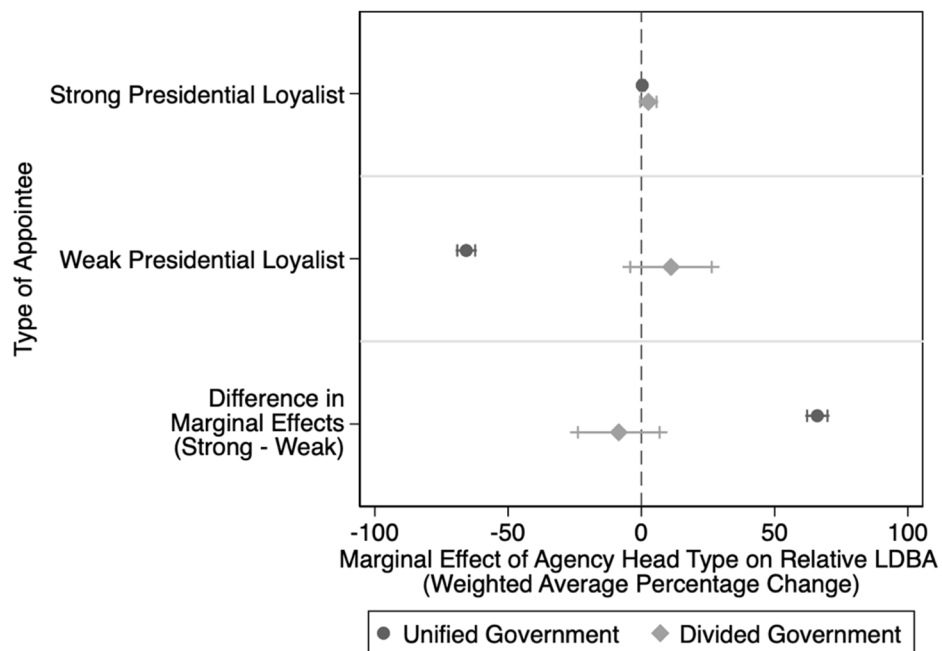


Figure 3: Average Marginal Effects of Agency Head Types on Relative LDBA



Tables

Table 1: Heteroskedastic Models of Budget Discretionary Authority

| | Logged Legislative Budget Discretionary Authority | | Relative Legislative Budget Discretionary Authority (Weighted Average Percentage Change) | |
|--|---|----------------------|--|-----------------------|
| | <u>Model 1</u> | <u>Model 2</u> | <u>Model 3</u> | <u>Model 4</u> |
| Mean Equation | | | | |
| Divided Government | 0.125 (0.189) | 0.246 (0.196) | -7.407 (24.278) | -18.098 (24.699) |
| Reliably Strong Presidential Loyalist (+) β_1 | 0.443* (0.232) | 0.387 (0.247) | 0.308 (0.623) | 0.739 (0.753) |
| Divided Gov't \times Reliably Strong Presidential Loyalist (-) β_2 | -0.603** (0.256) | -0.665** (0.268) | 2.334 (2.128) | 0.559 (2.161) |
| Reliably Weak Presidential Loyalist (-) β_3 | -0.256 (0.630) | -0.187 (0.502) | -65.706*** (2.037) | -64.022*** (2.167) |
| Divided Gov't \times Reliably Weak Presidential Loyalist (+) β_4 | 2.968*** (1.024) | 2.951*** (1.024) | 76.823*** (8.055) | 71.949*** (10.013) |
| Agency Decision Maker Independence | -3.803*** (0.967) | -3.844*** (0.947) | 0.425 (2.032) | 1.883 (4.212) |
| Policy Independence | 0.491* (0.266) | 0.485* (0.249) | 3.032*** (1.016) | 2.694** (1.098) |
| Presidentially-Aligned Agency | -0.524 (0.487) | -0.530 (0.537) | -5.279 (23.811) | -16.266 (23.911) |
| Divided Gov't \times Presidentialy Aligned Agency | 0.272 (0.286) | 0.288 (0.275) | 3.228 (24.106) | 16.750 (25.515) |
| Presidentially-Opposed Agency | 0.195 (0.414) | 0.181 (0.410) | -8.769 (23.964) | -19.411 (23.397) |
| Divided Gov't \times Presidentialy Opposed Agency | -0.318 (0.241) | -0.325 (0.262) | 5.793 (24.175) | 17.920 (25.177) |
| Priority Agency | 0.306 (0.189) | 0.268 (0.211) | -0.841 (1.622) | -0.998 (1.067) |
| Clinton Administration | | -0.220 (0.158) | | -2.514*** (0.909) |
| Constant | 14.879*** (0.433) | 14.959*** (0.416) | 8.122 (24.594) | 19.691 (24.062) |
| Variance Equation | | | | |
| Divided Government | 0.513 (0.587) | 0.730 (0.654) | -2.743** (1.112) | -3.286*** (1.135) |
| Unreliable (+) δ_1 | 0.405 (0.821) | 0.540 (0.749) | 3.693*** (1.200) | 3.214*** (1.142) |
| Divided Gov't \times Unreliable (-) δ_2 | 0.942 (0.780) | 0.958 (0.843) | -4.569*** (1.037) | -4.137*** (1.009) |
| Agency Decision Maker Independence | 2.837*** (0.651) | 3.052*** (0.817) | 3.634** (1.514) | 4.123** (1.774) |
| Policy Independence | -2.046*** (0.504) | -2.050*** (0.526) | -0.999* (0.560) | -0.810 (0.634) |
| Presidentially-Aligned Agency | 0.463 (1.232) | 0.533 (1.383) | -4.532* (2.317) | -4.831** (2.187) |
| Divided Gov't \times Presidentialy Aligned Agency | -1.877** (0.735) | -1.979** (0.923) | 3.121*** (1.136) | 3.293*** (1.176) |
| Presidentially-Opposed Agency | -0.036 | -0.090 | -9.167*** | -9.701*** |

| | | | | |
|---|---------|---------|-----------|-----------|
| | (0.985) | (1.124) | (1.664) | (1.635) |
| Divided Gov't × Presidentially Opposed Agency | -0.685 | -0.916 | 7.106*** | 7.400*** |
| | (1.038) | (1.144) | (1.186) | (1.138) |
| Priority Agency | 0.584 | 0.697 | -0.952 | -0.496 |
| | (1.015) | (1.206) | (1.545) | (1.566) |
| Clinton Administration | | -0.316 | | 0.642 |
| | | (0.527) | | (0.647) |
| Constant | 0.705** | 0.665* | 11.855*** | 11.811*** |
| | (0.335) | (0.349) | (0.871) | (0.894) |

Hypothesis Tests

| | | | | |
|-----------------------------------|------------|------------|------------------|------------------|
| H1: ME(RSPL UG) – ME(RWPL UG) > 0 | 0.699 | 0.574 | 66.104*** | 64.761*** |
| | (0.743) | (0.631) | (2.325) | (2.768) |
| Number of Observations | 264 | 264 | 264 | 264 |
| Log-Likelihood | -393.734 | -390.219 | -1215.248 | -1208.915 |
| Bayesian Information Criterion | 910.138 | 903.108 | 2558.743 | 2540.500 |
| Variance Equation LR Test | 120.326*** | 152.581*** | 376.506*** | 353.001*** |

Note: Multiplicative heteroskedastic linear regression model estimates. Variances modeled as exponential functions of the specified covariates using maximum likelihood. Variance terms presented on log-sigma scale. Two-tailed tests presented. In the Hypotheses Tests section, **black bolded** entries indicate those that are statistically significant at least the 90% level and in line with the indicated hypothesis, and **red** entries are those with signs contrary to expectations. Robust standard errors clustered on agency appear inside parentheses: * p < 0.1, ** p < 0.05, *** p < 0.01

Table 2: Heteroskedastic Models of Budget Discretionary Authority
(Agency Fixed Effects in Lieu of Agency-Specific Covariates)

| | Logged Legislative Budget Discretionary Authority | | Relative Legislative Budget Discretionary Authority (Weighted Average Percentage Change) | |
|--|---|---------------------------------|--|----------------------|
| | <u>Model 5</u> | <u>Model 6</u> | <u>Model 7</u> | <u>Model 8</u> |
| Mean Equation | | | | |
| Divided Government | -0.021 (0.034) | 0.012 (0.050) | 1.935*** (0.649) | 1.677* (0.958) |
| Reliably Strong Presidential Loyalist (+) β_1 | 0.093*** (0.022) | 0.062 (0.041) | -0.091 (1.155) | -0.731 (1.977) |
| Divided Gov't \times Reliably Strong Presidential Loyalist (-) β_2 | -0.003 (0.034) | -0.026* (0.014) | -0.967 (1.138) | -0.049 (2.756) |
| Reliably Weak Presidential Loyalist (-) β_3 | -0.763*** (0.032) | 0.144*** (0.051) | -3.001*** (0.296) | -2.683*** (0.778) |
| Divided Gov't \times Reliably Weak Presidential Loyalist (+) β_4 | 0.786*** (0.043) | -0.121*** (0.046) | 0.887 (0.671) | 1.162 (0.938) |
| Clinton Administration | | -0.056 (0.064) | | -0.395 (1.052) |
| Constant | 17.018*** (0.022) | 17.054*** (0.031) | 1.620** (0.726) | 1.746 (1.519) |
| Variance Equation | | | | |
| Divided Government | 1.194 (1.081) | 0.942 (1.288) | -0.145 (0.580) | -0.036 (0.539) |
| Unreliable (+) δ_1 | 1.781 (1.101) | 2.131 (1.614) | 0.411 (0.969) | 0.280 (1.061) |
| Divided Gov't \times Unreliable (-) δ_2 | -1.099 (1.202) | -1.296 (1.833) | -2.756* (1.642) | -2.759 (1.748) |
| Clinton Administration | | 3.006*** (1.068) | | -0.495 (0.439) |
| Constant | -6.899*** (0.776) | -7.626*** (0.391) | 5.164*** (0.863) | 5.251*** (0.921) |
| Hypothesis Tests | | | | |
| H1: ME(RSPL UG) – ME(RWPL UG) > 0 | 0.856*** (0.018) | -0.082 (0.054) | 2.911*** (0.966) | 1.952 (2.626) |
| Number of Observations | 266 | 266 | 266 | 266 |
| Log-Likelihood | 19.172 | 75.863 | -960.408 | -958.480 |
| Bayesian Information Criterion | 6.325 | -95.892 | 1965.483 | 1972.795 |
| Variance Equation LR Test | 7.407e+06*** | 46052.827*** | 5.108e+08*** | 5.990e+08*** |

Note: Multiplicative heteroskedastic linear regression model estimates. Variances modeled as exponential functions of the specified covariates using maximum likelihood. Variance terms presented on log-sigma scale. Agency-level fixed effects included in the mean and variance equations. Two-tailed tests presented. In the Hypotheses Tests section, **black bolded** entries indicate those that are statistically significant at least the 90% level and in line with the indicated hypothesis, and **red** entries are those with signs contrary to expectations. Robust standard errors clustered on agency in parentheses: * p < 0.1, ** p < 0.05, *** p < 0.01

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Supplementary Online Appendix for

“Legislative Responses to Shared Executive Authority: How the Prospects for Executive Branch Coordination Affects Congressional Budgetary Authority under Separated Powers”

(Not intended for print publication)

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| Heteroskedastic Models Omitting Observations with Negative <i>LDBA</i> | 21 |

This *supplementary online appendix* contains additional statistical analyses and sensitivity checks not reported in the manuscript submitted for publication consideration to *Presidential Studies Quarterly*. **Table A-1** replaces the dependent variable in **Tables 1** and **2** with an arcsine transformation, defined as $asinh \left(\sqrt{|LDBA_{i,t} - EDDBA_{i,t}|} \times sign [LDBA_{i,t} - EDDBA_{i,t}] \right)$, or the square root of the absolute value of the difference between the inflation-adjusted LDBA for agency i in year t , multiplied by the sign of the difference (in order to capture years where the difference is negative), with a hyperbolic arcsine function applied at the end to decrease the weight of observations with disproportionately high absolute differences. Both the estimates and inferences from models with this dependent variable are generally comparable to those from those using *Relative Legislative Discretionary Budget Authority* as the dependent variable (**Tables 1** and **2**, **Models 3-4** and **7-8** in the manuscript). **Tables A-2** and **A-3** replicate **Tables 1** and **2** from the manuscript, but eschew the variance portion of the model, and instead estimate the mean equation using an OLS model. The findings for the *Relative Legislative Discretionary Budget Authority* models (**Tables A-2** and **A-3**, **Models A-7**, **A-8**, **A-11**, and **A-12**) are consistent with those in the manuscript (albeit slightly weaker in terms of significance), whereas those for those with *Logged LDBA* fail to reach significance in all but one case (and marginal significance at that).

Tables A-4 and **A-5** replicate **Tables 1** and **2** in the manuscript, but instead use a quartile-based decision rule to classify agent reliability instead of a tercile-based one, and **Tables A-6** and **A-7** do the same, but with a quintile-based decision rule. The findings from these models are somewhat more inconsistent than those reported in the manuscript. Those based on the quartile-based classification scheme often display the incorrect signs—this is especially true in **Table A-4**, which uses covariates instead of agency fixed effects; in this model, no significant coefficient displays the expected sign, though **Model A-17** in **Table A-5** displays incorrect signs on the significant β_3 and β_4 coefficients—(though **Models A-18**, **A-19**, and **A-20** in **Table A-5** generally conform to directional expectations when significance is achieved—and significance is somewhat spottier. The statistical findings presented in **Tables A-6** and **A-7** display similar trends in terms of spottier significance and incorrect signs when

significance is achieved. However, these dynamics might simply be statistical artifacts due to the reduced amount of variation in the *Strong Presidential Loyalist*, *Weak Presidential Loyalist*, and *Unreliable Agency Head* cells relative to those in the manuscript, which use the tercile-based classification rule (since the quartile- and quantile-based rules limit these classifications to those who score above [below] the 75th [25th] and 80th [20th] percentiles, respectively, whereas the tercile-based rule uses the bottom third and top third of the empirical distributions as the classification cutoffs). Therefore, while some of these statistical results are potentially concerning at first glance, it is likely that their divergence from those statistical results reported in the manuscript can be attributed to a lack of statistical variation induced by the more stringent classification rules. In any event, these models yield substantially poorer model fits to these data—based on the BIC statistics—in all instances when compared to the models presented in the manuscript.

Tables A-8 and **A-9** present models where agencies with fewer than eight observations are omitted. Both the statistical estimates and inferences are generally consistent with those in the manuscript in terms of sign and significance (note that the **H1** test statistics in **Models A-29** and **A-30** are in the incorrect direction, though neither achieves statistical significance).

Tables A-10 and **A-11** include *Lagged LDBA* as an additional independent variable. The statistical findings appearing in **Table A-10** (those models that use agency-level covariates instead of fixed effects) are consistent with those in the manuscript in terms of sign and significance, and in some cases (especially when comparing **Models A-37** and **A-38** to **Models 1** and **2** in **Table 1**) are more in line with our theoretical expectations. Conversely, the statistical findings appearing in **Table A-11** are somewhat weaker than those presented in the manuscript (especially when comparing **Models A-41** and **A-42** to **Models 1** and **2** in **Table 1**), though significant estimates are still in the theoretically expected direction.

Tables A-12 and **A-13** replicate the models reported in the manuscript, except omits a single observation with a negative-valued *LDBA*. Unsurprisingly, the statistical estimates are substantively similar to findings reported in the manuscript. Overall, the findings displayed in this *supplementary*

online appendix provide evidence that the results presented in the manuscript are robust to different empirical and estimation strategies, subject to the aforementioned caveats.

Appendix: Alternative Models and Specification Checks

**Table A-1: Heteroskedastic Models of Discretionary Budget Authority
(Arcsine-Transformed Relative LDBA Measure Replaces Reported Measure)**

| | Relative Legislative Discretionary Budget Authority (Arcsine Transform) | | | |
|--|---|-----------------------|-----------------------|-----------------------|
| | <u>Model A-1</u> | <u>Model A-2</u> | <u>Model A-3</u> | <u>Model A-4</u> |
| Mean Equation | | | | |
| Divided Government | -1.040 (0.743) | -0.194 (0.741) | 0.078 (0.338) | 0.214 (0.396) |
| Reliably Strong Presidential Loyalist (+) β_1 | -0.315 (1.403) | -0.524 (1.395) | 0.572 (1.238) | 0.106 (1.538) |
| Divided Gov't \times Reliably Strong Presidential Loyalist (-) β_2 | 0.678 (2.005) | 0.536 (1.957) | -0.846 (1.963) | -0.563 (2.077) |
| Reliably Weak Presidential Loyalist (-) β_3 | -11.627*** (1.114) | -10.138*** (1.296) | -10.698*** (0.888) | -10.341*** (1.065) |
| Divided Gov't \times Reliably Weak Presidential Loyalist (+) β_4 | 11.146*** (1.365) | 10.221*** (1.486) | 9.348*** (1.021) | 9.292*** (0.994) |
| Agency Decision Maker Independence | -0.681 (1.861) | -0.645 (1.859) | – | – |
| Policy Independence | 1.096** (0.478) | 1.139** (0.474) | – | – |
| Presidentially-Aligned Agency | -0.161 (1.644) | -0.171 (1.623) | – | – |
| Divided Gov't \times Presidentialy Aligned Agency | -0.042 (1.279) | -0.183 (1.297) | – | – |
| Presidentially-Opposed Agency | -0.413 (1.308) | -0.297 (1.342) | – | – |
| Divided Gov't \times Presidentialy Opposed Agency | -0.599 (1.547) | -0.396 (1.519) | – | – |
| Priority Agency | -0.202 (1.017) | -0.021 (1.018) | – | – |
| Clinton Administration | – | -1.655 (1.024) | – | -0.600 (0.657) |
| Constant | 3.318*** (0.692) | 3.405*** (0.693) | 4.565*** (0.373) | 4.687*** (0.566) |
| Variance Equation | | | | |
| Divided Government | 0.152 (0.179) | 0.259 (0.192) | 0.625 (0.446) | 0.652 (0.455) |
| Unreliable Agency Head (+) δ_1 | 0.490 (0.443) | 0.367 (0.496) | 0.550 (0.734) | 0.436 (0.827) |
| Divided Gov't \times Unreliable Agency Head (-) δ_2 | -0.246 (0.424) | -0.087 (0.485) | -0.742 (0.586) | -0.686 (0.674) |
| Agency Decision Maker Independence | -0.769** (0.356) | -0.722** (0.328) | – | – |
| Policy Independence | 0.207 (0.187) | 0.243 (0.171) | – | – |
| Presidentially-Aligned Agency | -0.634 (0.556) | -0.569 (0.593) | – | – |
| Divided Gov't \times Presidentialy Aligned Agency | 0.274 (0.477) | 0.147 (0.507) | – | – |
| Presidentially-Opposed Agency | -0.244 | -0.194 | – | – |

| | | | | |
|---|------------------------------------|-----------------------------------|------------------------------------|------------------------------------|
| | (0.314) | (0.334) | | |
| Divided Gov't × Presidentially Opposed Agency | 0.031 | 0.010 | – | – |
| | (0.366) | (0.370) | | |
| Priority Agency | 0.211 | 0.226 | – | – |
| | (0.290) | (0.305) | | |
| Clinton Administration | – | -0.081 | – | -0.220 |
| | | (0.131) | | (0.284) |
| Constant | 3.227*** | 3.171*** | 3.134*** | 3.323*** |
| | (0.230) | (0.219) | (0.635) | (0.771) |
| Hypothesis Tests | | | | |
| H1: ME(RSPL UG) – ME(RWPL UG) > 0 | 11.311*** (1.631) | 9.615*** (1.950) | 11.270*** (1.422) | 10.448*** (1.963) |
| Fixed Effects? | No | No | Yes | Yes |
| Number of Observations | 264 | 264 | 266 | 266 |
| Log-Likelihood | -834.467 | -833.076 | -795.376 | -794.594 |
| Bayesian Information Criterion | 1791.606 | 1788.824 | 1635.420 | 1645.023 |
| Variance Equation LR Test | 50.488*** | 52.344*** | 34765.366*** | 111332.399*** |

Notes: Multiplicative heteroskedastic linear regression model estimates. Variances modeled as exponential functions of the specified covariates using maximum likelihood. Variance terms presented on log-sigma scale. Agencies with fewer than eight agency-year observations are omitted. Two-tailed tests presented. Robust standard errors clustered on agency inside parentheses:
^{*} $p < 0.1$, ^{**} $p < 0.05$, ^{***} $p < 0.01$

Table A-2: OLS Models of Discretionary Budget Authority

| | Logged Legislative Discretionary Budget Authority | | Relative Legislative Discretionary Budget Authority (Weighted Average Percentage Change) | |
|--|---|----------------------|--|-------------------------------------|
| | Model A-5 | Model A-6 | Model A-7 | Model A-8 |
| Divided Government | -0.614 (0.482) | -0.287 (0.390) | -96.293 (90.452) | -86.303 (87.696) |
| Reliably Strong Presidential Loyalist (+) β_1 | 0.308 (0.485) | 0.231 (0.471) | -17.375 (16.909) | -19.725 (17.217) |
| Divided Gov't \times Reliably Strong Presidential Loyalist (-) β_2 | -0.426 (0.429) | -0.474 (0.396) | 36.741* (20.687) | 35.276* (19.970) |
| Reliably Weak Presidential Loyalist (-) β_3 | 1.387 (1.178) | 2.011 (1.328) | -101.411** (41.082) | -82.361** (36.309) |
| Divided Gov't \times Reliably Weak Presidential Loyalist (+) β_4 | 1.528 (1.226) | 1.154 (1.257) | 87.500** (36.036) | 76.082** (33.029) |
| Agency Decision Maker Independence | -4.609*** (0.839) | -4.680*** (0.839) | 35.232* (20.483) | 33.069 (19.914) |
| Policy Independence | 1.563*** (0.401) | 1.569*** (0.395) | -0.044 (6.439) | 0.155 (6.287) |
| Presidentially-Aligned Agency | -1.119* (0.621) | -1.115* (0.621) | -78.356 (73.279) | -78.221 (73.020) |
| Divided Gov't \times Presidentialy Aligned Agency | 1.073** (0.457) | 1.063** (0.451) | 92.143 (86.329) | 91.843 (86.048) |
| Presidentially-Opposed Agency | 0.184 (0.667) | 0.227 (0.671) | -87.537 (75.500) | -86.249 (75.073) |
| Divided Gov't \times Presidentialy Opposed Agency | -0.549 (0.727) | -0.517 (0.723) | 78.702 (84.168) | 79.690 (84.211) |
| Priority Agency | 0.124 (0.362) | 0.194 (0.364) | -9.992 (10.452) | -7.872 (9.933) |
| Clinton Administration | | -0.690** (0.333) | | -21.072** (8.096) |
| Constant | 14.652*** (0.697) | 14.699*** (0.687) | 104.031 (88.930) | 105.458 (89.278) |
| Hypothesis Tests | | | | |
| H1: ME(RSPL UG) – ME(RWPL UG) > 0 | -1.079 (1.204) | -1.780 (1.340) | 84.036*** (28.316) | 62.635*** (23.779) |
| Number of Observations | 264 | 264 | 264 | 264 |
| R ² | 0.487 | 0.496 | 0.043 | 0.046 |

Notes: Ordinary least square estimates. Two-tailed tests presented. Robust standard errors clustered on agency inside parentheses: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A-3: OLS Models of Discretionary Budget Authority (Fixed Effects)

| | Logged Legislative Discretionary Budget Authority | | Relative Legislative Discretionary Budget Authority (Weighted Average Percentage Change) | |
|--|---|----------------------|--|----------------------|
| | Model A-9 | Model A-10 | Model A-11 | Model A-12 |
| Divided Government | -0.330 (0.242) | -0.085 (0.136) | -40.021 (41.881) | -30.587 (37.730) |
| Reliably Strong Presidential Loyalist (+) β_1 | 0.165 (0.223) | 0.027 (0.249) | -23.138 (29.407) | -28.428 (31.563) |
| Divided Gov't \times Reliably Strong Presidential Loyalist (-) β_2 | 0.236 (0.275) | 0.256 (0.271) | 55.375 (46.582) | 56.177 (46.628) |
| Reliably Weak Presidential Loyalist (-) β_3 | -0.165 (0.252) | 0.369 (0.325) | -70.919** (32.347) | -50.449* (28.861) |
| Divided Gov't \times Reliably Weak Presidential Loyalist (+) β_4 | 0.720* (0.390) | 0.462 (0.329) | 95.746* (48.259) | 85.859* (45.186) |
| Clinton Administration | | -0.610* (0.320) | | -23.421* (11.592) |
| Constant | 17.190*** (0.157) | 17.365*** (0.237) | 31.381 (29.933) | 38.103 (32.678) |
| Hypothesis Tests | | | | |
| H1: ME(RSPL UG) – ME(RWPL UG) > 0 | 0.330 (0.253) | -0.342 (0.450) | 47.781* (23.672) | 22.021 (31.066) |
| Number of Observations | 266 | 266 | 266 | 266 |
| R ² | 0.677 | 0.683 | 0.069 | 0.073 |

Notes: Ordinary least square estimates. Agency fixed effects are included in model specifications. Two-tailed tests presented. Robust standard errors clustered on agency inside parentheses: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

**Table A-4: Heteroskedastic Models of Discretionary Budget Authority
(Quartile-Based Reliability Scores)**

| | Logged Legislative Discretionary Budget Authority | | Relative Legislative Discretionary Budget Authority (Weighted Average Percentage Change) | |
|--|---|----------------------|--|----------------------|
| | <u>Model A-13</u> | <u>Model A-14</u> | <u>Model A-15</u> | <u>Model A-16</u> |
| Mean Equation | | | | |
| Divided Government | 0.068 (0.188) | 0.165 (0.189) | -6.605 (4.675) | -11.379 (13.387) |
| Reliably Strong Presidential Loyalist (+) β_1 | -0.126 (0.397) | -0.121 (0.352) | -2.223*** (0.261) | 0.288 (1.876) |
| Divided Gov't \times Reliably Strong Presidential Loyalist (-) β_2 | -0.328 (0.270) | -0.359 (0.232) | 3.630** (1.639) | 1.365 (2.439) |
| Reliably Weak Presidential Loyalist (-) β_3 | 2.100** (0.917) | 2.399*** (0.895) | -17.565 (10.694) | -43.283 (66.565) |
| Divided Gov't \times Reliably Weak Presidential Loyalist (+) β_4 | 0.246 (0.306) | 0.121 (0.324) | 22.266 (18.131) | 44.638 (67.328) |
| Agency Decision Maker Independence | -3.549*** (1.073) | -3.708*** (0.955) | 2.253 (2.558) | 2.946 (1.935) |
| Policy Independence | 0.317 (0.295) | 0.289 (0.312) | 2.025 (1.233) | 0.123 (1.923) |
| Presidentially-Aligned Agency | -0.202 (0.493) | -0.195 (0.542) | -10.915 (7.319) | -10.566 (12.905) |
| Divided Gov't \times Presidentialy Aligned Agency | 0.094 (0.271) | 0.092 (0.271) | 4.501 (7.994) | 7.845 (14.275) |
| Presidentially-Opposed Agency | 0.338 (0.414) | 0.369 (0.370) | -12.369*** (3.386) | -15.781 (11.411) |
| Divided Gov't \times Presidentialy Opposed Agency | -0.290 (0.290) | -0.276 (0.266) | 6.329 (4.790) | 11.584 (13.788) |
| Priority Agency | 0.341 (0.258) | 0.274 (0.276) | 5.228* (2.938) | 1.053 (2.245) |
| Clinton Administration | | -0.238* (0.129) | | -2.970* (1.655) |
| Constant | 15.077*** (0.485) | 15.129*** (0.483) | 7.225* (4.002) | 16.343 (12.585) |
| Variance Equation | | | | |
| Divided Government | 1.527*** (0.583) | 1.426* (0.744) | -3.025*** (0.917) | -4.188*** (1.086) |
| Unreliable Agency Head (+) δ_1 | -0.649 (0.900) | -0.602 (0.889) | -1.918 (1.410) | -1.059 (1.498) |
| Divided Gov't \times Unreliable Agency Head (-) δ_2 | 0.152 (0.852) | 0.105 (0.792) | -0.182 (2.038) | -1.366 (2.438) |
| Agency Decision Maker Independence | 2.588*** (0.770) | 2.914*** (0.756) | 3.809*** (1.331) | 4.509** (1.770) |
| Policy Independence | -2.107*** (0.474) | -2.088*** (0.578) | -0.842* (0.487) | -0.459 (0.685) |
| Presidentially-Aligned Agency | 1.055 (1.611) | 0.999 (1.836) | 0.303 (2.046) | -1.993 (2.653) |
| Divided Gov't \times Presidentialy Aligned Agency | -2.353*** (0.649) | -2.146*** (0.771) | -0.300 (1.417) | 1.314 (1.871) |
| Presidentially-Opposed Agency | 0.401 (1.096) | 0.256 (1.341) | -6.510*** (1.018) | -8.073*** (1.574) |
| Divided Gov't \times Presidentialy Opposed Agency | -2.013* (0.649) | -2.138* (0.771) | 5.734*** (1.417) | 6.357*** (1.871) |

| | | | | |
|------------------------|---------|---------|-----------|-----------|
| | (1.127) | (1.143) | (1.309) | (0.966) |
| Priority Agency | 0.196 | 0.356 | -2.217* | -0.733 |
| | (1.404) | (1.460) | (1.280) | (1.683) |
| Clinton Administration | | 0.167 | | 1.300* |
| | | (0.703) | | (0.761) |
| Constant | 0.750** | 0.686* | 11.888*** | 11.816*** |
| | (0.379) | (0.383) | (0.862) | (0.926) |

Hypothesis Tests

| | | | | |
|-----------------------------------|------------------------------------|------------------------------------|--------------------|--------------------|
| H1: ME(RSPL UG) – ME(RWPL UG) > 0 | -2.226*** (0.778) | -2.519*** (0.771) | 15.343 (10.745) | 43.571 (65.931) |
|-----------------------------------|------------------------------------|------------------------------------|--------------------|--------------------|

| | | | | |
|--------------------------------|-----------|------------|------------|------------|
| Number of Observations | 264 | 264 | 264 | 264 |
| Log-Likelihood | -399.617 | -395.835 | -1246.959 | -1233.607 |
| Bayesian Information Criterion | 921.905 | 914.342 | 2616.588 | 2589.886 |
| Variance Equation LR Test | 98.039*** | 116.325*** | 287.845*** | 328.919*** |

Notes: Multiplicative heteroskedastic linear regression model estimates. Variances modeled as exponential functions of the specified covariates using maximum likelihood. Variance terms presented on log-sigma scale. Two-tailed tests presented. In the Hypotheses Tests section, **black bolded** entries indicate those that are statistically significant at least the 90% level and in line with the indicated hypothesis, and **red** entries are those with signs contrary to expectations. Robust standard errors clustered on agency appear inside parentheses: * p < 0.1, ** p < 0.05, *** p < 0.01

Table A-5: Heteroskedastic Models of Discretionary Budget Authority
(Quartile-Based Reliability Scores; Agency Fixed Effects In Lieu of Agency-Level Covariates)

| | Logged Legislative Discretionary Budget Authority | | Relative Legislative Discretionary Budget Authority (Weighted Average Percentage Change) | |
|--|---|-----------------------------------|--|----------------------|
| | <u>Model A-17</u> | <u>Model A-18</u> | <u>Model A-19</u> | <u>Model A-20</u> |
| Mean Equation | | | | |
| Divided Government | -0.002 (0.024) | -0.006 (0.018) | 1.649** (0.776) | 1.557 (1.121) |
| Reliably Strong Presidential Loyalist (+) β_1 | 0.077*** (0.026) | 0.058** (0.024) | -0.635 (1.013) | -0.765 (1.808) |
| Divided Gov't \times Reliably Strong Presidential Loyalist (-) β_2 | -0.025 (0.023) | -0.013 (0.012) | -0.519 (1.067) | -0.332 (2.766) |
| Reliably Weak Presidential Loyalist (-) β_3 | 0.101*** (0.010) | -0.759*** (0.082) | -3.211*** (0.408) | -3.340*** (0.603) |
| Divided Gov't \times Reliably Weak Presidential Loyalist (+) β_4 | -0.073*** (0.025) | 0.753*** (0.069) | 1.173 (0.798) | 1.322 (1.081) |
| Clinton Administration | | -0.073* (0.041) | | 0.108 (1.016) |
| Constant | 17.077*** (0.028) | 17.106*** (0.007) | 3.716*** (0.973) | 3.129** (1.445) |
| Variance Equation | | | | |
| Divided Government | 1.081 (0.856) | 0.532 (0.703) | -0.631 (0.566) | -0.558 (0.538) |
| Unreliable Agency Head (+) δ_1 | 0.735 (1.573) | 2.251 (1.503) | 0.191 (0.758) | 0.034 (0.682) |
| Divided Gov't \times Unreliable Agency Head (-) δ_2 | -3.187* (1.814) | -0.787 (0.972) | -1.607 (1.579) | -1.602 (1.209) |
| Clinton Administration | | 3.179*** (0.836) | | -0.534 (0.465) |
| Constant | -5.382*** (0.804) | -7.571*** (0.331) | 4.651*** (0.648) | 4.773*** (0.581) |
| Hypothesis Tests | | | | |
| H1: ME(RSPL UG) – ME(RWPL UG) > 0 | -0.024 (0.026) | 0.817*** (0.089) | 2.576*** (0.727) | 2.575 (2.288) |
| Number of Observations | 266 | 266 | 266 | 266 |
| Log-Likelihood | 17.122 | 72.258 | -968.867 | -966.452 |
| Bayesian Information Criterion | 10.424 | -88.680 | 1982.403 | 1988.739 |
| Variance Equation LR Test | 41334.961*** | 25488.164*** | 3.608e+08*** | 1.223e+09*** |

Notes: Multiplicative heteroskedastic linear regression model estimates. Variances modeled as exponential functions of the specified covariates using maximum likelihood. Variance terms presented on log-sigma scale. Agency-level fixed effects included in the mean and variance equations. Two-tailed tests presented. In the Hypotheses Tests section, **black bolded** entries indicate those that are statistically significant at least the 90% level and in line with the indicated hypothesis, and **red** entries are those with signs contrary to expectations. Robust standard errors clustered on agency appear inside parentheses: * p < 0.1, ** p < 0.05, *** p < 0.01

**Table A-6: Heteroskedastic Models of Discretionary Budget Authority
(Quintile-Based Reliability Scores)**

| | Logged Legislative Discretionary Budget Authority | | Relative Legislative Discretionary Budget Authority (Weighted Average Percentage Change) | |
|--|---|----------------------|--|----------------------|
| | <u>Model A-21</u> | <u>Model A-22</u> | <u>Model A-23</u> | <u>Model A-24</u> |
| Mean Equation | | | | |
| Divided Government | -0.168 (0.397) | -0.028 (0.352) | -5.794 (5.156) | -5.124 (6.077) |
| Reliably Strong Presidential Loyalist (+) β_1 | -0.070 (0.233) | -0.000 (0.215) | -2.270*** (0.264) | 0.671 (1.742) |
| Divided Gov't \times Reliably Strong Presidential Loyalist (-) β_2 | -0.416* (0.251) | -0.434* (0.242) | 3.740** (1.886) | 0.920 (2.150) |
| Reliably Weak Presidential Loyalist (-) β_3 | 1.920* (1.088) | 2.311** (0.945) | -16.191** (7.899) | -34.589 (53.197) |
| Divided Gov't \times Reliably Weak Presidential Loyalist (+) β_4 | 0.614** (0.254) | 0.482** (0.190) | 26.602 (32.664) | 35.598 (57.337) |
| Agency Decision Maker Independence | -3.525*** (1.211) | -3.698*** (0.918) | 1.870 (2.291) | 2.842 (1.956) |
| Policy Independence | 0.237 (0.279) | 0.268 (0.282) | 1.807 (1.500) | 0.111 (1.700) |
| Presidentially-Aligned Agency | -0.363 (0.518) | -0.372 (0.536) | -13.547** (6.015) | -10.003 (7.135) |
| Divided Gov't \times Presidentialy Aligned Agency | 0.228 (0.341) | 0.180 (0.292) | 7.826 (5.929) | 8.387 (6.456) |
| Presidentially-Opposed Agency | 0.042 (0.542) | 0.156 (0.476) | -10.780** (4.678) | -8.737 (5.782) |
| Divided Gov't \times Presidentialy Opposed Agency | -0.010 (0.452) | -0.078 (0.372) | 5.150 (5.233) | 5.006 (6.077) |
| Priority Agency | 0.305 (0.311) | 0.311 (0.243) | 4.946 (3.227) | 0.202 (1.960) |
| Clinton Administration | | -0.198 (0.138) | | -3.154* (1.694) |
| Constant | 15.443*** (0.479) | 15.327*** (0.489) | 5.949 (4.226) | 10.098** (4.627) |
| Variance Equation | | | | |
| Divided Government | 1.198 (0.751) | 0.953 (0.737) | -3.154*** (0.880) | -4.337*** (1.001) |
| Unreliable Agency Head (+) δ_1 | -3.384 (3.082) | -2.535 (1.956) | -4.528*** (0.870) | -4.334*** (1.013) |
| Divided Gov't \times Unreliable Agency Head (-) δ_2 | 2.788 (3.261) | 1.663 (1.970) | 3.189*** (1.233) | 2.690* (1.605) |
| Agency Decision Maker Independence | 2.917*** (0.755) | 3.115*** (0.605) | 4.024*** (1.260) | 4.977*** (1.629) |
| Policy Independence | -2.007*** (0.462) | -1.971*** (0.528) | -0.759 (0.484) | -0.291 (0.664) |
| Presidentially-Aligned Agency | 0.362 (1.531) | 0.277 (1.362) | 0.025 (1.567) | -2.097 (2.306) |
| Divided Gov't \times Presidentialy Aligned Agency | -1.801* (0.940) | -1.511** (0.742) | -0.214 (1.032) | 1.226 (1.328) |
| Presidentially-Opposed Agency | -0.308 (1.117) | -0.331 (0.997) | -6.693*** (0.999) | -8.338*** (1.565) |
| Divided Gov't \times Presidentialy Opposed Agency | -1.781* (0.940) | -1.839* (0.997) | 5.870*** (0.999) | 6.514*** (1.565) |

| | | | | |
|-----------------------------------|----------------------------------|------------------------------------|----------------------------------|--------------------|
| | (0.988) | (1.024) | (1.322) | (0.930) |
| Priority Agency | 0.651 | 0.770 | -2.137 | -0.568 |
| | (1.325) | (1.111) | (1.316) | (1.848) |
| Clinton Administration | | 0.449 | | 1.360* |
| | | (0.608) | | (0.727) |
| Constant | 1.061** | 0.885*** | 11.956*** | 11.829*** |
| | (0.437) | (0.334) | (0.799) | (0.891) |
| Hypothesis Tests | | | | |
| H1: ME(RSPL UG) – ME(RWPL UG) > 0 | -1.990* (1.031) | -2.311*** (0.871) | 13.921* (7.904) | 35.260 (53.838) |
| Number of Observations | 264 | 264 | 264 | 264 |
| Log-Likelihood | -400.817 | -396.516 | -1248.637 | -1233.109 |
| Bayesian Information Criterion | 924.306 | 915.703 | 2619.944 | 2588.888 |
| Variance Equation LR Test | 99.897*** | 135.052*** | 326.224*** | 278.367*** |

Notes: Multiplicative heteroskedastic linear regression model estimates. Variances modeled as exponential functions of the specified covariates using maximum likelihood. Variance terms presented on log-sigma scale. Two-tailed tests presented. In the Hypotheses Tests section, **black bolded** entries indicate those that are statistically significant at least the 90% level and in line with the indicated hypothesis, and **red** entries are those with signs contrary to expectations. Robust standard errors clustered on agency appear inside parentheses: * p < 0.1, ** p < 0.05, *** p < 0.01

**Table A-7: Heteroskedastic Models of Discretionary Budget Authority
(Quintile-Based Reliability Scores; Only Agency Fixed Effects)**

| | Logged Legislative Discretionary Budget Authority | | Relative Legislative Discretionary Budget Authority (Weighted Average Percentage Change) | |
|--|---|----------------------------|--|----------------------|
| | <u>Model A-25</u> | <u>Model A-26</u> | <u>Model A-27</u> | <u>Model A-28</u> |
| Mean Equation | | | | |
| Divided Government | -0.003 (0.045) | -0.004 (0.021) | 1.712** (0.741) | 1.716 (1.191) |
| Reliably Strong Presidential Loyalist (+) β_1 | 0.052 (0.077) | 0.061*** (0.013) | -0.524 (1.100) | -0.492 (2.020) |
| Divided Gov't \times Reliably Strong Presidential Loyalist (-) β_2 | -0.018 (0.028) | -0.014 (0.014) | -0.595 (1.071) | -0.702 (2.839) |
| Reliably Weak Presidential Loyalist (-) β_3 | 0.097*** (0.018) | -0.748*** (0.111) | -3.198*** (0.400) | -3.398*** (0.537) |
| Divided Gov't \times Reliably Weak Presidential Loyalist (+) β_4 | -0.070 (0.047) | 0.740*** (0.088) | 1.110 (0.762) | 1.161 (1.142) |
| Clinton Administration | | -0.074** (0.033) | | 0.211 (1.049) |
| Constant | 17.057*** (0.026) | 17.103*** (0.013) | 3.830*** (0.977) | 3.276** (1.513) |
| Variance Equation | | | | |
| Divided Government | 0.629 (0.984) | 0.140 (0.723) | -0.723 (0.478) | -0.704 (0.462) |
| Unreliable Agency Head (+) δ_1 | -1.498 (1.731) | 0.759 (1.154) | 0.595 (1.059) | 0.375 (1.129) |
| Divided Gov't \times Unreliable Agency Head (-) δ_2 | -0.515 (1.530) | 0.459 (0.867) | -2.315 (2.393) | -2.088 (2.324) |
| Clinton Administration | | 3.242*** (0.833) | | -0.376 (0.559) |
| Constant | -4.758*** (1.161) | -7.323*** (0.436) | 4.898*** (1.057) | 4.941*** (0.939) |
| Hypothesis Tests | | | | |
| H1: ME(RSPL UG) – ME(RWPL UG) > 0 | -0.045 (0.082) | 0.809*** (0.114) | 2.674*** (0.800) | 2.906 (2.420) |
| Number of Observations | 266 | 266 | 266 | 266 |
| Log-Likelihood | 12.536 | 68.188 | -968.406 | -966.961 |
| Bayesian Information Criterion | 14.012 | -86.125 | 1975.896 | 1984.174 |
| Variance Equation LR Test | 9242.291*** | 50976.800*** | 3.400e+08*** | 1.060e+09*** |

Note: Multiplicative heteroskedastic linear regression model estimates. Variances modeled as exponential functions of the specified covariates using maximum likelihood. Variance terms presented on log-sigma scale. Agency-level fixed effects included in the mean and variance equations. Two-tailed tests presented. In the Hypotheses Tests section, **black bolded** entries indicate those that are statistically significant at least the 90% level and in line with the indicated hypothesis, and **red** entries are those with signs contrary to expectations. Robust standard errors clustered on agency appear inside parentheses: * p < 0.1, ** p < 0.05, *** p < 0.01

**Table A-8: Heteroskedastic Models of Discretionary Budget Authority
(Omitting Agencies with Fewer than Eight Observations)**

| | Logged Legislative Discretionary Budget Authority | | Relative Legislative Discretionary Budget Authority (Weighted Average Percentage Change) | |
|--|---|----------------------|--|-----------------------|
| | <u>Model A-29</u> | <u>Model A-30</u> | <u>Model A-31</u> | <u>Model A-32</u> |
| Mean Equation | | | | |
| Divided Government | 0.143 (0.184) | 0.073 (0.287) | -6.435 (4.523) | -4.642 (4.519) |
| Reliably Strong Presidential Loyalist (+) β_1 | 0.265 (0.218) | 0.278 (0.289) | 0.283 (0.622) | 0.399 (0.582) |
| Divided Gov't \times Reliably Strong Presidential Loyalist (-) β_2 | -0.368** (0.162) | -0.338*** (0.128) | -0.136 (1.921) | -1.424 (1.454) |
| Reliably Weak Presidential Loyalist (-) β_3 | 0.740 (1.437) | 0.788 (1.619) | -63.057*** (2.665) | -61.104*** (1.557) |
| Divided Gov't \times Reliably Weak Presidential Loyalist (+) β_4 | 2.451 (1.520) | 2.374 (1.723) | 61.310*** (7.955) | 58.595*** (5.205) |
| Agency Decision Maker Independence | -4.378*** (0.473) | -4.362*** (0.468) | 2.067 (2.291) | 3.464* (1.878) |
| Policy Independence | 0.418 (0.304) | 0.433 (0.370) | -0.441 (2.647) | -0.955 (1.917) |
| Presidentially-Aligned Agency | -0.349 (0.501) | -0.332 (0.479) | -6.721 (7.092) | -5.153 (5.457) |
| Divided Gov't \times Presidentialy Aligned Agency | 0.072 (0.260) | 0.084 (0.262) | 5.410 (5.144) | 5.457 (4.957) |
| Presidentially-Opposed Agency | 0.173 (0.415) | 0.156 (0.398) | -8.804 (5.840) | -8.169* (4.638) |
| Divided Gov't \times Presidentialy Opposed Agency | -0.288 (0.218) | -0.271 (0.200) | 7.084 (4.336) | 7.110* (4.302) |
| Priority Agency | 0.334** (0.165) | 0.323* (0.174) | 0.807 (2.673) | 0.601 (1.182) |
| Clinton Administration | | 0.105 (0.272) | | -2.889*** (1.005) |
| Constant | 14.741*** (0.331) | 14.709*** (0.384) | 9.054** (4.062) | 9.638** (4.109) |
| Variance Equation | | | | |
| Divided Government | 0.131 (0.524) | 0.151 (0.686) | -2.612*** (0.974) | -2.683*** (0.947) |
| Unreliable Agency Head (+) δ_1 | -0.379 (0.922) | -0.426 (0.858) | -0.229 (1.989) | -0.807 (1.363) |
| Divided Gov't \times Unreliable Agency Head (-) δ_2 | 2.038** (0.803) | 2.150*** (0.788) | -0.851 (2.153) | -0.177 (1.461) |
| Agency Decision Maker Independence | 3.533*** (0.756) | 3.460*** (1.006) | 7.737** (3.319) | 8.090*** (3.009) |
| Policy Independence | -1.516*** (0.469) | -1.494*** (0.534) | 0.336 (1.233) | 0.492 (1.126) |
| Presidentially-Aligned Agency | -0.983 (0.905) | -1.032 (0.883) | -5.459** (2.419) | -5.599*** (1.778) |
| Divided Gov't \times Presidentialy Aligned Agency | -0.987 (0.701) | -1.063 (0.779) | 2.815** (1.385) | 2.567** (1.252) |
| Presidentially-Opposed Agency | -0.170 (0.880) | -0.086 (0.938) | -8.083*** (1.725) | -8.768*** (1.598) |
| Divided Gov't \times Presidentialy Opposed Agency | -0.364 | -0.298 | 5.258*** | 5.784*** |

| | | | | |
|------------------------|---------|----------|-----------|-----------|
| | (0.814) | (1.088) | (1.458) | (1.273) |
| Priority Agency | 0.444 | 0.374 | -0.503 | -0.098 |
| | (0.814) | (0.858) | (1.580) | (1.150) |
| Clinton Administration | | -0.102 | | -0.001 |
| | | (0.503) | | (0.627) |
| Constant | 0.826** | 0.865*** | 11.714*** | 11.700*** |
| | (0.322) | (0.305) | (0.876) | (0.889) |

Hypothesis Tests

| | | | | |
|-------------------------------------|---------------------------------|---------------------------------|------------------------------------|------------------------------------|
| H1: $ME(RSPL UG) - ME(RWPL UG) > 0$ | -0.478 (1.405) | -0.510 (1.552) | 63.340*** (2.694) | 61.502*** (1.894) |
|-------------------------------------|---------------------------------|---------------------------------|------------------------------------|------------------------------------|

| | | | | |
|--------------------------------|------------|------------|------------|------------|
| Number of Observations | 246 | 246 | 246 | 246 |
| Log-Likelihood | -316.142 | -315.306 | -1056.234 | -1048.704 |
| Bayesian Information Criterion | 736.886 | 735.214 | 2217.068 | 2202.010 |
| Variance Equation LR Test | 115.819*** | 171.838*** | 343.368*** | 371.970*** |

Note: Multiplicative heteroskedastic linear regression model estimates. Variances modeled as exponential functions of the specified covariates using maximum likelihood. Variance terms presented on log-sigma scale. Two-tailed tests presented. In the Hypotheses Tests section, **black bolded** entries indicate those that are statistically significant at least the 90% level and in line with the indicated hypothesis, and **red** entries are those with signs contrary to expectations. Robust standard errors clustered on agency appear inside parentheses: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

**Table A-9: Heteroskedastic Models of Discretionary Budget Authority
(Omitting Agencies with Less than Fewer Observations; Only Agency Fixed Effects)**

| | Logged Legislative Discretionary Budget Authority | | Relative Legislative Discretionary Budget Authority (Weighted Average Percentage Change) | |
|--|---|-----------------------------------|--|----------------------|
| | <u>Model A-33</u> | <u>Model A-34</u> | <u>Model A-35</u> | <u>Model A-36</u> |
| Mean Equation | | | | |
| Divided Government | -0.024 (0.035) | 0.010 (0.039) | 1.828** (0.784) | 1.534 (1.114) |
| Reliably Strong Presidential Loyalist (+) β_1 | 0.089*** (0.020) | 0.057** (0.024) | -0.163 (1.208) | -0.836 (2.162) |
| Divided Gov't \times Reliably Strong Presidential Loyalist (-) β_2 | 0.001 (0.034) | -0.025 (0.020) | -0.935 (1.209) | -0.001 (2.882) |
| Reliably Weak Presidential Loyalist (-) β_3 | -0.769*** (0.029) | -0.702*** (0.052) | -3.043*** (0.359) | -2.794*** (0.718) |
| Divided Gov't \times Reliably Weak Presidential Loyalist (+) β_4 | 0.790*** (0.042) | 0.739*** (0.061) | 0.995 (0.809) | 1.318 (1.094) |
| Clinton Administration | | -0.082 (0.054) | | -0.338 (1.057) |
| Constant | 17.022*** (0.019) | 17.060*** (0.014) | 1.904** (0.806) | 1.885 (1.603) |
| Variance Equation | | | | |
| Divided Government | 1.351 (1.023) | 0.823 (0.825) | -0.153 (0.608) | -0.056 (0.541) |
| Unreliable Agency Head (+) δ_1 | 1.543 (0.987) | 1.605 (1.032) | 0.032 (1.005) | -0.135 (1.107) |
| Divided Gov't \times Unreliable Agency Head (-) δ_2 | -0.675 (1.015) | -0.546 (0.979) | -1.859 (1.387) | -1.846 (1.294) |
| Clinton Administration | | 2.802*** (0.680) | | -0.553 (0.427) |
| Constant | -7.048*** (0.646) | -7.638*** (0.417) | 4.803*** (0.616) | 4.927*** (0.675) |
| Hypothesis Tests | | | | |
| H1: ME(RSPL UG) – ME(RWPL UG) > 0 | 0.857*** (0.015) | 0.759*** (0.070) | 2.879*** (0.938) | 1.958 (2.754) |
| Number of Observations | 246 | 246 | 246 | 246 |
| Log-Likelihood | 32.066 | 87.365 | -870.916 | -868.552 |
| Bayesian Information Criterion | -20.089 | -119.677 | 1785.875 | 1792.158 |
| Variance Equation LR Test | 1.323e+07*** | 8141.260*** | 5.494e+08*** | 2.072e+10*** |

Note: Multiplicative heteroskedastic linear regression model estimates. Variances modeled as exponential functions of the specified covariates using maximum likelihood. Variance terms presented on log-sigma scale. Agency-level fixed effects included in the mean and variance equations. Two-tailed tests presented. In the Hypotheses Tests section, **black bolded** entries indicate those that are statistically significant at least the 90% level and in line with the indicated hypothesis, and **red** entries are those with signs contrary to expectations. Robust standard errors clustered on agency appear inside parentheses: * p < 0.1, ** p < 0.05, *** p < 0.01

**Table A-10: Heteroskedastic Models of Discretionary Budget Authority
(Including Lagged LDBA)**

| | Logged Legislative Discretionary Budget Authority | | Relative Legislative Discretionary Budget Authority (Weighted Average Percentage Change) | |
|--|---|----------------------|--|-----------------------|
| | <u>Model A-37</u> | <u>Model A-38</u> | <u>Model A-39</u> | <u>Model A-40</u> |
| | | | | |
| Mean Equation | | | | |
| Logged Legislative Discretionary Budget Authority _{t-1} | 1.017*** (0.007) | 1.020*** (0.009) | 0.461 (0.648) | 0.228 (0.628) |
| Divided Government | 0.143 (0.282) | 0.046 (0.062) | -12.641 (11.989) | -14.619 (16.892) |
| Reliably Strong Presidential Loyalist (+) β_1 | -0.006 (0.012) | -0.009 (0.012) | 0.224 (0.812) | 0.394 (0.838) |
| Divided Gov't \times Reliably Strong Presidential Loyalist (-) β_2 | -0.035 (0.049) | -0.055 (0.043) | 0.270 (1.724) | -1.696 (1.679) |
| Reliably Weak Presidential Loyalist (-) β_3 | -0.483*** (0.020) | -0.433*** (0.080) | -66.465*** (2.375) | -62.875*** (3.214) |
| Divided Gov't \times Reliably Weak Presidential Loyalist (+) β_4 | 0.425*** (0.033) | 0.402*** (0.068) | 69.725*** (8.212) | 65.544*** (5.997) |
| Agency Decision Maker Independence | 0.055** (0.022) | 0.050* (0.029) | 0.697 (2.914) | 0.592 (2.536) |
| Policy Independence | 0.007 (0.011) | -0.001 (0.017) | 2.686 (2.371) | 2.246 (1.916) |
| Presidentially-Aligned Agency | 0.187 (0.414) | 0.033 (0.097) | -9.963 (12.953) | -14.565 (16.138) |
| Divided Gov't \times Presidentialy Aligned Agency | -0.102 (0.301) | 0.020 (0.075) | 11.025 (11.898) | 16.686 (16.442) |
| Presidentially-Opposed Agency | 0.155 (0.406) | 0.002 (0.096) | -12.116 (13.223) | -16.491 (16.477) |
| Divided Gov't \times Presidentialy Opposed Agency | -0.106 (0.316) | 0.018 (0.094) | 12.565 (11.995) | 16.044 (16.718) |
| Priority Agency | 0.005 (0.013) | 0.002 (0.016) | -3.316 (2.745) | -2.838 (2.286) |
| Clinton Administration | | -0.031 (0.029) | | -3.621 (2.260) |
| Constant | -0.424 (0.390) | -0.319** (0.129) | 6.100 (19.144) | 14.304 (22.503) |
| Variance Equation | | | | |
| Logged Legislative Discretionary Budget Authority _{t-1} | -0.959* (0.577) | -0.995** (0.471) | -0.828* (0.475) | -0.772* (0.404) |
| Divided Government | 0.049 (0.847) | -0.794 (1.120) | -3.795*** (1.245) | -4.564*** (0.961) |
| Unreliable Agency Head (+) δ_1 | 5.588*** (1.644) | 5.537*** (1.941) | 4.933*** (1.408) | 4.288*** (1.395) |
| Divided Gov't \times Unreliable Agency Head (-) δ_2 | -3.784*** (1.433) | -3.793** (1.594) | -4.244*** (1.026) | -3.654*** (0.871) |
| Agency Decision Maker Independence | 0.137 (1.724) | 0.134 (1.805) | 1.059 (1.562) | 1.241 (1.604) |
| Policy Independence | 0.359 (1.741) | 0.526 (1.333) | 1.060 (1.234) | 1.101 (0.968) |
| Presidentially-Aligned Agency | -5.274*** (1.659) | -4.014* (2.156) | -6.404*** (2.166) | -6.603*** (1.964) |
| Divided Gov't \times Presidentialy Aligned Agency | 0.187 | -0.028 | 3.543*** | 3.744*** |

| | | | | |
|--|-----------|-----------|-----------|-----------|
| | (1.384) | (1.446) | (1.283) | (1.237) |
| Presidentially-Opposed Agency | -7.446*** | -5.958*** | -8.903*** | -9.085*** |
| | (1.347) | (1.893) | (1.662) | (1.686) |
| Divided Gov't × Presidentialy Opposed Agency | 4.042*** | 3.598*** | 6.550*** | 6.911*** |
| | (1.397) | (1.181) | (1.567) | (1.321) |
| Priority Agency | 1.895 | 1.130 | -0.048 | 0.135 |
| | (1.160) | (1.505) | (1.457) | (1.188) |
| Clinton Administration | | 1.782** | | 0.771 |
| | | (0.713) | | (0.544) |
| Constant | 14.102* | 13.770** | 23.632*** | 22.835*** |
| | (7.853) | (6.367) | (6.403) | (5.424) |

Hypothesis Tests

| | | | | |
|-----------------------------------|-----------------------------------|-----------------------------------|------------------------------------|------------------------------------|
| H1: ME(RSPL UG) – ME(RWPL UG) > 0 | 0.477*** (0.022) | 0.424*** (0.087) | 66.689*** (2.934) | 63.269*** (3.668) |
| Number of Observations | 262 | 262 | 262 | 262 |
| Log-Likelihood | -103.042 | -75.981 | -1169.555 | -1162.519 |
| Bayesian Information Criterion | 328.588 | 274.466 | 2467.182 | 2453.109 |
| Variance Equation LR Test | 1032.507*** | 4364.341*** | 340.165*** | 375.738*** |

Note: Multiplicative heteroskedastic linear regression model estimates. Variances modeled as exponential functions of the specified covariates using maximum likelihood. Variance terms presented on log-sigma scale. Two-tailed tests presented. In the Hypotheses Tests section, **black bolded** entries indicate those that are statistically significant at least the 90% level and in line with the indicated hypothesis, and **red** entries are those with signs contrary to expectations. Robust standard errors clustered on agency appear inside parentheses: * p < 0.1, ** p < 0.05, *** p < 0.01

**Table A-11: Heteroskedastic Models of Discretionary Budget Authority
(Including Lagged LDBA; Only Agency Fixed Effects)**

| | Logged Legislative Discretionary Budget Authority | | Relative Legislative Discretionary Budget Authority (Weighted Average Percentage Change) | |
|--|---|---------------------------------|--|---------------------|
| | <u>Model A-41</u> | <u>Model A-42</u> | <u>Model A-43</u> | <u>Model A-44</u> |
| Mean Equation | | | | |
| Logged Legislative Discretionary Budget Authority _{<i>t-1</i>} | 0.637 (0.837) | 0.542 (0.357) | -0.158 (3.007) | -0.600 (3.174) |
| Divided Government | 0.003 (0.022) | 0.012 (0.009) | 1.936*** (0.662) | 1.712* (1.002) |
| Reliably Strong Presidential Loyalist (+) β_1 | 0.028 (0.092) | 0.040 (0.040) | -0.070 (1.178) | -0.636 (2.158) |
| Divided Gov't \times Reliably Strong Presidential Loyalist (-) β_2 | 0.006 (0.065) | -0.011 (0.017) | -0.991 (1.268) | -0.155 (3.054) |
| Reliably Weak Presidential Loyalist (-) β_3 | 0.029 (0.104) | 0.069 (0.055) | -2.952*** (0.325) | -2.576** (1.038) |
| Divided Gov't \times Reliably Weak Presidential Loyalist (+) β_4 | -0.029 (0.073) | -0.056 (0.041) | 0.863 (0.644) | 1.052 (0.874) |
| Clinton Administration | | -0.027 (0.022) | | -0.391 (1.101) |
| Constant | 6.201 (14.198) | 7.824 (6.078) | 4.307 (51.105) | 11.977 (54.439) |
| Variance Equation | | | | |
| Logged Legislative Discretionary Budget Authority _{<i>t-1</i>} | -0.099 (0.216) | -0.231* (0.126) | -0.157* (0.093) | -0.127 (0.126) |
| Divided Government | 1.861 (1.668) | 1.001* (0.562) | -0.036 (0.792) | 0.026 (0.644) |
| Unreliable Agency Head (+) δ_1 | 2.417 (1.977) | 1.636 (1.315) | 0.481 (1.027) | 0.368 (1.130) |
| Divided Gov't \times Unreliable Agency Head (-) δ_2 | -2.114 (1.949) | -1.375 (1.512) | -2.950* (1.780) | -2.964 (1.842) |
| Clinton Administration | | 2.309*** (0.649) | | -0.349 (0.615) |
| Constant | -5.688 (4.359) | -3.596 (2.293) | 7.849*** (1.437) | 7.418*** (1.887) |
| Hypothesis Tests | | | | |
| H1: ME(RSPL UG) – ME(RWPL UG) > 0 | -0.001 (0.039) | -0.029 (0.041) | 2.883*** (1.188) | 1.940 (3.067) |
| Number of Observations | 264 | 264 | 264 | 264 |
| Log-Likelihood | 90.115 | 120.782 | -944.550 | -943.677 |
| Bayesian Information Criterion | -124.471 | -174.652 | 1944.859 | 1954.265 |
| Variance Equation LR Test | 934155.350*** | 1.695e+09*** | 1.377e+09*** | 8.642e+09*** |

Note: Multiplicative heteroskedastic linear regression models estimated. Variances modeled as exponential functions of the specified covariates using maximum likelihood. Variance terms presented on log-sigma scale. Agency-level fixed effects included in the mean and variance equations. Two-tailed tests presented. In the Hypotheses Tests section, **black bolded** entries indicate those that are statistically significant at least the 90% level and in line with the indicated hypothesis, and **red** entries are those with signs contrary to expectations. Robust standard errors clustered on agency appear inside parentheses: * p < 0.1, ** p < 0.05, *** p < 0.01

**Table A-12: Heteroskedastic Models of Discretionary Budget Authority
(Omitting Observations with Negative LDBA)**

| | Logged Legislative Discretionary Budget Authority | | Relative Legislative Discretionary Budget Authority (Weighted Average Percentage Change) | |
|--|---|----------------------|--|-----------------------|
| | <u>Model A-45</u> | <u>Model A-46</u> | <u>Model A-47</u> | <u>Model A-48</u> |
| Mean Equation | | | | |
| Divided Government | 0.104 (0.127) | 0.177 (0.108) | -22.615 (45.271) | -28.129 (42.833) |
| Reliably Strong Presidential Loyalist (+) β_1 | 0.468 (0.287) | 0.431 (0.304) | 0.053 (0.744) | 0.405 (0.901) |
| Divided Gov't \times Reliably Strong Presidential Loyalist (-) β_2 | -0.720** (0.315) | -0.750** (0.342) | 3.613 (3.874) | 1.809 (3.627) |
| Reliably Weak Presidential Loyalist (-) β_3 | -0.494 (0.638) | -0.427 (0.607) | -64.649*** (2.587) | -62.628*** (3.193) |
| Divided Gov't \times Reliably Weak Presidential Loyalist (+) β_4 | 2.811*** (0.811) | 2.785*** (0.840) | 74.551*** (8.660) | 70.927*** (10.544) |
| Agency Decision Maker Independence | -3.546*** (1.010) | -3.579*** (1.061) | 0.387 (1.483) | 0.971 (3.481) |
| Policy Independence | 0.344 (0.304) | 0.371 (0.293) | 2.273 (1.463) | 2.005 (1.515) |
| Presidentially-Aligned Agency | -0.466 (0.496) | -0.475 (0.515) | -20.141 (43.927) | -26.132 (41.764) |
| Divided Gov't \times Presidentialy Aligned Agency | 0.326 (0.260) | 0.349 (0.262) | 18.027 (44.897) | 26.038 (42.715) |
| Presidentially-Opposed Agency | 0.247 (0.374) | 0.240 (0.377) | -24.035 (44.117) | -29.803 (41.699) |
| Divided Gov't \times Presidentialy Opposed Agency | -0.296 (0.196) | -0.309 (0.206) | 21.759 (45.269) | 28.761 (43.297) |
| Priority Agency | 0.237 (0.237) | 0.210 (0.221) | -0.018 (2.319) | -0.309 (1.952) |
| Clinton Administration | | -0.135 (0.185) | | -2.528*** (0.980) |
| Constant | 15.115*** (0.460) | 15.129*** (0.448) | 23.148 (44.940) | 29.619 (42.115) |
| Variance Equation | | | | |
| Divided Government | -0.384 (0.473) | -0.258 (0.492) | -3.507*** (1.304) | -3.759*** (1.280) |
| Unreliable Agency Head (+) δ_1 | -0.103 (0.986) | 0.019 (0.982) | 3.221*** (1.202) | 2.938*** (1.100) |
| Divided Gov't \times Unreliable Agency Head (-) δ_2 | 0.006 (0.599) | 0.071 (0.645) | -5.467*** (1.148) | -5.038*** (1.218) |
| Agency Decision Maker Independence | 2.338*** (0.712) | 2.456*** (0.922) | 2.303 (1.724) | 2.825 (2.385) |
| Policy Independence | -1.694*** (0.360) | -1.684*** (0.388) | -0.979* (0.525) | -0.851 (0.686) |
| Presidentially-Aligned Agency | 0.741 (1.417) | 0.731 (1.405) | -5.139** (2.423) | -5.207** (2.254) |
| Divided Gov't \times Presidentialy Aligned Agency | -0.568 (0.622) | -0.652 (0.737) | 4.759*** (1.809) | 4.590*** (1.772) |
| Presidentially-Opposed Agency | -0.189 (0.956) | -0.234 (1.010) | -9.474*** (1.697) | -9.761*** (1.631) |

| | | | | |
|---|------------------|-------------------|----------------------|----------------------|
| Divided Gov't × Presidentially Opposed Agency | 0.557 (0.989) | 0.478 (1.109) | 8.250*** (1.638) | 8.199*** (1.556) |
| Priority Agency | 0.509 (1.023) | 0.567 (1.132) | -0.816 (1.515) | -0.548 (1.561) |
| Clinton Administration | | -0.239 (0.423) | | 0.421 (0.617) |
| Constant | 0.543 (0.400) | 0.546 (0.409) | 11.941*** (0.913) | 11.902*** (0.931) |
| Hypothesis Tests | 0.962 | 0.858 | 64.703*** | 63.033*** |
| H1: ME(RSPL UG) – ME(RWPL UG) > 0 | (0.782) | (0.780) | (2.776) | (3.849) |
| Number of Observations | 263 | 263 | 263 | 263 |
| Log-Likelihood | -355.008 | -353.639 | -1191.207 | -1187.142 |
| Bayesian Information Criterion | 832.604 | 829.866 | 2505.000 | 2502.444 |
| Variance Equation LR Test | 132.265*** | 156.318*** | 312.477*** | 305.787*** |

Note: Multiplicative heteroskedastic linear regression model estimates. Variances modeled as exponential functions of the specified covariates using maximum likelihood. Variance terms presented on log-sigma scale. Observations with negative legislative discretionary budgetary authority omitted. Two-tailed tests presented. In the Hypotheses Tests section, **black bolded** entries indicate those that are statistically significant at least the 90% level and in line with the indicated hypothesis, and **red** entries are those with signs contrary to expectations. Robust standard errors clustered on agency appear inside parentheses: * p < 0.1, ** p < 0.05, *** p < 0.01

Table A-13: Heteroskedastic Models of Discretionary Budget Authority
(Agency Fixed Effects in Lieu of Agency-Specific Covariates;
Omitting Observations with Negative LDBA)

| | Logged Legislative Discretionary Budget Authority | | Relative Legislative Discretionary Budget Authority (Weighted Average Percentage Change) | |
|--|---|----------------------|--|----------------------|
| | <u>Model A-49</u> | <u>Model A-50</u> | <u>Model A-51</u> | <u>Model A-52</u> |
| Mean Equation | | | | |
| Divided Government | -0.024 (0.033) | 0.006 (0.044) | 1.934*** (0.649) | 1.643* (0.974) |
| Reliably Strong Presidential Loyalist (+) β_1 | 0.091*** (0.020) | 0.059*** (0.023) | -0.115 (1.178) | -0.870 (2.054) |
| Divided Gov't \times Reliably Strong Presidential Loyalist (-) β_2 | -0.001 (0.034) | -0.021 (0.021) | -0.942 (1.168) | 0.162 (3.006) |
| Reliably Weak Presidential Loyalist (-) β_3 | -0.764*** (0.032) | -0.702*** (0.057) | -3.003*** (0.298) | -2.632*** (0.815) |
| Divided Gov't \times Reliably Weak Presidential Loyalist (+) β_4 | 0.788*** (0.043) | 0.743*** (0.064) | 0.888 (0.671) | 1.198 (0.962) |
| Clinton Administration | | -0.080 (0.059) | | -0.459 (1.088) |
| Constant | 17.022*** (0.022) | 17.062*** (0.011) | 1.599** (0.747) | 1.761 (1.519) |
| Variance Equation | | | | |
| Divided Government | 0.931 (1.029) | 0.686 (0.852) | -0.154 (0.582) | -0.040 (0.537) |
| Unreliable Agency Head (+) δ_1 | 1.121 (0.869) | 1.643 (1.258) | 0.387 (0.969) | 0.201 (1.101) |
| Divided Gov't \times Unreliable Agency Head (-) δ_2 | -1.243 (1.089) | -1.151 (1.212) | -2.801 (1.723) | -2.899 (2.031) |
| Clinton Administration | | 2.654*** (0.756) | | -0.547 (0.493) |
| Constant | -6.164*** (0.823) | -7.451*** (0.609) | 5.225*** (1.073) | 5.437*** (1.457) |
| Hypothesis Tests | 0.855*** | 0.761*** | 2.888*** | 1.762 |
| H1: ME(RSPL UG) – ME(RWPL UG) > 0 | (0.020) | (0.074) | (0.992) | (2.740) |
| Number of Observations | 265 | 265 | 265 | 265 |
| Log-Likelihood | 38.867 | 84.229 | -952.973 | -950.746 |
| Bayesian Information Criterion | -33.096 | -112.660 | 1950.584 | 1962.868 |
| Variance Equation LR Test | 6.990e+07*** | 3530.472*** | 4.491e+08*** | 5.673e+08*** |

Note: Multiplicative heteroskedastic linear regression model estimates. Variances modeled as exponential functions of the specified covariates using maximum likelihood. Variance terms presented on log-sigma scale. Observations with negative legislative discretionary budgetary authority omitted. Agency-level fixed effects included in the mean and variance equations. Two-tailed tests presented. In the Hypotheses Tests section, **black bolded** entries indicate those that are statistically significant at least the 90% level and in line with the indicated hypothesis, and **red** entries are those with signs contrary to expectations. Robust standard errors clustered on agency are inside parentheses: * p < 0.1, ** p < 0.05, *** p < 0.01