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### Authors

Anderson, Sarah E  
Harbridge, Laurel

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# The Policy Consequences of Motivated Information Processing among the Partisan Elite<sup>1</sup>

Sarah E. Anderson  
University of California, Santa Barbara

Laurel Harbridge  
Northwestern University

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## Abstract:

An analysis of U.S. budgetary changes shows that, among subaccounts that are cut, Democrats make more large cuts when they control more lawmaking institutions. This surprising finding is consistent with legislators who are subject to motivated reasoning. In an information rich world, they disproportionately respond to information in line with their bias unless they must make a large accuracy correction. This paper tests, for the first time, motivated information processing among legislators. It finds evidence that Democrats engage in motivated information processing and that the effects of it are felt more on social spending and in off-election years.

## Authors' Note

Data, replication code, and online appendix have been deposited at the IQSS Dataverse Network at Harvard University (study number 23385). The authors would like to thank John Bullock, Jamie Druckman, Thomas Leeper, and participants at “The Politics of Federal Spending” conference organized by Nathan Monroe for helpful feedback. An earlier version of this paper was presented at the Annual Meeting of the Midwest Political Science Association.

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<sup>1</sup> Upon publication, replication data will be available in a public archive.

An empirical investigation of the U.S. budget reveals a puzzling pattern of spending. When they do make cuts, Democrats make more large cuts than Republicans. This directly contradicts what we would predict based on their ideological predisposition to increase domestic spending, yet can be accounted for by an elite theory of *motivated information processing*. Operating in an information rich world where legislators must choose to ignore some signals, elites face the same partisan directional goals and cognitive limitations that members of the electorate face. Their bounded rationality combines with motivated reasoning (seeking out information that supports their predispositions and discarding information that conflicts with their predispositions) to produce decisions that seem counterintuitive. Facing the need to competently manage policy changes, elites must, at times, make large corrections in ways that contradict their partisan leanings. They make these changes either in response to a particularly strong signal or to correct an accumulation of actions corresponding to their partisan bias that results in policy out of line with the signals from the environment regarding appropriate public policy. Both of these yield large policy change contrary to their partisan leanings.

Although there is a growing literature on motivated reasoning at the mass level, it has never been translated to and tested among legislators. We have good reason to believe that elites are subject to the same cognitive constraints and biases as partisans in the mass public, but finding appropriate tests of this behavior in elites is more complicated. It is difficult to study political elites with the laboratory and survey experiments that have allowed for the research on the mass public. Moreover, the institutions of policymaking may mask motivated reasoning because legislators are rarely unitary actors. By developing a series of observable implications in the policy making process, we find evidence of what we term motivated information processing among legislators. This offers a way to study the psychology of elites without relying on psychological profiles (e.g., George & George, 1998) or inferences from the close reading of

speeches (e.g., Seyranian & Bligh, 2008).

The first section brings together prior theoretical work on disproportionate information processing (Jones & Baumgartner, 2005) – that lawmakers' response to new information does not necessarily correspond to the size of the signal – and motivated reasoning (for a review, see Druckman, Kuklinski, & Sigelman, 2009) to produce a framework of motivated information processing. The second section derives three observable implications: that legislators make large changes that go against their partisan bias, that motivated information processing is especially prevalent on issues owned by the parties, and that the effects of motivated information processing will be more prevalent further from an election. These implications are tested in the third section by drawing on budget data that provide an excellent test for the Democratic Party but are more limited for the Republican Party. We find that, although Democrats are more likely to increase spending than are Republicans, they also make more large cuts. Moreover, these tendencies are particularly pronounced on issues owned by the party and in non-election years. These findings are consistent with the predictions if lawmakers are indeed using motivated information processing.

### **Motivated Information Processing Framework**

Elites, like the mass public, are likely to engage in motivated reasoning.<sup>2</sup> Legislators are partisans, politically aware, politically sophisticated, and have strong prior opinions, all of which are attributes that make individuals in the mass public more subject to the errors of motivated reasoning (Lavine, Johnston, & Steenbergen, 2012; Slothuus & de Vreese, 2010; Taber & Lodge, 2006). Evidence from research in political psychology suggests that the collection and integration of information is often not independent of prior judgment (Taber & Lodge, 2006, 755), as would be expected if individuals were rational, Bayesian actors. Instead, the bias

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<sup>2</sup> This argument is bolstered by findings in Braman (2009), who suggests that motivated reasoning plays out in judicial decision making, even at the level of the Supreme Court.

explicitly recognized in motivated reasoning implies that the way that people incorporate information is a function of their prior beliefs (Redlawsk, 2002).<sup>3</sup> Applied to the realm of politics, the focus has been on “directional motivated reasoning, on the assumption that people seek to arrive at desired conclusions about politics” (Druckman et al., 2009, 491). The directional goals of legislators may encompass prior views about the role of government (policy goals) as well as consistency with a party brand that helps facilitate reelection.

Among citizens, directional motivated reasoning results in both disconfirmation bias – counter-arguing against contrary arguments and uncritically accepting supporting arguments – and confirmation bias – seeking out confirmatory evidence (Taber & Lodge, 2006). In mass public opinion, the consequences of motivated reasoning manifest in partisans punishing only presidents of the opposite party for economic performance (Lebo & Cassino, 2007), in their inability to make factually accurate statements about the other party (Hartman & Newmark, 2012), and, outside the experimental setting, in the fact that co-partisans of the president are more likely than opposing partisans to believe that inflation and unemployment have decreased during the president’s tenure (Bartels, 2002). This evidence from the mass public suggests that motivated reasoning is “built into the basic architecture of information processing mechanisms of the brain” (Lodge & Taber, 2008, 35-36).

As such, policymakers are also subject to the bias of motivated reasoning. The information rich world in which policymakers are steeped means that they need a simple way of making decisions. For example, Democrats, as the more pro-environmental party, are generally more willing than Republicans to add land to the public domain, so they are likely to increase

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<sup>3</sup> Bias alone does not demonstrate the use of motivated reasoning, as biases can result from other shortcuts or heuristics and can occur under Bayesian updating given certain prior beliefs, the type of information, and sufficient strength of original beliefs ([Bullock, 2009](#)).

funding for land acquisitions without engaging each time in protracted debate over the need for greater spending in this area. This is particularly true if policymakers operate under conditions of bounded rationality (Simon, 1955), where they are goal oriented and strategic but have cognitive limits and finite time in which to make decisions. Instead of evaluating all possible options for dealing with a problem in public policy, policymakers must search among available alternatives for a solution. One possible method of search is to make small changes from the status quo: to follow a path of incremental change (Lindblom, 1979; Wildavsky, 1974). Since it is clear that there are also large changes in policy, often referred to as punctuations, Jones and Baumgartner (2005) suggest that what actually occurs is disproportionate information processing whereby individuals sometimes overreact to information and at other times underreact, often in systematic ways. This information rich world means that elites are subject to the conditions that Taber and Lodge (2000, 185) suggest make directional bias most likely to creep into reasoning: the judgment task is complex, objective information is not readily available or the evidence is ambiguous, disconfirming evidence is not highlighted, counterarguments come easily to mind, and they are under time pressure. Motivated reasoning offers insight into the source of the “systematic” mistakes they make and whether legislators are predisposed to accept signals for changes in one direction versus another. The integration of the motivated reasoning literature in political behavior and the information processing literature in policy studies that separately emphasize the limitations of individual decision making sheds light on how partisanship affects policy outcomes in counterintuitive ways.

While partisan bias does drive decision making, individuals subject to motivated reasoning have not just directional goals, but also accuracy goals – a motivation to arrive at the most correct possible conclusion (Festinger, 1957; Kunda, 1990). Accuracy inducements among the elite can come from either a concern about good public policy or from the accountability of

reelection. Importantly, however, neither factor is expected to eliminate the directional goals that come from partisan predispositions, especially since the audience of voters is often not sufficiently informed to hold politicians accountable in the electoral process or may share their directional goals (see Lerner & Tetlock, 1999, 255 for a review of the audience characteristics that would induce accountability). For elites, directional goals would result in policy changes in the direction of their ideological predisposition, whereas accuracy goals may result in policy changes that are counter to these predispositions. While there is debate about whether (or when) substantive information trumps partisan cues among the mass public (Bullock, 2011), experimental research suggests that the directional aspect of motivated reasoning is attenuated only with very strong accuracy inducements (Bolsen, Druckman, & Cook, 2012; Druckman, 2012) or by overwhelming evidence that runs counter to prior beliefs (Chong & Druckman, 2007).

For example, only when faced with very compelling information that additional spending on public lands would jeopardize commitments to existing federal land management would Democrats agree to cut spending on land acquisition. In spite of their general desire to increase spending in this area as a means of environment protection, Democrats must recognize when further increasing spending compromises the management of the public domain. Because policymakers regularly under-react to signals contrary to their directional goals, they may be forced by accuracy goals to over-react as a way to correct policy. In 1993 after increasing the budget in four out of the prior five years, the unified Democratic government cut spending to the Bureau of Land Management land acquisition subaccount. "Reflecting Clinton's request to decrease the amount of money spent to buy property rather than maintain the land already owned, the bureau's land acquisition account was cut by more than 56% to \$12.1 million to purchase [only] 14 parcels nationwide" ("Western Issues Hold Sway in Interior Bill," 1993, 625).

It took until 2000 to reach the 1992 level of spending again.

Since political elites continuously operate in a world of conflicting information, we can expect the insights of directional and accuracy goals from motivated reasoning to combine with the insights of under- and over-reacting to policy signals from disproportionate information processing to produce what we call *motivated information processing*. In practice, this means that individuals choose which pieces of evidence to consider and how to respond to the information they receive (Druckman, 2012). This implies that their decisions will be characterized by a pattern where most changes are in the direction of their bias, but occasionally, given their accuracy goals, we would also expect them to make corrections that go against the direction of bias. Given that these corrections occur only after an accumulation of decisions in the direction of their bias or after substantial information that cannot be ignored, they are likely to be large.

Despite the expectation that elites should be subject to motivated information processing, finding evidence of this behavior is quite difficult for two reasons. In part, this is because studying political elites in ways that are parallel to the study of the mass public is problematic. The vast majority of research on motivated reasoning relies on experimental research, either in a laboratory or in a survey experiment. This option is largely unavailable when studying political elites and especially so when trying to understand how decision making processes affect policy outcomes. But we can follow those scholars (e.g., Bartels, 2002) who have found observable implications of the theory outside of experimental settings. For political elites, the observable implications that enable us to indirectly test whether elites use motivated information processing come in policy outcomes rather than public opinion. Second, the interaction of individuals in government, combined with the institutional structure, means that policy outcomes are not the result of a single decision maker. Thus, looking for observable implications of motivated



information processing in the outputs of government rather than in the individual decisions of elected representatives provides a particularly difficult test of the theory. Given the demanding nature of the test, if we nonetheless find evidence of motivated information processing, it should be all the more compelling.

### **Observable Implications**

This paper assesses three observable implications: that elites will make most decisions in the direction of their bias but occasionally make especially large corrections in the opposite direction; that motivated information processing will be more prevalent on issues owned by the parties; and that motivated information processing will have more of an effect further from elections.

### ***Policy Choices and Motivated Information Processing***

Given a broad distribution of information signals, confirmation bias implies that partisans will disproportionately process those that confirm their beliefs. Just as with politically sophisticated members of the public, political elites seek directional goals, and their prior beliefs about the necessity of changing policy affect what signals from the environment are considered. Thus, when a given political party has greater control of the policy process,<sup>4</sup> we expect that they will process those signals that align with their directional goals, resulting in policy changes that align with their predispositions or ideological tendencies.

More interesting are the cases where motivated information processing results in actions contrary to their traditional partisan stances. When the evidence presented for one side clearly trumps the other or when there are strong accuracy inducements, even partisans in the public move from their directional goals (Chong & Druckman, 2007; Druckman, 2012). In the case of

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<sup>4</sup> While control of the policy process may be affected by the number of Democrats (or Republicans) in Congress, majority status confers particularly important avenues for control, including party leadership, committee and subcommittee chairmen. As a result, our tests focus on which party controls each lawmaking institution. We also control for gains in seat share.

the example above, Democrats will eventually cut spending on land acquisition. Given the need to be considered competent with national policy and to be reelected, the partisan elite also cannot ignore repeated or large signals that run contrary to their prior beliefs. As a result, the parties can be expected to make small changes in the direction of their prior beliefs unless one of two things happens: 1) they have ignored enough signals that movement in the contrary direction must occur or 2) they receive a sufficiently strong signal that a change in the contrary direction must be made. Because these changes occur after repeated signals have been ignored for a time or are the result of a strikingly large signal, their magnitude should be larger than that of many of the small changes that partisans make in the direction of their prior beliefs. For example, Democrats may ignore a signal that spending on subsidies to solar power needs to be cut until spending on solar power must be *greatly* cut.<sup>5</sup> Thus, we would observe a slow upward trajectory in spending from Democrats as they follow their directional predisposition followed by a large cut.

The counterfactual to the framework of motivated information processing could be one of two basic patterns. The first, drawn from just disproportionate information processing, would suggest that the distribution of policy changes should have more big changes and very small changes than a normal distribution because of over- and under-reaction to signals— but that party control of the process should not predict either the type or direction of policy change (Jones and Baumgartner, 2005). The second, drawn from a more rational choice perspective of politics, would predict that party control affects the direction of change, but it would not yield the counterintuitive prediction about corrections because legislators would not ignore signals as they do in motivated information processing. We consider more nuanced alternatives in the discussion.

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<sup>5</sup> This signal might, for example, be evidence that solar power technology is not living up to its promise or that U.S. firms will have trouble competing with lower-cost Chinese manufacturers.

### ***Issue Ownership and Motivated Information Processing***

In addition to the observable implications about the size and direction of policy changes, the logic of motivated information processing implies that the effects will be stronger on those issues that are owned by the parties, since this is where directional and accuracy goals are strongest (Bolsen et al., 2012). The issue ownership literature suggests that each party has policy areas that are owned, in the sense that the public views the party as being more competent or having more expertise in this area. Typically, Democrats are thought to have ownership over welfare, unemployment, poverty, education, health care, the elderly, Medicare/Social Security, labor/jobs, and the environment; while Republicans have ownership over crime/drugs, the protection of moral values, foreign policy, defense, inflation, and taxation (Egan, 2009; Holian, 2006; Petrocik, 1996; Petrocik, Benoit, & Hansen, 2003). Not surprisingly, these are also policy areas that the owning party emphasizes politically and has made part of their brand name. Because of the importance of these issues, partisans may have both strong directional goals, where they have predispositions to expand government attention to those programs, and strong accuracy goals, where they care about getting the policy “right.” Continuing with the example of funding for public lands, Democrats have a strong predisposition to add to public lands, but they also do not want to be accused of mispending on acquisition over management of existing lands.

### ***Election Cycles and Motivated Information Processing***

We also predict that the degree of motivated reasoning, or bias toward one’s priors, will vary between the first and second session of a Congress because of electoral pressures and the need to appeal to constituents who benefit from policies. The directional motivations of politicians come not just from ideology and partisanship, as they do in the electorate, but also from their constituencies (e.g., Harden & Carsey, 2012; Kingdon, 1973; Levitt, 1996). Members have electoral incentives to be mindful of constituents, and large policy corrections have the potential to put members out-of-step and thus at electoral risk (Canes-Wrone, Brady, & Cogan,

2002). Assuming that even necessary accuracy corrections may run counter to the perceived interests of constituents but that voters are myopic (Bartels, 2008; Healy & Malhotra, 2009; Huber, Hill, & Lenz, 2012), we expect that parties will choose to make necessary large changes counter to a party's preferred direction of change in the first session when they are further from the election and more able to avoid the electoral consequences. Because of the role of constituency in creating directional goals, this electoral cycle is most likely to be apparent among the issues that are owned by the parties. Democrats should choose to cut public lands acquisition spending in the first session of a Congress (and they did).

#### **Data**

The budget, long used in studies of incrementalism and punctuated equilibrium, is an effective place to test the combined framework of disproportionate information processing and motivated reasoning in the partisan elite because it is one of the few places where we can assess the direction of policy change and where we have general information about the prior beliefs of each party (Erikson, McKuen, & Stimson, 2002; Natchez & Bupp, 1973). As we discuss in further detail below, this approach allows for the clearest test of motivated information processing among Democrats and is more limited among Republicans. To assess motivated information processing among legislators, this analysis uses disaggregated budget data (Cogan, 2002) consisting of the amounts of budget authority in each discretionary subaccount (the smallest unit in the appropriations bills) for each fiscal year beginning in 1956 and going through 2003. Included in the data are 1,539 subaccounts. Of course, not all of these subaccounts are funded in each year, so the panel of year-to-year spending changes is unbalanced. For our purposes, it is important to use the most disaggregated data rather than data at the subfunction, agency or appropriations bills level since those aggregations may produce relatively small year-to-year variation that can mask very large changes in the component accounts (Anderson &

Harbridge, 2010). The fiscal year data are adjusted to correspond to calendar years because the political variables of interest change by calendar year.

Making an assumption about the directional goals of the parties is relatively straightforward. On domestic issues Democrats believe that increased spending would be beneficial<sup>6</sup> and Republicans believe that decreased spending would be beneficial.<sup>7</sup> Under the traditional view, as Democrats gain more control of the political process, they will process signals indicating that spending should be increased, and we should observe increases to budgetary spending. As Republicans gain more control, we should observe decreases. Such a finding would be unsurprising.

The empirical manifestation of accuracy goals in motivated information processing yields the counterintuitive prediction that, conditional on cutting the budget, Democrats should make large cuts more often than Republicans. Similarly, conditional on increasing spending, when Republicans hold more lawmaking institutions, they should make large increases more often than Democrats.<sup>8</sup> This is because the “corrections” necessitated by accuracy goals could occur either

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<sup>6</sup> For example, the 2008 Democratic Party Platform stated, “We will provide immediate relief to working people who have lost their jobs, families who are in danger of losing their homes, and those who – no matter how hard they work – are seeing prices go up more than their income. We will invest in America again –in world-class public education, in our infrastructure, and in green technology” ([Democratic Party, 2008](#)).

<sup>7</sup> In the Republican Party Pledge to America released in September 2010, Republicans put forth “a plan to stop out of control spending & reduce the size of government” ([GOP, 2010](#)).

<sup>8</sup> Although we move between the phrases ‘when Democrats control more institutions, policy will...’ and ‘Democrats will do X to policy’, we are cognizant that the collective nature of policy making necessitates a leap from focusing on the behavior of individuals to parties as aggregates.

in the face of a singularly strong signal of the need to change a policy or from an accumulation of actions in line with directional goals that lead a policy area to be out of line with the signals from the environment about appropriate ranges of policy. Testing this first observable implication requires examining differences in the distribution of changes among cuts and increases conditional on the number of Democratic institutions (the total number of lawmaking institutions – House, Senate, and presidency – controlled by the Democrats in each year).<sup>9</sup> In the time period of our data, CY 1956-2002, there are no periods of unified Republican control so this number ranges from 1 to 3.<sup>10</sup>

Given the aggregation of multiple individuals and the institutional arrangements that filter policy change, policy outputs are a difficult test for our framework of motivated information processing. Nonetheless, the raw budgetary data provide evidence of this relationship. Drawing on those subaccounts that align most closely with Democratic priorities, Figure 1 shows the proportion of cuts that are greater than 50%. If motivated information processing were not occurring, we would expect fewer large cuts the more institutions that Democrats control. Instead, among budget subaccounts that are cut, a higher proportion of big cuts (53.3% when Democrats hold two institutions and 50.1% when they control three institutions) are made when Democrats have greater control. When they control one institution,

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<sup>9</sup> In the rest of the paper, we refer to the number of Democratically controlled lawmaking institutions simply as the number of Democratic institutions.

<sup>10</sup>The interval level specification assumes that the difference between one and two institutions of Democratic control is similar to that between two and three institutions. Robustness checks treating the number of Democratic institutions as a categorical variable are available in Online Appendix B. The substantive insights are similar in both specifications.

only 36.8% of the subaccounts that are cut fall into the large cut category.<sup>11</sup>

To test whether this pattern is merely an artifact of other factors in the budgetary environment, we offer a multivariate test of our framework. In addition to the number of institutions controlled by Democrats, each multivariate specification includes net turnover that indicates the net percent of seats that changed from Republican to Democratic averaged across the House and the Senate.<sup>12</sup> Positive values reflect Democratic gains, while negative values reflect Republican gains, capturing the degree to which one party has increased control.

Attributing different patterns of policy change not to “true” signals from the environment but to the behavior of the parties when they receive signals requires the assumption that the distribution of signals in the environment (e.g., the need for a cut or increase to a given program) is relatively similar across partisan control. We would be concerned that this assumption is violated if Democrats are elected when there is a “need” for more social spending, perhaps in economic downturns. While models of presidential and House elections find that the economy helps to predict election outcomes (Abramowitz, 2012; Fair, 2009; Hibbs, 2000), it is the *incumbent* party’s vote share that is predicted by economic variables, not the vote share of the

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<sup>11</sup> We might be concerned that these results mask variation in which party controls each branch or chamber. Figure E in the Online Appendix shows all of the observed combinations of institutional control, noting that the only case of Democrats controlling two institutions is the combination of Democratic control of the House and Senate with a Republican president. Among the cases of one Democratic institution, there is little variation in the proportion of cut subaccounts with big cuts, suggesting that Democratic control of each institution has comparable effects.

<sup>12</sup> Changes in the coalition of decision makers may also affect the size of policy change, as the status quo may be further away when there is substantial turnover ([Krehbiel, 1998](#)).

Democratic or Republican Party. Nonetheless, to control for economic signals, the analysis includes the size of the surplus as a percent of GDP (lagged by one year) and the unemployment rate (Padgett, 1980, 364). We also ran models including the public mood (Stimson, 1991) as a control variable but found the effects to be generally insignificant so the models presented here omit this variable.

Budgetary rules also constrain policymaking. From fiscal years 1985 to 1990, the existence of Gramm-Rudman-Hollings deficit limits intended to constrain spending should limit both the number and size of changes. Then the adoption of pay-as-you-go (PAYGO) rules required that increases in one area be offset by decreases in another so we should expect fewer changes, and especially fewer large changes, between 1991 and 2001 because of the political difficulty of determining an appropriate offset. Moreover, when there are changes, PAYGO is likely to promote decreases in spending as any increases must be offset.

Longer durations of bargaining, as measured by the number of days past the beginning of the fiscal year that an appropriations bill passes, should be associated with fewer changes in spending, a greater likelihood of small cuts in spending, and a greater likelihood of small increases in spending. This is because spending has often already continued via the continuing resolution at last year's levels, making even an intended large change smaller. It is also because delays in the appropriations process are associated with greater disagreement on the part of the actors (Woon & Anderson, 2012) making them less likely to agree to large changes in the level of appropriations.

Although there is no theoretical reason to believe that motivated information processing applies only to Democrats, the combination of the data and the time period available here makes it difficult to test whether Republicans are operating in a way that is consistent with motivated information processing. First, even if Republicans engage in motivated information processing,



this study does not include a period of unified Republican control analogous to the three periods of unified Democratic control in this time period, which may make evidence of motivated information processing more difficult to observe. Second, large increases are more difficult to make than large cuts, especially if budget rules like Gramm-Rudman-Hollings or PAYGO are in place where deficit limits apply or increases have to be offset with corresponding decreases. These budget rules may imply an asymmetric ability to make accuracy corrections. Finally, since very little of the domestic discretionary budget consists of issues owned by the Republican Party, our analyses of issue ownership must focus on the social issues that are owned by Democrats. The only possible budget area for Republicans, defense spending, may be significantly impacted by wars or other external events (e.g., Goldsmith, 2003). As a consequence, the empirical approach in this paper effectively tests motivated information processing for Democrats while offering a test that may be biased toward null results for accuracy corrections among Republicans. Nonetheless, the benefits of budgetary data as a unique source for assessing direction and size of policy change justify their use here.

### **Model**

We model categories of large and small policy changes because our argument is that the partisan identity of decision makers will affect the signals that will be considered and thus the *type* of change that will occur. A continuous specification with the percentage change of policy would ask whether Democrats *on average* make larger cuts, a prediction motivated information processing does not make since directional goals will lead them to make lots of small increases as well as the large cuts for accuracy. Instead, the implication of the theory is that, if motivated information processing is occurring, there should be differences in the relative likelihood of large and small cuts under Democratic control.

A nested logit specification captures the categorical nature of the motivated information

processing predictions with four equations modeling categories of policy change.<sup>13</sup> This allows us to test the predictions that Democrats make both small increases and big cuts more often than Republicans without treating the categories symmetrically as a polytomous logit model would. Additionally, the nested dichotomous models do not impose the restriction that the equations for the regression lines in each category are the same as an ordered probit or logit model would.<sup>14</sup> Although the nested logit model may appear to imply stepwise decisions about policy change, decisions at each step can be made with expectations about what subsequent decisions will be.

For completeness, the first equation, *Change*, models whether the subaccount is changed even though motivated reasoning offers no explicit predictions about whether elites make changes to policy. The definition of no change from year-to-year includes very small adjustments of +/- 3%. On the subset of subaccounts that are changed, the second equation, *Increase*, models whether spending is increased (coded 1) or decreased to capture general partisan bias due to directional goals. On the subset of subaccounts that are cut, the third equation, *Big Cut*, models whether the cut is large (coded 1) or small to capture accuracy corrections. On the subset of subaccounts where spending is increased, the fourth equation, *Big Increase*, models whether spending increases by a large (coded 1) or small amount. This paper uses a threshold of 50% to

<sup>13</sup> The specification is similar to Cameron's (2000, 52) account of veto bargaining, to models of women's participation in the labor force (Fox, 2002), and to models of consumer choice of health plans (Feldman, Finch, Dowd, & Cassou, 1989).

<sup>14</sup> Another possibility, quantile regression, has the nice property of creating less arbitrary cutpoints, but it only allows the effect of the independent variable to vary across quantiles, rather than allowing the independent variable to predict which quantile policy occurs in. Our interest is not in whether party control has a varying effect within big cuts compared to within small cuts, but in whether party control corresponds to having a large cut or a small cut in the first place.

differentiate small and large changes, but robustness checks in the Appendix use thresholds for big cuts/increases of 25%, 40%, 50%, 60%, and 75%. Because we are interested in the size of the changes in spending actually made by policymakers, appropriations are not adjusted for inflation.

In all of our subaccount-level analyses, we use multi-level models allowing the intercept to vary for each of the subaccounts. This approach has the benefit of accounting for relationships over time within each subaccount, while also acknowledging that some subaccounts provide more information than others (Gelman & Hill, 2007).

### **Tests of Observable Implications**

#### ***That Democrats Make More Large Cuts Despite Making More Increases In General***

Being mindful of the limited ability to test this framework on Republicans, each specification of Table 1 has the primary partisan predictor in order to test the first observable implication, that Democrats make more large cuts despite their partisan predisposition to increase spending. Consider first the gray row, which shows the relationship between the number of Democratic institutions and policy change in the first session.<sup>15</sup> Column 1 shows that more subaccounts are changed when Democrats control more institutions. As we would expect given the ideological stances of the parties, among those subaccounts that are changed, the *Increase* column shows that more are increased when Democrats have control of more institutions. This result is unsurprising and aligns with the expectations of partisan bias in motivated information processing. The application of accuracy goals to congressional decision-making offers a more surprising result in the *Big Cut* column. Motivated information processing would predict that when they do make cuts Democrats make big cuts more often than Republicans because they must counteract an accumulation of inappropriate increases based on their ideological bias or

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<sup>15</sup>These models also contain an interaction between the partisan variable and a dummy for the first or second session of a Congress, allowing the effect of the partisan variable to vary. We discuss these results in more detail when we consider the third observable implication.

respond to an overwhelmingly large signal. In fact, among those subaccounts that are cut, more big cuts are made when Democrats control more institutions of government. Increasing Democratic control from one institution to unified control corresponds to a 5% increase in the probability of making a big cut.<sup>16</sup> A greater number of average net seats gained by Democrats is also associated with more increases in spending and more big cuts, consistent with motivated information processing. Although we would expect accuracy corrections to appear among Republicans as well, data limitations make the *Big Increase* specification a very difficult test of the theory and the results do not provide support for the hypothesis.<sup>17</sup> Big increases do not occur more often when Republicans control more institutions and, in fact, occur more frequently with greater Democratic control in the first session in this specification.<sup>18</sup>

The remainder of Table 1 offers some insight into the other factors that affect changes in spending. The second session is included to facilitate allowing the effect of the number of Democratic institutions to vary by session for the third observable implication, which we discuss below. Motivated information processing makes no particular predictions regarding the second session main effect, but there are more changes, more increases, and more big cuts in the second

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<sup>16</sup> The estimated predicted probability is calculated using the R forge version of the lme4 library and includes all random effects from the model.

<sup>17</sup> This may be because our time period does not include unified Republican control or because spending rules make large increases more difficult than large cuts.

<sup>18</sup> These specifications include the inception of new programs in the category for large increases. When cases of inception are removed, the number of Democratic institutions is insignificant ( $\beta=0.03$ ,  $p=0.64$ ). Although a different dynamic may be at work for inception, we include it here as a way of taking the broadest view on large changes.

session. During the time that PAYGO was in place and increases to appropriations had to be offset by cuts elsewhere, fewer changes to spending were made, with more cuts. Similarly, Gramm-Rudman-Hollings, which set deficit limits, was associated with fewer changes, but not with more cuts. Both Gramm-Rudman-Hollings and PAYGO reduced the number of large changes in spending. Higher unemployment is associated with greater changes to the budget but, perhaps counterintuitively to those who advocate fiscal solutions to unemployment, with fewer big increases in spending. The size of the surplus from the prior year is associated with more changes to spending, more increases, and more big cuts. As we might expect, having more money to spend makes activity on the budget more prevalent. It is surprising, however, that, within subaccounts that are cut, those in years with a larger surplus are cut more. Finally, longer delay is associated with more changes and more cuts. This reflects the difficulty of compromise (Woon & Anderson, 2012), but it also suggests that budget impasses are not resolved with large changes to the subaccounts.

***That Motivated Information Processing is Stronger among Issues Owned by the Parties***

The second observable implication of the motivated information processing framework is that effects ought to be stronger on issues owned by the party because the directional and accuracy goals of motivated reasoning are stronger on such issues. Table 2 repeats the analysis on only social and environmental spending, which are generally considered to be owned by the Democratic Party (Petrocik, 1996). These data include subaccounts in the areas of low-income housing assistance, education, job training, housing finance, the environment, energy and power subsidies, community development aid, and management of the public domain.

Figure 2 shows that each of the findings related to motivated reasoning that existed among the universe of subaccounts is stronger within those subaccounts owned by the Democratic Party. The top panel (a) shows the effect of moving from one Democratic institution

to unified Democratic control among all subaccounts, while the bottom panel (b) is restricted to Democratically owned subaccounts. Both provide 90% confidence intervals. Comparing between the two panels shows that the effect of Democratic control in the *Change*, *Increase*, and *Big Cut* specifications is larger in the Democratically owned analyses than when all subaccounts are considered, just as would be expected if motivated reasoning plays a larger role in issues owned by the party.<sup>19</sup> Table 2 presents full results that show that more institutions controlled by the Democratic Party is associated with more increases to those Democratically owned subaccounts that are changed and more big cuts to those that are decreased. In this case, increasing Democratic control from one institution to unified control corresponds to a 13% difference in the probability of making a big cut. Again, we do not find support for Republicans making more big increases as the coefficient on the number of Democratic institutions in the *Big Increase* column is insignificant.

***That the Effects of Motivated Information Processing are Stronger Further from Elections***

We turn now to a discussion of the interaction terms with the second session, which serves to test the observable implication that the effects of motivated information processing will be stronger further from elections because the parties cannot afford to alienate their supporters by making corrections close to elections. This means that while they can go against their directional

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<sup>19</sup> For ease of presentation and interpretation, the results presented in the paper subset the data for Democratically owned issues. Although the confidence intervals overlap for estimates on all subaccounts and most owned subaccounts when estimated separately, results on the full data with a three-way interaction term between the number of Democratic institutions, the second session, and Democratically owned issues yield significant differences. These results confirm that the effect of the number of Democratic institutions in the first session for the *Increase*, *Big Cut*, and *Big Increase* categories is significantly larger for owned issues (see Online Appendix Table C1).

goals in off-election years and even make necessary corrections, we should see them do so less in election years. Comparison of the first and second sessions in Figure 2 shows that the effect of the number of Democratic institutions is dampened in the second session.<sup>20</sup> It appears that Democrats do make large corrections by making more big cuts, but they do so more often than Republicans only in years when potential electoral punishment is further away. Again, this is consistent with legislators who are constrained by the nearness of an election in the second session. Only in the first session among all subaccounts is the number of Democratic institutions associated with more big increases but there is no evidence that Republican are engaging in motivated reasoning. The different distributions of changes in the first and second sessions are illustrated in Figure 3, which shows that fewer subaccounts falling under Democratic issue ownership are changed in the second session and more cuts are made in the first session. The moderation of accuracy corrections by Democrats during the second session is consistent with the implications of motivated information processing.

#### ***Robustness Checks***

As a final examination of the observable implications of motivated information processing, we conduct a number of robustness checks. First, to address potential concerns about the nesting of data in time and to assess whether these findings are being driven by the large number of observations that result from disaggregating to the subaccount level, Table 3 presents

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<sup>20</sup> In Figure 2(a) the effect of the number of Democratic institutions in the second session is not statistically different from zero ( $p < 0.10$ ) for *Change* and *Big Increase*. For *Increase* and *Big Cut*, the estimate is significant but changes direction from the effect in the first session. For Figure 2(b) with Democratically owned issues, the effect of the number of Democratic institutions in the second session is insignificant for all dependent variables.

similar results aggregated by year.<sup>21</sup> As with Table 2, this specification focuses on budgetary subaccounts falling under Democratic issue ownership. In this specification, the dependent variable is the percent of most-owned subaccounts that fall in a given category. For example, the dependent variable in the *Big Cut* column is the percentage of subaccounts, among those that are cut, that are cut greater than 50%. The results confirm the findings from the subaccount level. Even when aggregated at a yearly level, motivated information processing is manifested in more big cuts to subaccounts when Democrats control more institutions in the first session. In all cases, the interaction term shows a dampening in the second session such that the effect of the number of Democratic institutions is statistically insignificant in the second session.

The remaining robustness checks repeat the analyses above varying the threshold for defining large budgetary changes (both cuts and increases), defining the number of Democratic institutions as a categorical variable, or separating Democratic control of Congress and the presidency by using the number of Democratic chambers plus an indicator variable for Democratic presidential control. The basic findings of the paper are robust to these changes in specification, with some exceptions for the most extreme definitions of large changes (i.e., 25%) and Democratic presidential control for analyses of all subaccounts.<sup>22</sup> The results of these models

<sup>21</sup> Results at both the subaccount and yearly level are robust to the inclusion of a variable for public mood that captures policy liberalism among the public ([Stimson, 1991](#)). With the exception of Table 1 Model *Increase*, the mood variable is insignificant and is thus omitted from the results presented here.

<sup>22</sup> The finding that having more Democratic institutions is associated with more large cuts is significant for the 40%, 60%, and 75% variation in cutpoints and for treating the number of institutions as a factor. This is true across both the all subaccounts and most owned subaccount specifications and in the yearly model. As with the analyses presented in the paper, the effect of



are available in Online Appendices A, B, and D.

### **Discussion and Conclusion**

In this paper, we maintained the assumption that motivated information processing is what drives the behavior of policymakers and found evidence consistent with the derived observable implications. Are there other theoretical explanations that would produce the same empirical patterns? One alternative explanation is that incentives for electoral moderation drive the pattern of changes. Given a first-past-the-post electoral system, candidates and parties have every incentive to appeal to the median voter. One way to do this would be to balance increases in spending with cuts, where increases occur on the issues most important to the party. Two observable implications follow from this. First, Democrats should make more big cuts on broad

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the number of Democratic institutions is sometimes significant (and positive, contrary to expectations) for big increases among all subaccounts but never among the Democratically owned subaccounts. Moreover, the effect estimates are larger for Democratic issues than for all subaccounts. In the factor specifications, the effect of three Democratic institutions is typically larger in magnitude than the effect of two Democratic institutions, especially on most owned issues. For specifications that separate control of Congress and the Presidency (Appendix D), greater Democratic control – of both Congress and the presidency – is associated with greater increases in spending (relative to cuts) and more large cuts (relative to small cuts), both patterns that are consistent with the framework of motivated information processing. Except in the specification using all subaccounts, Democratic presidents are also associated with more big cuts. Combined with the results of the factor specification of Democratic institutions (Appendix B), these two results indicate that big cuts are not simply a reflection of compromise with a Republican president and are consistent with motivated information processing on the part of both branches.

domestic discretionary spending (Table 1) than they do on their own issues (Table 2) in order to appeal to their electorate without sacrificing partisan goals. Instead, we observe the opposite. Second, we should see greater pandering to the median close to elections. Instead, Democrats make cuts more often in the first session of a Congress. There may be some evidence that Republicans are moderating, given that they make more big increases in the second session. Nonetheless, the observable implications of motivated information processing rather than electoral moderation appear to fit the patterns in the data.

A second alternative explanation for the variation in the size of changes is that governance simply requires compromise. One variant of this alternative, like the classic literature on divided government and its effect on outputs (e.g., Binder, 2003; Mayhew, 1991), would predict that Democrats make cuts to spending under divided government when they must make concessions to Republicans. However, the pattern of Democrats making big cuts to spending is clearly evident under unified government, not just divided government (with Democratic control of both the House and Senate). Moreover, robustness checks show significant effects for both Democratic congressional and presidential control when owned issues are in play. In a similar vein, institutional structures might mean that budget impasses or deficits result in compromises that necessitate major concessions to the other party. The empirical findings here show that there are no more large cuts as negotiations drag on or under deficits. Even if Democrats are forced by the normal business of governing to make cuts, a variant of this perspective would predict that they choose a few targeted large cuts rather than many small cuts. Reelection incentives, absent motivated information processing, would predict that these targeted cuts occur on issues that they don't own; yet Democrats make the large cuts more to their own issues. Thus, it appears that compromise forced by institutional arrangements, economic conditions, or the normal business of governing is not at the heart of big cuts under Democratic Party governance.

Instead, combining the insights from policy scholars on disproportionate information processing with insights from political psychology on motivated reasoning results in predictions that largely match the empirical reality. Partisan elites, just like partisans in the public, have directional goals. As a result, given an abundance of informational signals from which to choose, policymakers will use their partisan identity to select information in line with their directional goals. But as policymakers tasked with national welfare and facing reelection, they also have accuracy goals that may necessitate large corrections to policy. By maintaining the assumption that motivated reasoning is occurring in the heads of political elites, we tested a series of observable implications using budgetary policy.

In particular, we found support for the implications that despite having a general preference (and behavior) for increasing spending, among the subaccounts that were cut, Democrats made more large cuts. This was found to be strongest on those issues that are associated with Democratic issue ownership and during the first session of a Congress, rather than in election years. Although we found little support for Republicans making large budgetary increases, this may be driven by a lack of unified control in our data and by the political difficulty of increasing spending given rules regarding budgetary offsets. Because the world in which legislators operate makes for a difficult test of whether motivated reasoning occurs, the findings consistent with motivated information process are all the more convincing. Legislators, just like the mass public, appear to be subject to the bias and accuracy goals of motivated reasoning.

This paper offers further evidence that parties play a crucial role in producing policy (Berry, Burden, & Howell, 2010; Rohde, 1991; Sinclair, 2006; Smith, 2007). In particular, they structure the directional goals of their members. Partisanship, as a heuristic and as a source of ideological direction, interacts with the information rich environment faced by policymakers to

produce predictable changes in governmental policy. It manifests in intuitive ways, with more Democratic control associated with more increases to spending on various programs. But it also manifests in less obvious ways when the accuracy goals of policymakers drive them to make large corrections that result in an empirical pattern of more large cuts to budgetary subaccounts when Democrats control more institutions of government. This counterintuitive pattern becomes predictable when lawmakers are conceptualized as subject to both bias and accuracy goals that necessitate course corrections. While scholars have realized the importance of partisanship and its attendant motivated reasoning at the mass level, this paper offers evidence that elites too combine directional partisan reasoning with accuracy goals when they engage in policymaking.

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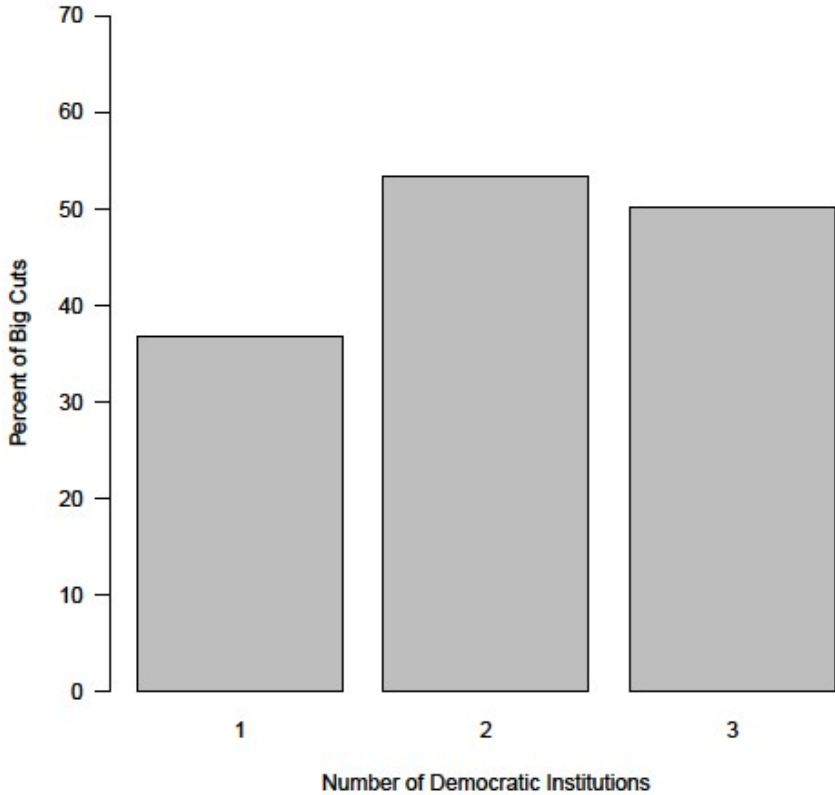
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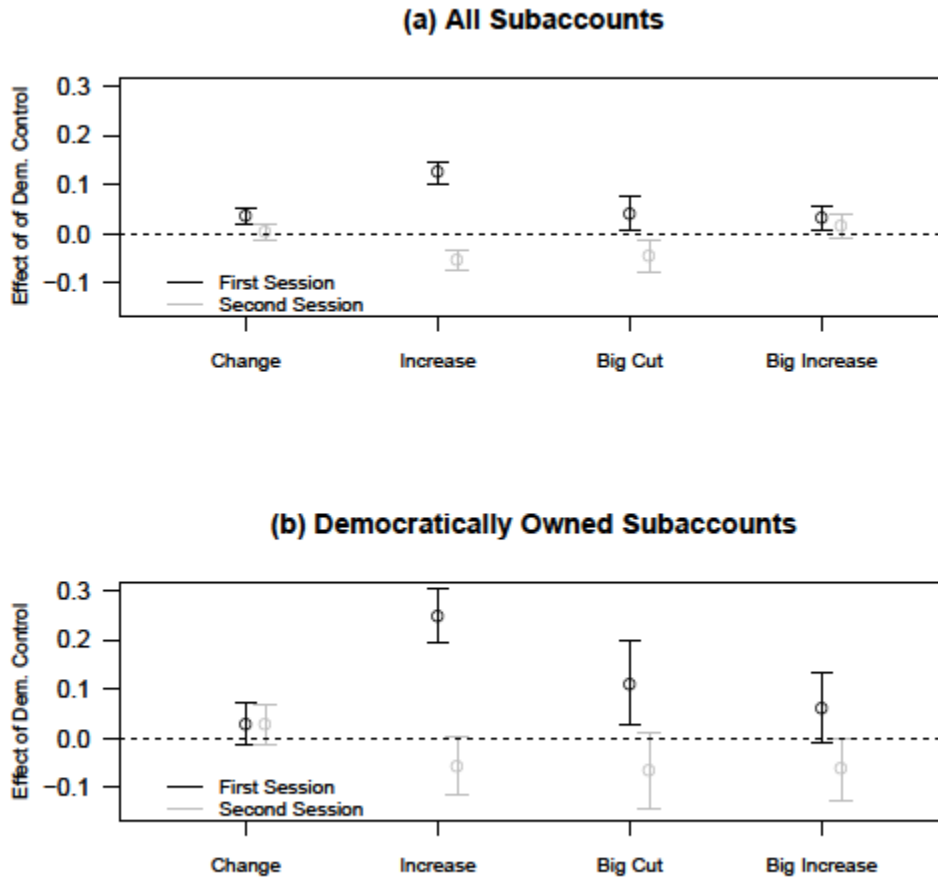
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**Figure 1: Distribution of Budget Cuts**



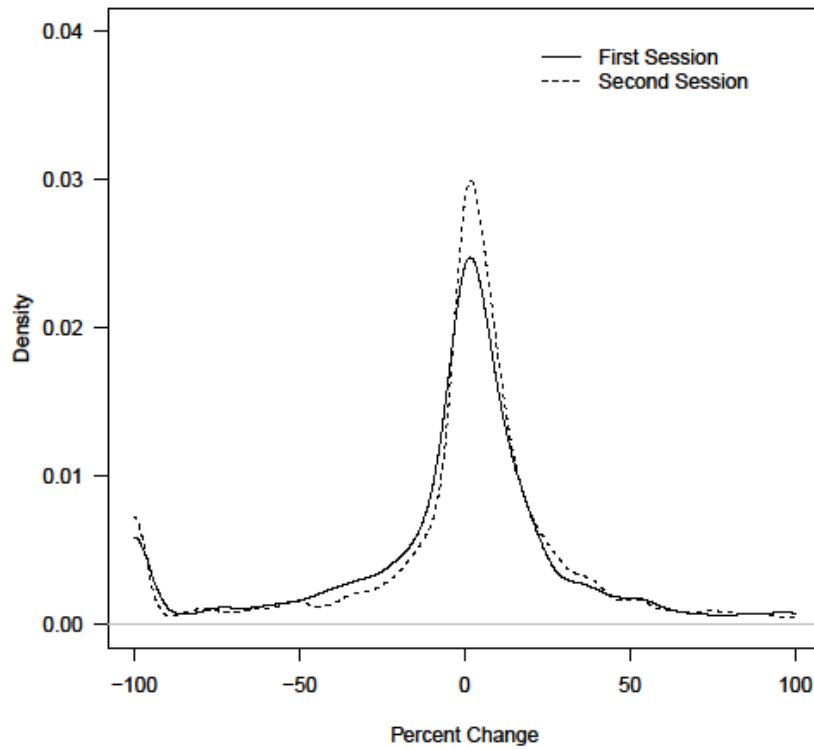
Note: Y-axis measures the percent of subaccount cuts that fall into the big cut category (greater than 50%). Only subaccounts that fall under Democratic issue ownership are included.

Figure 2: Effect of the Number of Democratic Institutions



Note: Based on estimates from Tables 1 and 2. The graphed effects, with 90% confidence intervals, are based on 1000 simulated draws of the data, varying Democratic control from one to three institutions and varying the session from first to second. All other variables are held at their observed values. Effect is the mean difference between the predicted probability of each dependent variable for three Democratic chambers and one Democratic chamber.

**Figure 3: Distribution of Changes in the First and Second Sessions**



Note: The figure plots the density of the yearly percentage changes to the budget. Only subaccounts that fall under Democratic issue ownership are included. The x-axis is truncated at -100 and 100.

**Table 1: Nested Multilevel Logit Models of Spending Changes on All Subaccounts**

	Change	Increase	Big Cut	Big Increase
<i>Intercept</i>	1.57*** (0.15)	0.31* (0.13)	0.37 (0.26)	0.26 (0.21)
<i># Democratic Institutions</i>	0.14*** (0.038)	0.30*** (0.033)	0.15* (0.063)	0.12* (0.052)
<i>Second Session</i>	0.20* (0.092)	0.90*** (0.084)	0.51** (0.16)	0.012 (0.13)
<i># Dem Inst. x Second Session</i>	-0.12** (0.047)	-0.43*** (0.041)	-0.29*** (0.078)	-0.057 (0.064)
<i>Avg. Net Seats Gained by Democrats</i>	-0.0059 (0.0062)	0.040*** (0.0052)	0.017^ (0.0093)	0.0075 (0.0082)
<i>PAYGO</i>	-0.75*** (0.050)	-0.26*** (0.045)	-0.43*** (0.089)	-0.78*** (0.077)
<i>Gramm-Rudman-Hollings</i>	-0.42*** (0.067)	-0.014 (0.0052)	-0.61*** (0.12)	-0.67*** (0.095)
<i>Unemployment Rate</i>	0.097*** (0.019)	-0.0075 (0.012)	-0.041 (0.030)	-0.052* (0.023)
<i>Surplus as Percent of GDP (lagged)</i>	0.066*** (0.014)	0.075*** (0.012)	0.12*** (0.023)	0.021 (0.018)
<i>Days Past FY</i>	0.00085* (0.00038)	-0.0018*** (0.00032)	-0.00067 (0.00061)	-0.00043 (0.00049)
<i>N (obs)</i>	23631	19490	7076	12414
<i>N (NSAs)</i>	1228	1228	1142	1180
<i>Varying intercept by NSA</i>	Yes	Yes	Yes	Yes
$\sigma_{NSA}$	0.89	0.84	1.91	1.86
<i>Log Likelihood</i>	-10287	-11876	-3939	-5970

Standard errors in parentheses.

^ $p < 0.1$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

Note: Multi-level logistic models allowing the intercept to vary by subaccount. Dependent variable definitions are as follows: “Change” (1 if the nominal percentage change is larger than +/- 3%, 0 otherwise); “Increase” (1 if the subaccount changed and had a positive change or a subaccount inception, 0 if subaccount changed and had a negative change); “Big Cut” (1 if the subaccount was cut more than 50%, 0 if cut less than/equal to 50%); “Big Increase” (1 if the subaccount was increased more than 50% or created (inception), 0 if increased less than/equal to 50%).

**Table 2: Nested Multilevel Logit Models of Spending Changes on Most Owned Subaccounts**

	Change	Increase	Big Cut	Big Increase
<i>Intercept</i>	1.68*** (0.38)	-0.22 (0.34)	0.19 (0.66)	0.78 (0.52)
<i># Democratic Institutions</i>	0.12 (0.094)	0.58*** (0.083)	0.42** (0.16)	0.20 (0.13)
<i>Second Session</i>	-0.0099 (0.22)	1.53*** (0.21)	1.07** (0.41)	0.67* (0.33)
<i># Dem Inst. x Second Session</i>	-0.013 (0.11)	-0.71*** (0.10)	-0.65*** (0.20)	-0.40* (0.16)
<i>Avg. Net Seats Gained by Democrats</i>	-0.035* (0.016)	0.065*** (0.014)	0.018 (0.022)	0.010 (0.021)
<i>PAYGO</i>	-0.96*** (0.12)	0.038 (0.11)	-0.88*** (0.23)	-1.38*** (0.18)
<i>Gramm-Rudman-Hollings</i>	-0.34* (0.17)	0.27^ (0.15)	-1.00** (0.32)	-1.32*** (0.22)
<i>Unemployment Rate</i>	0.087^ (0.048)	-0.036 (0.038)	-0.040 (0.070)	-0.096^ (0.058)
<i>Surplus as Percent of GDP (lagged)</i>	0.075* (0.034)	0.076* (0.030)	0.077 (0.056)	0.010 (0.044)
<i>Days Past FY</i>	0.00094 (0.00098)	-0.0041*** (0.00081)	-0.0012 (0.0015)	-0.0036** (0.0013)
<i>N (obs)</i>	3823	3103	1206	1897
<i>N (NSAs)</i>	209	209	200	198
<i>Varying intercept by NSA</i>	Yes	Yes	Yes	Yes
$\sigma_{NSA}$	0.88	0.74	2.06	1.52
<i>Log Likelihood</i>	-1709	-1908	-650.5	-995.7

Standard errors in parentheses.

^ $p < 0.1$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

Note: Multi-level logistic models allowing the intercept to vary by subaccount. Dependent variable definitions are as follows: “Change” (1 if the nominal percentage change is larger than +/- 3%, 0 otherwise); “Increase” (1 if the subaccount changed and had a positive change or a subaccount inception, 0 if subaccount changed and had a negative change); “Big Cut” (1 if the subaccount was cut more than 50%, 0 if cut less than/equal to 50%); “Big Increase” (1 if the subaccount was increased more than 50% or created (inception), 0 if increased less than/equal to 50%). Only Democratically owned issues are included in the analysis.

**Table 3: OLS Regressions of Percentage in Each Category by Year (Most Owned Subaccounts)**

	Change	Increase	Big Cut	Big Increase
<i>Intercept</i>	81.7*** (5.34)	-58.7*** (12)	27.5 <sup>^</sup> (14.7)	33.6** (11.8)
<i>No. Democratic Institutions</i>	1.26 (1.46)	10.6** (3.28)	11.4** (4.02)	1.61 (3.22)
<i>Second Session</i>	-2.15 (3.96)	29.1** (8.93)	27.6* (10.9)	-0.91 (8.75)
<i>No. Dem Institutions x Second Session</i>	0.23 (1.85)	-11.6** (4.17)	-13.8** (5.1)	-1.07 (4.09)
<i>Average Net Seats Gained by Democrats</i>	-0.13 (0.21)	1.36** (0.47)	0.58 (0.57)	-0.48 (0.46)
<i>PAYGO</i>	-13.2*** (1.92)	4.81 (4.33)	-7.05 (5.3)	-10* (4.25)
<i>Gramm-Rudman-Hollings</i>	-4.38 (2.65)	8.08 (5.98)	-10.2 (7.32)	-12.5* (5.86)
<i>Unemployment Rate</i>	0.83 (0.64)	-0.76 (1.44)	0.66 (1.76)	0.4 (1.41)
<i>Surplus as Percent of GDP (lagged)</i>	0.31 (0.51)	1.03 (1.14)	1.03 (1.39)	-0.28 (1.11)
<i>N</i>	47	47	47	47
<i>R<sup>2</sup></i>	0.676	0.442	0.363	0.285
<i>Adjusted R<sup>2</sup></i>	0.608	0.325	0.229	0.135

Standard errors in parentheses.

<sup>^</sup> $p < 0.1$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

Note: OLS regressions of the percentage of budgetary changes in a given category in each year. Dependent variable definitions are as follows: “Change” (percentage of subaccounts in each year where nominal percentage change is larger than +/- 3%); “Increase” (percentage of subaccounts in each year where the subaccount changed and had a positive change or a subaccount inception); “Big Cut” (percentage of cut subaccounts in each year where the subaccount was cut more than 50%); “Big Increase” (percentage of increased subaccounts in each year where the subaccount was increased more than 50% or created (inception)). Only Democratically owned issues are included in the analysis.