The Impression of Influence:
How Legislator Communication and Government Spending Cultivate a Personal Vote

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Chapter 5

Cultivating an Impression of Influence with Actions and Small Expenditures

This chapter demonstrates *how* constituents allocate credit in response to credit claiming messages and then shows the consequences for political representation and proposed reforms to the appropriations process. Rather than accountants who accurately tally and evaluate spending (Levitt and Snyder, 1997), our impressionistic model of credit allocation argues that constituents engage in intuitive evaluations of legislators' credit claiming statements (Kahneman, 2011). When intuitively evaluating legislators' credit claiming statements, we show that constituents substitute an evaluation of the money delivered to the district with an evaluation of the *action* that legislators report performing (Sniderman, Brody and Tetlock, 1991; Kahneman, 2011). This occurs, as we argue in Chapter 2, because when rapidly evaluating credit claiming statements constituents fail to distinguish the type of action discussed, or

calculate or retain the expected money to be delivered to the district. The result is that rather than getting credit for the money delivered, legislators receive credit for reporting a positive *action*, even when the expected money to the district is unclear, unspecified, or ambiguous.

Constituents' responsiveness to actions, rather than money, creates incentives for legislators to regularly claim credit for relatively small expenditures. This occurs, in part, because constituents' evaluations are weakly responsive to the amount of money legislators claim credit for securing. Even massive increases do little to affect how intuitive constituents evaluate their member of Congress. While responding little to increases in money, constituents have a sustained and large response to increases in the number of actions that legislators report. Increasing the number of credit claiming messages causes constituents to perceive their legislator as more effective at delivering money to the district and causes them to increase their overall evaluation of their representative's performance. The result: frequent credit claiming for smaller amounts of money are substantially more effective at cultivating support than one, much larger, expenditure.

Our findings have implications for our understanding of how representation occurs in American politics. And in particular, how constituents hold their member of Congress responsible for their work in Washington. The accountant model assumes perfect citizens who are able to properly reward legislators for delivering money to the district (Weingast, Shepsle and Johnsen, 1981; Levitt and Snyder, 1997; Chen and Malhotra, 2007). Constituents, because of their incentives and the nature of political representation, are unable to achieve this ideal (Downs, 1957; Grimmer, 2013). The cognitive biases that occur when constituents reason intuitively and their

limited incentives to carefully evaluate representatives cause constituents to be imperfect democratic citizens—rewarding behavior contrary to constituents' preference for greater spending in the district.

Legislators' credit claiming messages take advantage of constituents' cognitive limitations—when legislators engage in credit claiming activities they discuss relatively small expenditures. To demonstrate how much money legislators claim credit for securing, we use computational linguistic tools to identify the amounts discussed when legislators claim credit for spending. The amount is surprisingly small—with many credit claiming statements discussing expenditures that provide mere pennies to each resident of the district. Coupled with the evidence in Chapter 3 that legislators often claim credit for merely requesting money, we show that legislators receive credit for a much broader set of activities than actually delivering substantive benefits to their districts.

Our results also provide context for recent reforms to the earmarking process. To limit corruption in earmarked funds in spending bills, both the House (on January 15th, 2007) and the Senate (on September 14th, 2007) briefly adopted rules that required legislators to disclose publicly if they requested earmarked funds. Our results shed light on a potential reason the reform was so easy to enact: it helped legislators' credit claiming efforts. Consider the following press release from Brad Ellsworth (D-IN), issued shortly after the earmark reform rules were adopted:

> Living up to his pledge to disclose projects that are on track to receive federal funding, Rep. Brad Ellsworth today announced Congress has approved federal funds for a sanitary sewer system in Mt. Auburn. The $500,000 in funding for the system was included as part of the FY 2008

Omnibus Appropriations measure approved by both chambers this week.

Earmark reform necessitated that legislators log earmark requests, creating a permanent, highly visible platform for legislators to announce that they merely requested money for their district. Far from limiting the power of particularistic spending in the district, our results show that earmark reform created a new location for legislators to discuss requesting money for the district. This creates conditions that could *amplify* increase opportunities for legislators to associate themselves with expenditures during the Appropriations process.

We turn now to our first study, which shows that legislators receive nearly equal credit for *requesting* or *securing* an expenditure.

5.1 Study 1: Evaluating the Mere Report of an Action, Not Money Delivered

Our first experiment tests two observable implications of constituents evaluating the mere report of an action in a credit claiming statement. First, if constituents are evaluating actions then legislators will be able to cultivate support for more than just actually securing money for the district. The appropriations process contains many points where legislators perform actions that *could* lead to money without actually securing district funds. For example, prior to the 112th Congress, representatives could request that funds be earmarked for particular projects. Even with the ban on earmarks, legislators could submit letters of support or make phone calls to encourage bureaucrats to allocate grants to particular groups. If constituents allocate credit based on their evaluation of performed actions, then we expect that claiming credit

for such requests will cultivate as much support as actually securing the money for the district. Second, if constituents evaluate only actions, then explicitly stating the dollar amount should not affect how constituents allocate credit—even though this information is essential for allocating credit under the accountant model.

We test the observable implications with a survey experiment. We use a sample of 2,020 respondents from the Survey Sampling International (SSI) panel, census matched to be representative of the United States. For all respondents not assigned to the control condition, we randomly selected one of the respondent's two senators for our experiment. We then told the participants that we "found the most recent newspaper article covering" the randomly selected senator.

Our experiment simultaneously varied the *action* that the senator claimed credit for performing and whether the article mentioned an explicit *amount* of funds that would be secured for the project. The *three* action conditions vary the work that a legislator performed in procuring spending for the district. In the first action condition, the respondent's senator announced that she *secured* funds for a "local road project" and that the money *will* be spent in the district. This unambiguously informs constituents that the money has been secured and will be delivered to the district. But if constituents are evaluating the mere report of actions that could lead to expenditures, we expect that representatives will be able to cultivate support by claiming credit for actions that occur before the district actually receives funding. In the second action condition, the senator claims credit for *requesting* funds, while explaining how the funds *would be* spent if delivered to the district, leaving more uncertainty about whether the district will actually receive the money. Claiming credit for merely requesting money leaves ambiguity about whether the district will

receive the money. But we expect that legislators will be able to receive credit for actions that leave even greater uncertainty about the amount of money delivered to the district and when the money will actually be allocated. If credit is allocated in response to a peripheral evaluation of a message, then legislators should be able to receive credit for merely expressing their *intent* to request funding for the district. We test this in the third action condition. Respondents in this condition read a news story in which their senator announces that she *will request* money for the district, again reporting how the money *would be* spent if secured.

We crossed the three action conditions with two *money* conditions, that vary the specificity that legislators use when describing the funding for the project. In the first money condition the *exact* dollar amount of funding for the project was provided— $84 million. We set the amount of money extremely high, to bias our study against our hypotheses that the money will matter little. In the second money condition we suppressed the dollar amount, instead indicating that legislators secured/sought undefined *support* for the district.

With the control condition, this constitutes a $3 \times 2 + 1$ experimental design (providing 7 conditions in total). We provide the complete intervention in Table 5.1. The content in the parentheses correspond to the action condition with the order given by (secured/request/will request). The content in brackets is selected based on the money condition [money/support]. The article is customized for each respondent. After assigning a respondent to a condition and selecting a senator we replace each instance of |senatorName with the senator's name, |senatorParty with the senator's party, and |state with the state. After presenting the intervention to constituents, we asked constituents for overall evaluations of their senator (and other political of-

Table 5.1: Article Content Across Conditions

Headline: Senator |senatorName (secured/requested/will request) [$84 million/support] for local projects

Body: |senatorName (|senatorParty - |State) (secured/requested/will request) [$84 Million/support] for local road projects through the Department of Transportation Federal Highway Administration. Senator |senatorName said "I (am pleased to bring home/ am happy to make this request for/will submit a request for) [$84 Million/support] from the Federal Highway Administration. It is critical that we maintain our infrastructure to ensure that our roads are safe for travelers and the efficient flow of commerce." This funding (will/would/would) repave local roads.

Key
|senatorName: Senator's name
|senatorParty: Senator's party
|state: Senator's state

Treatments
Actions: (Secured/Requested/Will Request)
Money: [Money/Support]

ficials), evaluations of the senator's ability to benefit the district in particular areas, and evaluations of the program. We randomized question order in each block.

Table 5.2 summarizes the results of our experiment across the seven conditions (rows) and five dependent variables (columns). Each entry provides the average responses of the participants in each condition, with the 95 percent confidence interval for that average. Across conditions and dependent variables, we find that credit claiming messages cultivate a senator's impression of influence and increases support. But what legislators claim credit for has little influence over how constituents allocate credit. This is evident in the constituents' evaluations of their senator's ability to deliver money to the district, measured on a seven-point scale and reported in the first column. The six credit claiming conditions caused constituents to evaluate their senator as 0.27 units more effective at delivering money to the district than con-

stituents in the control condition (95 percent confidence interval, [0.08, 0.45]). Across the credit claiming conditions, however, we fail to detect substantively meaningful differences in perceived effectiveness: constituents appear to reward legislators similarly for securing, requesting, or stating an intent to request. Participants assigned to the condition where their senator *secured* an expenditure (averaging over whether an explicit dollar figure was discussed), increase their average evaluation of effectiveness 0.32 units (95 percent confidence interval, [0.12, 0.53]). This is similar to the increase that *requesting* and stating that the representative *will request* an expenditure causes (0.24 units, 95 percent confident interval [0.04, 0.44] ; 0.24 units 95 percent confidence interval [0.03, 0.45], respectively). And even if we collapse the *request* and *will request* conditions together (to increase our statistical power) we still fail to find a meaningful difference with the *securing* condition. *Securing* an expenditure increases the effectiveness rating only 0.09 units more than *requesting*—an increase in effect size that we cannot distinguish from zero (95 percent confidence interval, [-0.06, 0.23]).

Explicitly stating the amount of money secured also appears to exert little influence over participants' evaluations. Participants assigned to the *money* condition increased their evaluation of their senator's ability to deliver money to the district 0.27 units (95 percent confidence interval [0.07, 0.46])—nearly identical to the 0.27 unit increase among participants assigned to the *support* condition (95 percent confidence interval [0.07, 0.46]). The second column of the table presents average evaluations of a legislator's ability to pass legislation beneficial to the district—another question indicative of a senator's impression of influence. Across the conditions—both the action and money conditions—we replicate the same result: constituents increase support in response to credit claiming messages, but the magnitude of this increase is not

Table 5.2: Constituents Respond to the Mere Report of an Action, But Are Unresponsive to the Type of Action

Condition	Delivering Money	Passing Legislation	Legislator Feeling Thermometer	Approve	Likelihood of Receiving Money
Control	3.89	3.91	45.92	0.37	-
	[3.72,4.06]	[3.74, 4.09]	[42.58, 49.26]	[0.31, 0.43]	-
Will Request Money	4.08	4.04	51.78	0.46	0.34
	[3.92, 4.25]	[3.87, 4.21]	[48.53, 55.02]	[0.40, 0.51]	[0.28, 0.39]
Will Request Support	4.17	4.13	53.33	0.55	0.34
	[4.01,4.32]	[3.97, 4.29]	[50.30, 56.36]	[0.49, 0.60]	[0.29, 0.39]
Requested Money	4.11	4.13	49.81	0.48	0.33
	[3.94, 4.28]	[3.96, 4.31]	[46.47, 53.15]	[0.42, 0.54]	[0.28, 0.39]
Requested Support	4.14	4.16	50.04	0.46	0.34
	[3.97, 4.31]	[3.98, 4.34]	[46.65, 53.43]	[0.40, 0.52]	[0.28, 0.40]
Secured Money	4.27	4.15	52.23	0.51	0.50
	[4.10, 4.43]	[3.98, 4.32]	[49.00, 55.46]	[0.45, 0.56]	[0.44, 0.55]
Secured Support	4.16	4.16	50.87	0.44	0.40
	[3.99, 4.32]	[3.99, 4.33]	[47.63, 54.11]	[0.38, 0.50]	[0.35, 0.46]

This table shows how evaluation of legislators varies across conditions (rows) and dependent variables (columns). For evaluations of the legislator, constituents reward legislators similarly for requesting or securing money. This occurs, even though constituents do identify differences in the likelihood their district will receive the money.

dependent upon what legislators claim credit for accomplishing.

The credit claiming messages not only cause an increase in perceived effectiveness, they also cause constituents to be more supportive of their senator overall. The third column presents the average feeling thermometer rating for senators across the conditions. Credit claiming increases evaluations substantially—averaged across the six treatment conditions, the credit claiming statements increased the senator's average thermometer score 5.5 points (95 percent confidence interval, [1.92, 9.10]). This increase is substantively large—it is about 25% of the increase in average thermometer score associated with having a copartisan senator in the control condition. But it

does not depend on the action reported. Claiming credit for *securing* either money or support for the district increases the thermometer score only 0.19 points more than claiming credit for *requesting* or *intending to request* money or support, an increase in effect size that is neither substantively nor statistically significant (95 percent confidence interval, [-2.61, 2.99]). Explicitly stating the dollar amount secured also does not cause a larger increase in thermometer score. Constituents assigned to the *money* condition increase their thermometer rating of their senator 0.24 points *less* than constituents assigned to the *support* condition. Again this difference is neither substantially nor statistically significant (95 percent confidence interval, [-2.88 ,2.40]). This pattern is robust: if we use senator approval as the dependent variable we find that constituents are not responsive to the action reported. In Column 4 we report the average rate participants in each condition approve of the job the selected senator is performing in Washington, measured as a dichotomous variable. Aggregated together, the six credit claiming conditions cause an 11.4 percentage point increase in the approval rate over the control condition (95 percent confidence interval, [0.05, 17.71]). No matter how we compare responses across the action treatment conditions, we fail to detect substantively or significant differences in how the content of the credit claiming messages affects the boost in approval.

Participants appear to allocate credit in response to the mere report of an action—with the type of action or explicit references to the amount of money to be delivered having no systematic effect on the credit allocated. This departure from the accountant model is all the more surprising because participants, when prompted, identify differences in the likelihood that the money would reach the district across conditions. The final column of Table 5.2 shows the proportion of participants in each condition

who answered it was likely that the district would actually receive the money.[1]

The right-most column of Table 5.2 shows that participants in the *secured* condition thought they were more likely to receive the money. Legislators claiming credit for *securing* the expenditure caused an 11.3 percentage point increase in the proportion of participants who thought that the money was likely to reach the district (95 percent confidence interval $[0.06, 0.17]$). The increase was even larger for participants in the *secured* condition with the explicit mention of *money*. Participants in the *secured* condition and whose story explicitly discussed *money* were 9 percentage points more likely to identify the expenditure as likely to reach the district then participants in the *secured* condition but whose story only mentioned *support* (95 percent confidence interval, $[0.02, 0.17]$) and 16 percentage point increase over all other conditions (95 percent confidence interval, $[0.10, 0.22]$).

The content of the message, therefore, systematically affects the perceived likelihood that money reaches the district. Yet, the differences in perceived likelihood do not extend to the participants' evaluations of their senator. Participants across our treatment conditions allocated similar credit to their legislators, regardless of what actions legislators are claiming credit for performing or how explicit legislators are about the money they have secured—evidence that constituents are intuitively and rapidly evaluating the presented actions. And the general positive sentiment around credit claiming implies that legislators have ample opportunity to build support.

The evidence thus far, however, has relied partly on our failure to detect substantively important differences across a number of treatment arms. This makes it tempting to offer less theoretically interesting explanations for our findings. One ex-

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[1]This question—which depends on reading a newspaper story about local road projects—would make little sense to our control condition, so we did not pose it to them.

planation is that our failure to find differences across the different actions or explicit report of money is that the participants in our online study were not engaged with their task: they read the statement as quickly as possible, much faster than actual constituents might when reading a newspaper or other news sources. The results of the experiment, however, suggest this is not the case: participants identified substantial differences across the conditions in the likelihood of the district receiving money. Another explanation is that we simply lack the power to detect differences across our treatment conditions and that we have artificially advantaged our argument by equating it with a failure to reject null hypotheses. We are sympathetic to this alternative explanation, because it is statistically improbably that any two interventions have *exactly* the same effect. Yet, our results show that there are only substantively tiny differences in the credit allocated across conditions. Further, our experiment was designed to provide ample power to identify differences across conditions. So it is unlikely that we are failing to detect substantively meaningful differences across conditions.

This first study shows that requesting and securing money have the same effect on constituent evaluations. It would appear that constituents are substituting the evaluation of money with an evaluation of the action performed. Our second study offers a more explicit test of how constituents use the evaluation of actions instead of more difficult to perform evaluations of quantitative information, while also addressing some weaknesses of our first study.

5.2 Study 2: Evaluations based on Qualitative, Not Quantitative Information

Our second study explicitly shows that constituents focus on an evaluation of an action—rather than quantitative information—when evaluating policies or allocating credit. To do this, we provide constituents with two distinct types of information about a policy. The first type of information is quantitative—the numerical probability that a policy will be successful. The second type of information is qualitative—the actors in government who enacted the policy. The direct comparison empowers us to determine the type of information intuitive voters most readily use when evaluating statements from members of Congress.

To make this comparison between quantitative and qualitative information, we ask constituents to evaluate a recently proposed tax cut, intended to stimulate the economy. While this is a (brief) departure from our study of how constituents allocate credit in response to particularistic spending, it allows us to more easily juxtapose the numerical and qualitative information in an intervention. And as a result we are able to more easily assess the type of information voters use to determine support of the tax cut. The numerical information we provide are explicit probabilities that the tax cut will successfully stimulate the economy. The qualitative information we provide is the partisan source of the proposed tax cut. Varying the partisan source allows us to more easily identify subsets of our respondents who will evaluate the reported action differently.

Rather than design a new study that incorporates these design features, we instead use an experiment our colleagues—Paul Sniderman and Mike Tomz, Political

Scientists at Stanford University—conducted in 2003 but never reported. We summarize the experiment in Table 5.3, below. In both columns of Table 5.3, the prompt varies the likelihood, assigned by "experts", that the tax cut would create "many new jobs this year". Participants were randomly assigned to one of five conditions—with experts identifying either a 40, 50, 60, 75, or 90 percent chance of the tax cut's success (or one number from the square brackets in Table 5.3). If constituents are using the quantitative information, this chance of success should strongly influence support for the program.

Constituents were also informed as to who enacted the tax cut and who viewed the tax cut as a poor policy decision. In the *partisan* condition (the left-hand column of Table 5.3), the participants were told that the Republican party enacted the law and that Democrats worry about its consequences for the national debt. In the *non-partisan* condition (right-hand column of Table 5.3), participants were told that the *government* enacted the law and that "other experts" (besides those assigning probabilities to the tax cut's chance of success) criticize the law as increasing the national debt.

If constituents are reasoning intuitively and evaluating the information provided, then the source of the information should be more influential—participants will avoid using the probabilistic information and instead focus on the partisan information (Kahneman, 2011). But how constituents evaluate the qualitative information—or make use of the partisan heuristic (Sniderman, Brody and Tetlock, 1991)—will depend on the constituent's partisan affiliation, allowing us to explicitly test how constituents' evaluations of the information affects responses. Because the partisan information provides a proposal from Republicans, we expect that it will cause participants who

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are Republicans to become more supportive of the program. Conversely, we expect that providing Democrats with the partisan information will dampen support for the tax cut, with the opposing party endorsement a strong cue to avoid supporting the proposal. Independents, without a clear partisan signal, will likely have no response (or only a small response) to the partisan information and maintain the same levels of partisan support.

Table 5.3: Varying Probability of Success and the Source of Information

Partisan Treatment	Non-Partisan Treatment
The Republican Party has put into law a plan to cut taxes. Experts agree that the plan has a [40/50/60/75/90] percent chance of creating many new jobs this year. But Democrats point out that even if the plan works, it will greatly increase the national debt and thus hurt future generations	The government has put into law a plan to cut taxes. Experts agree that the plan has a [40/50/60/75/90] percent chance of creating many new jobs this year. But other experts point out that even if the plan works, it will greatly increase the national debt and thus hurt future generations.

Treatments
Information Source: Partisan (left-column), Non-partisan (right-column)
Chance of Success: [40/50/60/75/90]

The study was conducted as part of the collaborative Time Sharing Experiments for the Social Sciences (TESS), conducted in the latter part of 2003. The interview was conducted over the phone, with a national sample of phone numbers selected for the study. The 2,015 completed interviews were randomly assigned to a chance of success condition and an information condition. The question about the tax cut was then posed as part of the normal sequence of questions, and participants were asked immediately if they supported or opposed the program.

The results of the experiment, presented in Figure 5.1, show that constituents are

largely unresponsive to the likelihood the tax cuts will succeed and instead rely on information about who proposed the program. The left-hand plot shows the proportion of participants who support the tax policy (vertical axis) across the randomly assigned chance of success (horizontal axis). The dots in the plot indicate the averages across the varying chances of success (averaging over the partisan/non-partisan condition) and the lines indicate 95 percent confidence intervals for the average.

Figure 5.1: Partisan Cues, Not Numerical Information Affects Constituent Support for Policy Proposals
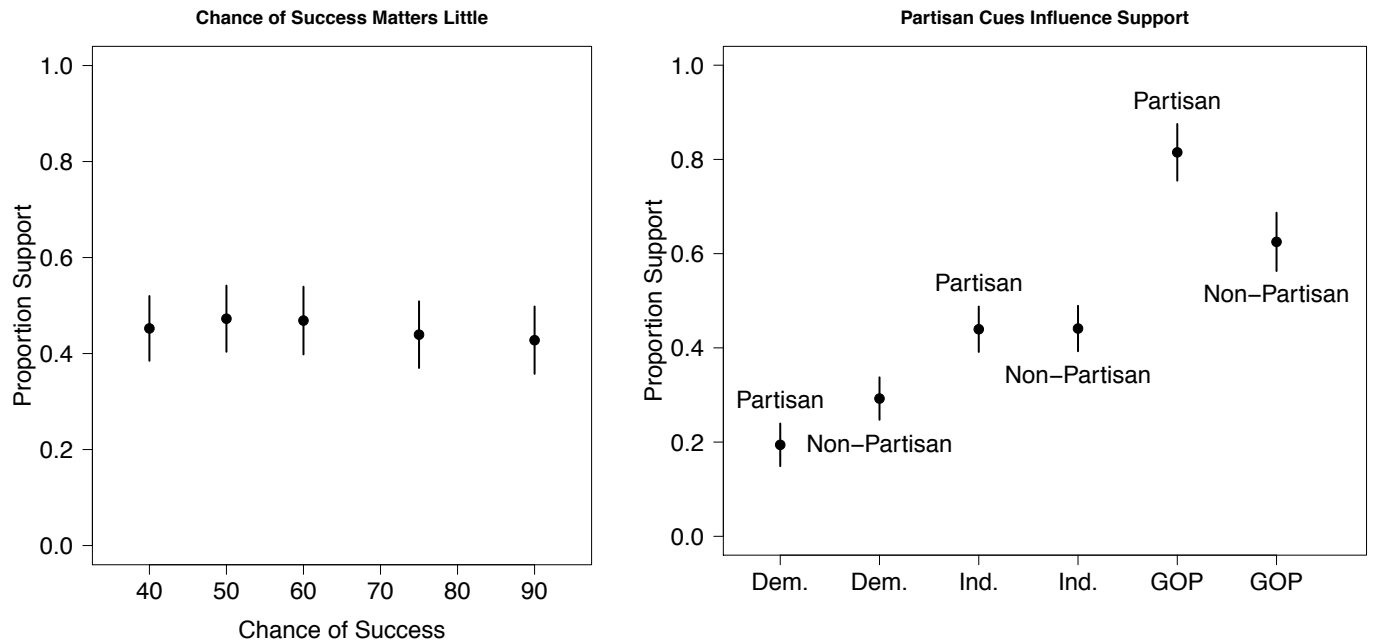
This figure shows that the probability that the tax succeeds in generating new jobs has little influence over participants' support (left-hand plot). Rather, qualitative information about who enacted the law—analogous to the action of credit claiming—exerts far more influence over support for the program.

The left-hand plot in Figure 5.1 shows that the chance of success fails to affect support for the tax policy. More than doubling the chance of success from 40 percent to

90 percent caused a 1.4 percentage point *decrease* in support for the tax cut, a change we fail to distinguish from zero (95 percent confidence interval [-0.08, 0.06]). This is indicative of non-responsiveness to the chance the tax cut is successful—increasing the chance of success does little to increase support for the program. The lack of an effect of the chance of success on support persists even if we condition on the respondent's party and whether they received non-partisan or partisan information. Consider Republican participants assigned to the partisan condition, who seem particularly likely to be supportive of tax cuts that have a high likelihood of success. On average across conditions increasing the chance of success 10 percentage points causes only a 0.2 percentage point increase in support for the programs an increase extremely close to zero (95 percent confidence interval [-0.002,0.002]). Democrats assigned to the partisan condition have a similar non-response to the increased chance of success—a 10 percentage point increase in the chance of success causes only a 0.7 percentage point increase in support for the program (95 percent confidence interval [-0.002, 0.003]). Examining the other conditions leads to the same conclusion: increasing the chance that the tax cut will create jobs causes almost no increase in support for the policy.

While the chance of success matters little, providing partisan information causes substantial change in levels of support for the program—clear evidence that constituents use intuitive cues to evaluate the policy proposal. The right-hand plot in Figure 5.1 shows how the proportion of participants who support the tax cut (vertical axis) varied by the participant's party (horizontal axis) and the partisan information provided (left-hand estimate is the partisan condition, the right-hand estimate is the non-partisan condition).

The partisan information dampens support for the tax cut among Democrats and

bolsters support among Republicans. Democrats in the partisan condition are 9.8 percentage points less likely to support the tax cuts than Democrats in the non-partisan condition (95 percent confidence interval [-0.16, -0.03]), while Republicans in the partisan condition, however, are 19.0 percentage points more likely to support the tax cut (95 percent confidence interval [0.12, 0.26]). Independents, who are not expected to have a clear response to the information, do not alter their support when presented with partisan information: independents in the partisan condition are -0.1 percentage points less likely to support the program—an incredibly small change in support (95 percent confidence interval [-0.09, 0.08]).

Together with the first study, this experiment shows that constituents focus on the intuitive evaluation of an action to assess both legislators and policy, rather than incorporating quantitative information about particularistic spending or policy. Constituents reward legislators' declarations that they intend to pursue support just as much as constituents reward legislators for securing that support. Even when constituents recognize that there are implicit differences in the likelihood that the district will receive money, as in our first study, or explicit differences that a policy will succeed, as in our second study, the quantitative information is unpersuasive. Specifics about the money to be delivered also fail to affect constituent evaluations—even when the amount to be delivered to the district is a substantial sum of money. Instead, the mere report of the action, and its subsequent evaluation, dominates the credit allocated and the policy assessment.

Our findings demonstrate how constituents' cognitive limitations and limited incentives make it even more unlikely that they are able to hold representatives accountable for spending in the district. Normative theorists have long argued that

constituents must assess and sanction their representative's actions for a republic to thrive (Burke, 1774; Eulau et al., 1959; Mansbridge, 2003; Rehfeld, 2009). The accountant model of credit allocation assumes this problem away. Or at least assumes that constituents are able to achieve an ideal of evaluation. Constituents base decisions on the projects and money actually delivered to the district. And the decisions are clear—more money to the district, more support for the incumbent (Weingast, Shepsle and Johnsen, 1981; Levitt and Snyder, 1997).

Yet, constituents—by no fault of their own—are unable to achieve this democratic ideal. The basic structure of representation provides little incentive for constituents to exert substantial cognitive effort when evaluating their representative's credit claiming statements (Downs, 1957; Grimmer, 2013). Instead, constituents engage in intuitive evaluations—substituting the evaluation of the action for an assessment of the amount of money delivered. This intuitive evaluation distorts how representation occurs—even if constituents would like to maximize the money their representative delivers to the district, it is incredibly difficult for them to monitor those activities. And the substituted evaluation of action may be a poor proxy for large dollar amounts delivered to the district.

In the rest of this chapter we show the extensive consequences of constituents' focus on actions. Credit allocation in response to the mere report of an action, rather than money, creates an incentive for legislators to focus on delivering relatively small projects to the district. And as we show when analyzing what legislators claim credit for obtaining, this is what legislators actually claim credit for securing. The result is that constituents often fail to have the information necessary to evaluate whether legislators are delivering money to the district.

5.3 The Cultivation of Support with Small Grants, Rather than Large Investments

We use two additional studies to show how constituents' limited processing of credit claiming messages creates incentives for legislators to regularly claim credit for small projects. We show that constituents are only weakly responsive to the dollar amounts delivered for expenditures, or perhaps not responsive at all. In our fourth study, however, we show that constituents are *extremely* responsive to the number of credit claiming messages sent. Indeed, constituents allocate much more credit to legislators when they claim credit for numerous small projects, rather than one large project— even when the large project is worth substantially more than the total value of the smaller projects.

We turn now to study 3, which varies the amount claimed in a credit claiming statement, providing the opportunity to assess how constituents' evaluations respond to differences in the amount claimed.

5.3.1 Study 3: The Limited Responsiveness to the Amount Claimed

Our impressionistic model of credit claiming predicts that constituents allocate credit intuitively. Constituents form impressions of legislators' influence based on actions they report, not merely based on money they acquire for the district. That constituents focus primarily on actions does not suggest that constituents are *completely* unresponsive to the amount that legislators claim to deliver to the district (Kahneman, 2011). Even when intuitively evaluating expenditures, constituents could be

able to quickly recognize some differences in the amount of money claimed. Familiar numerical quantities are more intuitively evaluated and more easily incorporated in evaluations. For example, Ansolabehere, Meredith and Snowberg (2013) show that survey respondents can accurately recall gas prices and unemployment rates, because respondents are used to seeing these numbers and thinking about their implications for their day-to-day life.

Similar intuitive evaluations are possible when constituents are evaluating the funds that legislators use in credit claiming statements. To see how, consider an extreme and fictitious example: a legislator who claims credit for a $5 project in the district. Constituents deal with this small amount of money every day, so without much effort they will recognize this as small amount of money and that the expenditure is essentially inconsequential for the district. By way of comparison, suppose that the legislator claimed credit for delivering a $1,000,000 grant to the district. Without much effort, and without calculating the actual numerical difference constituents recognize $1,000,000 as a lot of money—and certainly recognize that it is much more than the lowly $5 dollars. When dealing with sums that constituents can quickly evaluate, legislators may receive more credit when claiming credit for money being delivered to the district. But constituents will likely struggle to intuitively reason about differences in larger, less familiar, sums of money. As a less extreme example, consider one legislator who claims credit for $10,000,000 delivered to the district and another who claims credit for $1,000,000. Few people regularly deal with exchanges involving $10,000,000 or $1,000,000. It will require more effort for constituents to conceptualize the difference between the two amounts, making it less likely that one expenditure will be readily identified as substantially larger than another. This is

all the more surprising because the difference between $10,000,000 and $1,000,000 is much larger—9 times—than the difference between $5 and $1,000,000 (Tversky and Kahneman, 1974; Kahneman, 2011).

We designed a pair of experiments to assess how different amounts of money claimed by representatives affect constituent credit allocation. To focus attention on the credit claiming statement—and not the actual representative—in both experiments we told participants that "we have obtained a very short newspaper story about a representative, whose name we are withholding". The participants were then presented with a newspaper story where the representatives name was redacted (using a rectangular black box, as is common practice in redactions in government documents). Then using actual credit claiming statements, we created templates for credit claiming statements. In this first iteration of the design, the representative claimed credit for securing a grant to "hire and train" new police officers.

Within the template, we randomly varied the amount of money that legislators claimed credit for securing. To obtain constituents' response over a broad range of potential dollar values, we randomly drew the amount that legislators' claimed credit for securing from a continuous uniform distribution, with a minimum amount claimed of $10,000 and a maximum amount claimed of $10,000,000. We use the uniform distribution to obtain a large spread throughout the interval and to simplify the analysis of the experiment. We provide a summary of our treatment in Table 5.4.

We administered this study using an experiment embedded in an online survey, using the sample of 2,020 respondents from the SSI online panel we used in Section 5.1. Each respondent completed Study 1 in this chapter and then was given the prompt for this study. This creates the possibility that the intervention in our first

Table 5.4: Measuring Constituent Responsiveness to the Dollar Amount Claimed

Headline: Representative (redacted): ([D/R]-|state) Secures |amount to Expand Local Police Force
Body: Representative (redacted) ([D/R]-|state) secured |amount today to hire and train new police officers. The money, which is from the Edward Byrne Memorial Justice Assistance Grant (JAG) Program, will help local police departments cope with recent budget cuts. When asked for comment, Representative (redacted) said "It is critical that we bolster our local police departments to maintain the safety of our community. I am pleased to announce |amount for local law enforcement."
Key |state: representative's state
Treatments   **Money**:|amount   **Party**: [D/R]

round may affect the treatment in the second round. But extensive analyses show that there is little relationship between the respondent's condition in our first study and how they responded to this study.[2] After providing respondents with the newspaper article, we asked the respondents about their overall assessments of the legislator.

The goal in analyzing the results of this study is to measure a curve that describes how varying amounts of money cultivate support for legislators. To estimate this curve we use a flexible non-parametric regression (Cleveland, 1979). The use of the non-parametric regression ensures that we have enough information to discover how constituents allocate credit, without failing to discover systematic differences across the dollar amounts because we lack statistical power. To do this, non-parametric

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[2]The random assignment of whether the respondent saw an explicit dollar figure in the first condition is particularly useful, because it allows us to check for anchoring effects (Tversky and Kahneman, 1974). An anchoring effect would occur if the large amount in the first study created an artificial baseline that our participants used to assess expenditures in this study. We find little evidence that seeing the much larger expenditure in the first experiment affects how constituents allocate credit in this intervention. As this implies, we replicate our results if we condition on respondents' condition in our first experiment.

regression borrows information about the responses from constituents who were assigned similar dollar amounts. We determine the amount of *smoothing* using ten-fold cross validation, choosing the total smoothing to minimize the mean square error, a measure that balances bias—how much we borrow across amounts claimed—and variance—how large the standard errors are for our estimates.

Figure 5.2 shows how constituents allocate credit in response to their representative. The plot shows the overall relationship between the feeling thermometer assessment of the redacted legislator (vertical axis) and how many millions of dollars were claimed in the grant announcement (horizontal axis), averaging over whether the representative was identified as a Republican or a Democrat. The black line is the conditional mean, determined using the non-parametric regression and gray bands are a 95 percent confidence interval, which we determined using bootstrapping.

In this iteration of the experiment it appears that constituents are responsive to the amount claimed, but as we see this response is relatively small and we fail to find this increase in the next experiment. The lowest level of support for the legislator, an average thermometer ranking of 43.2, occurs at the smallest amount claimed to help hire and train police officers— a mere $10,000, hardly enough to provide partial training for one police officer (95 percent confidence interval for the average, [37.3, 48.6]). As the amount secured increases over this low baseline, participants raise their evaluation of the representative. A local maximum of support occurs around $1.4 million dollars, with the average evaluation rising to 53.7 (95 percent confidence interval, [50.9, 56.5]).

As the funds are increased substantially, however, there is no additional increase in support for the representative—indicative of participants struggling to quickly

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Figure 5.2: Massive Increases in Expenditures Cause Only a Small Increase in Support
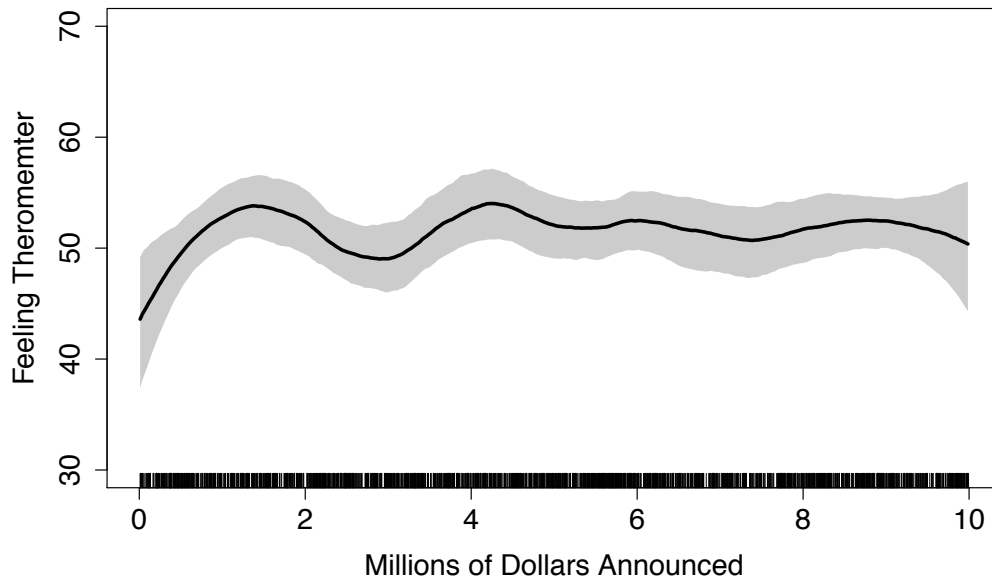
This figure shows how average feeling thermometer ratings increase in response to the amount of money claimed (in millions of dollars). The expected curve is shown with the dark black line and 95 percent confidence intervals are shown in lighter grey. Participants—particularly opposing partisans—are initially responsive to the amount claimed. But for very large increases, there is little response to the dollar amount claimed.

assess the large amounts secured as anything more than a large sum of money. From $1.4 million to $10 million dollars announced, evaluations are essentially unchanged, even with massive increases in expenditure. This $8.6 million increase causes only a 0.9 point increase in average feeling thermometer rating, a change that is neither statistically nor substantively significant (95 percent confidence interval, [-0.4, 0.6]).

This experiment suggests, then, that constituents are only responsive to small increases in funding when allocating credit if responsive at all. Of course, there are a number of potential alternative explanations that could explain constituents' limited

responsiveness to spending. Perhaps the limited response was due to the funding recipient—local police. It could be that constituents are more responsive to other spending sources. Or perhaps the spending levels caused both positive and negative evaluations. Some constituents may have perceived relatively small expenditures as insufficient to help local police and lowered their evaluation of the representative for securing such a small amount of money. At the other extreme, constituents may have perceived the large expenditures as wasteful, dampening support for the representative.

To address these and other potential concerns we conducted our dose-response study a second time. In this second instance, we again described how a representative secured money, while redacting the legislators' name. But now we used a template describing how money was secured for a local transportation project, again altering the amount claimed in the press release continuously. To provide the most power to measure constituents' responsiveness, we focused on the dollar range where constituents were the most responsive in the previous experiment: the amount claimed was drawn from a continuous uniform distribution, with a minimum dollar amount of $10,000 and a maximum dollar amount of $2.5 million. And to determine if legislators were being punished for providing too little money or too much money, we compared the effect of the credit claiming message to an *advertising* statement. We replicated a message from Chapter 4, providing information about a fictitious district resident who won an art contest. Table 5.5 summarizes our treatments.

We recruited 1,000 participants using Amazon's Mechanical Turk and randomized the participants to conditions in two stages. In the first stage, we randomly assigned participants to receive either the advertising condition (with a 10% chance) or credit
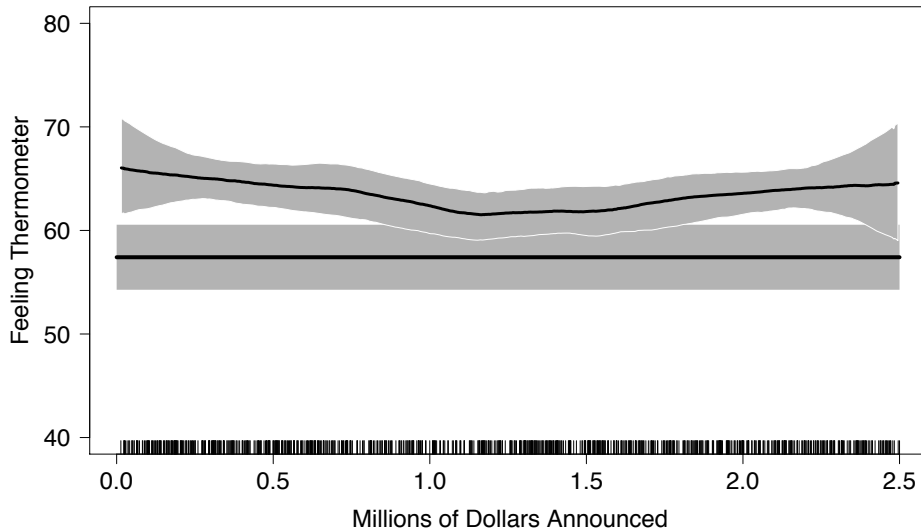
claiming condition (with a 90% chance). If a participant was assigned to the credit claiming condition, we then randomly generated the amount.

Table 5.5: Measuring Constituent Responsiveness to Dollar Amounts and Comparing to Advertising Condition

Credit Claiming Condition	Advertising Condition
Headline: Representative (redacted) Secures |amount for Local Road Projects.	**Headline**: Representative (redacted) announces Local Wins Congressional Art Contest
Body: Representative (redacted) secured |amount for local road projects through the Department of Transportation Federal Highway Administration. Representative (redacted) said "I am pleased to secure |amount from the Federal Highway Administration. It is critical that we maintain our infrastructure to ensure that our roads are safe for travelers and the efficient flow of commerce." The funding will repave local roads.	**Body**: Rep. (redacted) announced that 17-year old Sara Fischer won 1st place in the annual Congressional district art competition. Sara's winning art, "Medals?" was created using colored pencils. Rep. (redacted) said Sara's artwork will be displayed in the US Capitol with other winning entries from districts nationwide.

Treatments
Type of Message: Credit Claiming (left-column), Advertising (right-column)
Amount: \|amount

Together the evidence in this experiment points to constituents who intuitively evaluate the content of the press releases—rather than engage in careful thinking about who receives the money or whether the expenditure was for an appropriate amount. Figure 5.3 shows that the participants' evaluations of the representative were not responsive to the dollar amount claimed. As in Figure 5.2, we examine how the representative's feeling thermometer ratings (vertical axis) change as the amount claimed changes (horizontal axis). The thick line is a non-parametric regression line,

Figure 5.3: The Limited Responsiveness to Increases in Dollar Amount

the gray-bands are 95 percent confidence envelopes.

Figure 5.3 shows that constituents are generally unresponsive to the dollar amount claimed in our study. Indeed, increasing the dollar amount claimed appears to *lower* support for the legislator—though the amount lowered is neither substantively nor statistically significant. Further, our second study fails to identify any set of dollar values where constituents reward legislators for increased expenditures. Rather, participants are generally unresponsive to increases in the dollar amount claimed across the entire range of spending. It would appear that the limited responsiveness detected with the police force manipulation was not an artifact of the type of expen-

diture. Even when presented with highway expenditures, constituents are generally unresponsive to the dollar amount claimed.

But constituents *are* responsive to the overall credit claiming message. Participants in the credit claiming condition had a substantially higher evaluation of the representative than participants in the advertising condition—replicating our finding from Chapter 4 and casting further doubt on objections that constituents are conducting deep evaluations of the amount spent. The thick horizontal line in Figure 5.3 is the average feeling thermometer evaluation for participants in the advertising condition, which is below the average feeling thermometer evaluation in the credit claiming condition for the entire range of dollar amounts. Overall, constituents who read the credit claiming message evaluated the representative 6.1 points higher than participants who read the advertising condition (95 percent confidence interval, [2.8, 9.5]). And this difference is just as high for participants who saw only a relatively small amount of money and large amount of money. Participants who saw a credit claiming message for less than $500,000 rated their representative 7.6 points higher than the credit claiming message, while participants who saw a credit claiming message for more than $2 million evaluated 5.7 points higher. It does not appear, then, that participants are punishing representatives for delivering too little money or for being wasteful with large expenditures. Rather, it appears that participants are rewarding legislators for working to deliver money to the district.

The lack of responsiveness across the dollar amount secured—and the increase over the advertising condition—provides indirect evidence that constituents are not assessing the size or wastefulness of an expenditure. For more direct evidence we asked participants to evaluate the expenditure and whether it was wasteful or likely to make

a difference in the district. And in both cases, it appears that the amount claimed has no real effect on constituent evaluations. Consider the question about wasteful spending. Overall, relatively few respondents identified the road project as wasteful— only 14.9% of respondents. And being assigned a press release that claimed credit for more money did not lead constituents to evaluate the spending as more wasteful. Fitting a simple linear regression to the data, a million dollar increase in amount claimed only caused a 1.9 percentage point increase in perceptions of wastefulness, an increase indistinguishable from zero (95 percent confidence interval [-0.01, 0.05]). Likewise, small expenditures did not lead to perceptions that the spending would accomplish little for the district. Overall, 72.8% of respondents agreed the spending would make a difference in the district. Increasing the amount claimed by a million dollars boosted this perception only 2.6 percentage points—again a difference that is indistinguishable from zero (95 percent confidence interval, [-0.01, 0.07]). Perhaps most relevant for legislators is that increased expenditures actually appear to *increase* perceptions that they are fiscally responsible. We asked the participants if they agreed that their representative is fiscally responsible. A million dollar increase in spending causes a 4.7 percentage point increase in perceived fiscal responsibility, an increase distinct from zero (95 percent confidence interval, [0.01, 0.09]).

Taken together, then, our pair of dose response experiments show that constituents are only weakly responsive to increases in the dollar amount claimed. And it does not appear to be because constituents are engaged in nuanced evaluations of legislators' credit claiming messages, with differences occurring because some spending is viewed as small, while other spending viewed as wasteful. Rather, it appears that constituents are quickly and intuitively evaluating the content of the statements and

then rewarding legislators for the expenditure.

Far from the accountant model's prediction that constituents reward larger expenditures, constituents appear to only be weakly responsive to the dollar amount claimed. But as the next experiment shows, constituents are very responsive to the number of messages legislators send.

5.3.2 Study 4: Frequent Messages Cultivate More Support than Large Expenditures

Constituents' impressionistic and intuitive evaluations of credit claiming statements lead to a focus on the action reported, rather than the amount claimed. Aggregated together, this creates strong incentives for legislators to regularly claim credit for relatively small amounts of money—both because constituents struggle to incorporate quantitative information over repeated messages and because constituents can reason about actions relatively easily. When evaluating a single message, we have shown that constituents struggle to incorporate numerical information (Hatano and Osawa, 1983; Ariely, 2000). Across multiple messages, the problem is even more daunting—constituents not only have to incorporate numerical information from a single message, they also face the difficult task of tallying the amount claimed across messages (Lodge, McGraw and Stroh, 1989). In contrast, it is much easier for constituents to intuitively evaluate multiple actions—they need only recall that their representative has reported prior actions and that those actions were positive (Sniderman, Brody and Tetlock, 1991).

As a result, we expect that the *amount* claimed will matter much less than the *number* of credit claiming messages sent. Testing this expectation using standard

experiment tools, though, is exceedingly difficult. Varying the number of messages sent in a single survey would be challenging to make realistic and to maintain respondents' attention. Delivering several credit claiming messages of standard length in one experiment might cause our respondents to disengage with our survey or begin satisficing, which would make measurement of the effects of multiple messages difficult. And most survey companies prevent contacting respondents on subsequent days, or make the repeated contact in a panel study extremely costly.

Given the limitations of surveys, we conduct this study in a more ecologically valid setting—sending messages by email (Nickerson, 2007). Email as a method of delivery has a number of distinct features that compliment the strengths of our previous survey experiments. Delivering treatments via email ensures that we can regularly contact our participants without exorbitant costs. Using emails also allows us to separate the delivery of our treatment from the measurement of the effect. This ensures that we measure more than ephemeral, short lived effects. Also the delivery of our treatment through emails ensures that our treatments have ecological validity that is difficult to replicate in our survey experiment. Representatives deliver e-newsletters to constituents in this format and the e-newsletters often contain credit claiming statements.

Using emails to deliver the treatment, we exploit an experimental design that allows us to compare the effect of increasing the dollar amount claimed to the effect of increasing the number of credit claiming messages sent. To do this, we use a 2×2 experimental design–which we summarize in Table 5.6. The first condition varies the *frequency* of messages sent. Subjects assigned to the *five message* condition received emails for five consecutive days, while subjects assigned to the *single message* condi-

tion received a single email. The second condition varied the amount claimed across the emails. Subjects assigned to the *large award* condition receive emails claiming credit for *one-hundred times* the amount of the corresponding *small award* condition with the same frequency. Table 5.7 provides an example of this manipulation, before it is rendered and sent in an email. Again, we use information about the subject's legislator to customize the announcement to create the appearance it is from the legislator. Depending on the condition, we substitute the dollar amount at each instance of |amount.

Table 5.6: Total Amount Claimed Across Experiment Conditions

	Small Award	Large Award
Single Message	$15,000	$1,500,000
Five Messages	Day 1: $15,000 Day 2: $19,000 Day 3: $85,000 Day 4: $21,000 Day 5: $36,000 Total: $176,000	Day 1: $1,500,000 Day 2: $1,900,000 Day 3: $8,500,000 Day 4: $2,100,000 Day 5: $3,600,000 Total: $17,600,000

We used Amazon.com's Mechanical Turk to recruit a new group of 1,001 participants for the study. To limit demand effects and to enhance the realism of our study, we created a cover story for our Mechanical Turk solicitation. We told the participants that we were researchers at Stanford University working on an application to facilitate connections between legislators and constituents. To ensure comparability across conditions, we followed a similar timeline on the delivery of the pre- and post-treatment surveys. The day after enrolling, subjects began receiving emails with the corresponding treatments. The day after the final email was sent subjects received an invitation to complete the post-experiment survey. This ensures that our findings

Table 5.7: Example Credit Claiming Manipulation

Headline: Representative |lastName (|party, |state-|district) Brings Local Fire Departments |amount for Firefighter Safety

Full text: A total of |amount in grants for operations and safety programs was awarded to local fire departments from the Department of Homeland Security, Rep. |lastName announced.

|firstName |lastName (|party, |state-|district) announced the grants today. Specifically, the grant will be used to improve training, equipment, and make modifications to fire stations and facilities in local fire departments.

"This is great news for our local community," said Representative |lastName. "With these funds, our local fire departments will continue to train and operate with the latest in firefighter technology."

Key
|lastName: The representative's last name
|firstName: The representative's first name
|party: The representative's party
|state: The representative's state
|district: The representative's district
|amount : The dollar amount claimed

are not the result of effects decaying after subjects participated in our study.

Given the use of emails to deliver the credit claiming messages, one concern is that our messages would be trapped in email spam filters. The construction of the emails minimized this possibility, but we use a manipulation check to demonstrate that participants received our messages, while also replicating the increase in name recognition for participants in credit claiming condition we identified in Chapter 4. The first column in Table 5.8 shows the proportion of subjects in each condition who are able to correctly identify their representative in a multiple choice test. The top entry in each row is the proportion of subjects assigned to each condition who correctly identified their representative and the 95 percent confidence interval is the

bottom entry in each row. The first column of Table 5.8 shows that, across the four conditions, there is an extremely high level of recognition. And as expected intuitively, there is a slight increase among the high frequency conditions: 95.2% of the subjects assigned to the high frequency condition could correctly identify their representative, a 4.4 percentage point increase over the low frequency condition (95% confidence interval [0.01, 0.08]).

Table 5.8: Number of Messages Dominates the Amount Claimed

Condition	Identify Name	Passing District Legislation
Five Messages $17.6 Million	0.96 [0.92,0.99]	4.86 [4.67,5.06]
Single Message $1.5 Million	0.92 [0.89,0.95]	4.43 [4.25,4.6]
Five Messages $176,000	0.95 [0.91,0.98]	4.72 [4.53,4.92]
Single Message $15,000	0.90 [0.87,0.93]	4.24 [4.06,4.42]

This table shows that subjects received our email messages and that increasing the number of messages bolstered one measure of a legislative effectiveness more than increasing the amount claimed. The four conditions are placed along the rows and each entry is the corresponding condition's average for the dependent variable, with a 95 percent confidence interval beneath. The first column shows that there is a high level of recognition across our conditions, evidence that subjects received our emails. The second column shows that small award, high frequency subjects evaluated their legislator as more effective at passing legislation for the district, than the large award, low frequency condition.

Figure 5.4 shows that increasing the number of messages cultivates more support than increasing the amount claimed. Consider the left-hand plot, which shows participants' rating of their representative's effectiveness at delivering money to the district, recorded on the same seven-point scale we use in previous sections. Each dot represents legislators' average effectiveness ratings for each condition and the lines are 95 percent confidence intervals.

The results replicate our findings from Study 3: small increases in the amount of money claimed do cause an increase in support for representatives. Participants in the single message, large award condition—where $1.5 million was claimed— rated their representative 0.33 units higher than participants in the single message, small award condition (95 percent confidence interval, [0.12, 0.55]).

The increase in support in response to numerous credit claiming messages, however, dwarfs the increase that occurs after claiming credit for more money. Subjects assigned to the small award, high frequency condition evaluated their representative as 0.41 units more effective at delivering funds than the large award, low frequency condition (95% confidence interval [0.18, 0.64]). This is particularly surprising given the discrepancy in the amount claimed: subjects assigned to the small award, high frequency condition received messages claiming credit for about *one-tenth* of the funds as subjects in the large award, low frequency condition. The top estimate shows that subjects assigned to the large award, high frequency condition had the highest evaluation of their representative's effectiveness: increasing the evaluation 0.22 units over the small award, high frequency condition (95% confidence interval [-0.01, 0.44]). This increase, however, is minuscule in comparison to the increase in funds claimed in the large award, high frequency condition. In this condition subjects received messages from legislators claiming credit for *one-hundred times* the money as the amount claimed in the small award, high frequency condition.

This pattern—constituents responding more to the number of actions, rather than the amount claimed—is replicated when participants were asked to assess their representative's effectiveness at passing legislation that benefits the district. The right-hand column in Table 5.8 shows that small award, high frequency subjects evaluated

their representative's legislative effectiveness substantially higher than subjects assigned to the large award, low frequency condition (0.30 unit increase, 95% confidence interval [0.03 ,0.56]). And there fails to be a substantial increase in evaluations associated with more money. Subjects assigned to the large award, high frequency condition evaluate their representative as more effective than the small award, high frequency subjects–a 0.14 unit increase–though the difference is not statistically significant at standard levels (95% confidence interval [-0.14,0.42]).

The increase in perceived effectiveness is coupled with a similar increase in overall support. The right-hand plot in Figure 5.4 shows that increasing the number of credit claiming statements causes large increases in support for the legislator. Each point represents the average feeling thermometer evaluation for the subjects assigned to each of the four conditions and the lines are 95 percent confidence intervals. In both the low and high frequency conditions, we see that the amount of money claimed in the press releases *fails to substantially or significantly increase the subjects' evaluations of their legislator* even though the large award conditions contained messages claiming credit for substantially more funds. Subjects assigned to the large award low frequency condition had only a 1.6 unit higher evaluation of their representative over the small award, low frequency condition—a difference that is not significant at standard levels (95% confidence interval, [-2.75, 5.98]). Likewise, subjects in the large award, high frequency condition evaluated their representative 1.8 units higher than the small award, high frequency condition, but again the difference is not significant at standard levels (95% confidence interval [-3.07, 6.70]).[3]

Thus, the money claimed had little effect on the evaluation of legislators, but the

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[3]Again, this experiment replicates the patterns from our the previous study in the chapter. Increasing the amount claimed by a small amount causes a very small increase in the average level of support.

frequency of messages mattered substantially. Subjects assigned to the small award, high frequency condition evaluated their representative 5.63 units higher than those in the large award, low frequency condition (95% confidence interval [1.07, 10.17]). Spreading a relatively small amount of money over several messages is *substantially* more effective at building support than claiming credit for one large expenditure. To see how much more effective frequent messages are than claiming credit for large amounts of money, we compare how much each dollar claimed increased legislators' evaluations, relative to the baseline condition of the small award, low frequency condition. To measure this return, we divide the increase in average feeling thermometer rating by the increase in the amount of funds claimed, measured in ten-thousand dollar units. This simple calculation reveals that frequently claiming credit for small amounts of money is a much more efficient way to cultivate support among constituents than increasing the total amount claimed. The return on the large award and high frequency condition is an increase in average feeling thermometer ratings of only 0.005 units per ten-thousand dollars claimed. The return for the small award, high frequency condition was much larger. For every ten-thousand dollars claimed in the small award high frequency condition, the average feeling thermometer increased 0.45 units–a per-dollar increase in support *90* times bigger than that found for the large award, high frequency condition.

Constituents engage in intuitive evaluations of legislators' credit claiming messages, causing them to be much more responsive to the reported actions than the amount claimed. There are at least two salient psychological mechanisms to explain the prominent response to actions. One explanation is that constituents lack the ability to *tally* expenditures across the messages. As we argue in Chapter 2, nu-

merical information is often much more difficult for constituents to use in intuitive evaluations. This is particularly true over repeated messages, which would require constituents to not only identify the amount claimed, but aggregate the amounts claimed over the messages. A second explanation is that constituents engaging in intuitive evaluations are unable to contextualize expenditures. As we argue above, constituents rarely deal with large sums of money in their day to day life. If this is true, then even if constituents are able to identify differences in the expenditures, we should expect that they will struggle to incorporate those differences into their quickly formed evaluations.

At the end of the post-experiment survey for this study we asked our participants a final question that allows us to assess the extent that these two mechanisms induce the lack of response to credit claiming messages. After all other relevant questions were asked and answered, we asked our participants to recall how much money their representative claimed in the emails they were sent. To make sure that our Mechanical Turk subjects did not cheat, we instructed them not to look at the previous emails and assured them that their compensation would not depend on the answer to this question.

Figure 5.5 shows that both mechanisms help explain why constituents are largely unresponsive to the amount claimed. The left-hand figure presents the average amount reported across the four conditions (the solid black points) and the true amounts claimed (open circles). To compactly display the amounts on a single plot, the horizontal axis is on a logarithmic scale, but we label values on the actual dollar scale for ease of interpretation.

The left-hand plot in Figure 5.5 shows that constituents recall broad differences in

how much representatives claim credit for in the emails. When recalling the amount that their representative claimed credit for securing, participant responses correctly ranked the total amounts from the smallest amount claimed (the small award, low frequency condition) to the largest amount claimed (the large award, high frequency condition). And the differences across the conditions were often substantial. For example, participants in the large award, high frequency condition recalled their representative claiming credit for 32 times as much money as participants in the small award, high frequency condition.

Constituents approximately identify and recall broad differences in how much money legislators deliver to the district. That the differences in expenditure do not subsequently affect differences in evaluations across constituents is evidence that constituents are unable to contextualize the amount claimed and include the differences in their assessments of their representative. As we argue in Chapter 2, constituents use heuristic processing to translate the information they have available about their representative into an opinion or evaluation. Opinions and evaluations are formed approximately and quickly—making it unlikely that quantitative information is included or carefully processed (in the rare cases in which it is actually retained). This is particularly true for large quantities of money, when constituents have few intuitive benchmarks for evaluating the amount that legislators claim credit for securing. Rather than accountants who would be responsive to differences in dollar amounts, impressionistic constituents fail to include the differences in their evaluations.

While the left-hand plot in Figure 5.5 shows that participants are able to recall broad differences in the amount legislators claim credit for, systematic errors are still made in participants' tallies. In each condition participants *underestimate* the amount

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of money their representative claimed credit for securing. And the errors are larger when legislators claim credit for more money—both in magnitude and in share of the total amount delivered. To demonstrate the magnitude of the errors, the right-hand plot in Figure 5.5 presents the ratio of the funds our participants recall claimed to the total actual claimed. Participants in the small award, low frequency condition—the bottom line of the plot—underestimated the amount claimed by $10,282—estimating that legislators claimed credit for only 31% of the total money announced. The numerous announcement of small awards appears to slightly increase the accuracy of assessments. Participants in the small award, large frequency condition were the most accurate across all four conditions, estimating that their legislators claimed credit for 41% of the total announced amount (about $103,000 in total). The accuracy of the estimates suffered substantially when large amounts of money were announced numerous times. Participants in the large award, high frequency condition—the top line—had an extremely poor estimate of the total amount claimed. Participants in this condition underestimated the total amount claimed by $15.2 million dollars— estimating their legislator claimed credit for only *13.5%* of the total funds actually claimed.

Constituents, then, not only struggled to contextualize and evaluate the amount of money claimed. They also systematically underestimated the amount legislators claimed to direct to the district. Together, these two biases dampen constituents' responsiveness to the amount of money delivered to the district. If legislators claim credit for large amounts of money, constituents are unable to tally the expenditures across credit claiming messages. Even if constituents could perform the tallying of money, their heuristic assessment of expenditures ensures that even large increases in

the amount claimed will not result in large increases in legislators' credit.

When engaged in heuristic evaluations, then, constituents rely on their automatic evaluations of the actions legislators perform and intuitive assessment of the amount delivered. The result is that constituents are very responsive to increases in the number of messages sent, but only marginally responsive to increases in the total amount delivered. As we show in the next section, members of Congress take advantage of how constituents allocate credit and regularly claim credit for very small amounts of money.

5.4   The Small Amount of Money Claimed

Legislators appear to know—at least intuitively—that constituents are responsive to relatively small amounts delivered to the district. Examples of claiming credit for relatively small expenditures are numerous. Henry Cuellar (R-TX) issued a press release where he "announced $26,000 in funds for the City of Lourdanton Police Department...The funds are part of an earmark to an appropriations bill that Rep. Cuellar helped to secure" (Cuellar, 2005). With only slightly larger expenditures, Frank LoBiondo (R-NJ) "announced that $30,400 in federal funding has been awarded to Clayton Volunteer Ambulance Inc. from the Assistance to Firefighters Grant Program (AFG)" (LoBiondo, 2006b), Gwen Moore (D-WI) "announced that the city of West Allis will today receive the first $100,000 of $576,200 in Energy Efficiency and Conservation Block Grants (EECBG) that it has been obligated under the Recovery Act" (Moore, 2006), Mike McIntyre (D-NC) "announced today that the Public Schools of Robeson County will receive $1,212,750.77 to help with Internet infrastructure" (McIntyre, 2006), and Mike Rogers (R-MI) "congratulated the Knightens

Crossroad Volunteer Fire Department today for receiving a $115,200 grant" (Rogers, 2005).

The examples are useful for illuminating what legislators claim credit for securing, but are not systematic evidence of the dollar amounts legislators claim credit for delivering to the district. The best systematic evidence would provide the dollar amounts discussed in all of our credit claiming press releases. Extracting this information by hand—or with the types of natural language processing commonly used in political science (Grimmer and Stewart, 2013)—is an exceedingly difficult task. Variations in how units are reported—1 million dollars or $1 million—and variations in notation—$1,100,000 or. $1.1 million—make manual extraction nearly impossible. Even with a small sample of press releases it would be difficult to extract the dollar amount claimed—requiring a very careful and close reading of the entire press release. Identifying the amount discussed across all press releases would be essentially infeasible, requiring an army of coders and substantial time.

Rather than extract the information by hand, we use computational tools. Specifically, we use the *Named Entity Recognizer* (NER) in the Stanford CoreNLP Library (Finkel, Grenager and Manning, 2005). The named entity extraction classifies the types of objects—entities—that occur in sentences. We use the software to identify dollar figures that are discussed in press releases. To do this, the model exploits the structure of sentences to identify entities in sentences and uses the same sentence structure to determine if the entity is a dollar amount. Applying this algorithm produces our ideal data set: a collection of all the money (with appropriate units) discussed in each press release. We then restrict our attention to the credit claiming press releases to identify what legislators claim credit for securing.

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Figure 5.6 presents all the dollar figures discussed in credit claiming press releases. The horizontal axis is the dollar amount claimed, on a log-scale though we provide labels in actual dollar amounts to ease interpretation. Figure 5.6 reveals several instances of legislators claiming credit for very small amounts of money—some as little as $1,000. For example, Eddie Bernice Johnson (D-TX) "announced that the National Endowment for the Humanities has made a grant to the Old Red Museum of Dallas County History & Culture. The museum will use the $1,000 grant to support its Transportation Fair, 'Stagecoaches to Segways: Celebrating Transportation of Dallas County's Past, Present and Future'" (Johnson, 2008) and Jim McDermott (D-WA) "presented a check for $1,000 to the Lifelong AIDS Alliance at the beginning of the 21st AIDS Walk over the weekend in Seattle" (McDermott, 2007). This was not an isolated incident—legislators from all parts of the country and both parties claimed credit for small amounts of money. Doc Hastings (R-WA) issued a press release to announce that the "Chelan County Fire District # 3 will receive $13,737 from the Assistance to Firefighters Grant program" (Hastings, 2008). Bart Stupak "announced Alcona, Iosco, Menominee, Montmorency, Ontonagon and Oscoda Counties have received grants totaling $65,250 to provide shelter, food and support services to assist individuals in northern Michigan currently facing economic crisis." This announcement included a $7,950 grant for Alcona County (Stupak, 2010a). Representatives and senators will even issue joint press releases to claim credit for small expenditures. One press release declared that "Mike Ross [R-AR] along with U.S. Senators Blanche Lincoln [D-AR] and Mark Pryor [D-AR] today announced that Nevada County will receive a $17,000 Rural Development grant from the Department of Agriculture to help repair three malfunctioning tornado sirens" (Ross, 2009b).

Discussions of small amounts of money—like the examples provided—occur regularly in credit claiming press releases. 19.0% of credit claiming press releases reference an expenditure of $50,000 or less, and 24.1% of credit claiming press releases contain a dollar amount that is $100,000 or less. This amounts to claiming credit for—at most—about *$0.16* per resident. The extremely small expenditures makes it very unlikely that the median voter in a district would be responsive to the per-resident amount being delivered to the district, as is often assumed in accountant credit claiming models (Levitt and Snyder, 1997; Strömberg, 2004).

Larger dollar amounts are discussed, but even these figures are still relatively small. For example, in another joint press release "Sen. Edward M. Kennedy [D-MA], Sen. John F. Kerry[D-MA], and Rep. John W. Olver [D-MA] announced today that the U.S. House of Representatives has approved the Interior Appropriations conference report containing $650,000 in funding for land acquisition in the Silvio O. Conte National Fish and Wildlife Refuge" (Olver, 2005). Other announcements list relatively small expenditures. Bud Cramer (D-AL) issued a press release stating that "North Alabama will receive funding for the following projects: $10 million for the Patton Island Bridge Corridor, $3 million for the Huntsville Southern Bypass, $1 million for the Interchange at I-65 and Limestone County Road 24, $1 million for the Jackson County Industrial Park Access Road" (Cramer Jr, 2005). And Hal Rogers (R-KY)—a powerful member of the Appropriations committeed—often claims credit for securing relatively small amounts for targeted programs in his district, like the drug treatment program Operation UNITE. In a press release Rogers "announced today that $1.15 million for Operation UNITE was approved by a key congressional subcommittee" (Rogers, 2008*a*).

The dollar amounts claimed in these press releases are indicative of the types of expenditures that legislators discuss with constituents. Across all credit claiming press releases, the median expenditure discussed is $2.85 million. This amount, though, is an overestimate of what legislators claim credit for securing. In many press releases legislators will discuss the cost of the entire bill—which they do not have a plausible claim to enacting (Mayhew, 1974)— and then describe the amount allocated to the district. To account for this, we can take the median of the amounts discussed in each press release—which is more likely to reflect the amount claimed in the press release. The median of the median amount claimed in each press release is $1.7 million—only about $2.86 per resident in the district.

Our systematic evidence reveals that legislators regularly claim credit for small expenditures. This evidence, coupled with the experimental evidence, suggests legislators recognize that they receive the most credit for merely reporting an action. Even if reflecting their intuitive understanding of how constituents allocate credit, legislators' credit claiming efforts appear to capitalize on their constituents' cognitive limitations. Legislators not only claim credit for actions in Washington that are far removed from actual expenditures, they also regularly announce small expenditures. The result is that representatives create the conditions for constituents to reward actions that are only contributing a small amount of funds to the district.

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5.5   Conclusion: Representation and Reform with Intuitive Constituents

How constituents allocate credit—and how representatives take advantage of this credit allocation—has implications both for representation and reforms of the appropriations process. The study of representation has focused on how closely legislators reflect their constituents' preferences and the conditions under which constituents are able to hold legislators accountable for holding discordant views (Miller and Stokes, 1963; Achen, 1978; Canes-Wrone, Brady and Cogan, 2002; Bafumi and Herron, 2010). The accountant model, though, has assumed away the representation problem constituents face when holding legislators accountable for spending in the district. This is unfortunate because our evidence shows that constituents have an equal—if not greater—challenge in holding legislators accountable for delivering money to the district. Even when constituents are presented with information about what their legislator has done in Washington, constituents will still struggle to identify and evaluate the amount spent in the district. Rather constituents' substitute an evaluation of expenditures delivered to the district with an evaluation of actions performed.

Evaluating actions, rather than expenditures, makes holding legislators accountable for spending more difficult for constituents. A large literature supposes that, all things equal, residents of a district prefer greater spending (Ferejohn, 1974; Weingast, Shepsle and Johnsen, 1981; Chen and Malhotra, 2007). It certainly is possible that legislators who report more actions are also delivering more money. But this requires serendipity, rather than reelection oriented legislators responding to pressure from constituents. And we think there is ample opportunity for some legislators to

receive credit for spending in the district, when those legislators exert only a slight effect on spending in the district. Not only do our experimental results show that legislators have strong incentives to claim credit for small expenditures. Our analysis of credit claiming press releases shows that legislators regularly claim credit for minuscule dollar amounts.

The result is that intuitive constituents not only lack information about the spending delivered to the district, they also lack the information in an easily useable form. And there are few actors well positioned to provide the information. Budget constrained local media are increasingly unable to provide context for what legislators are claiming (Vinson, 2002; Arnold, 2004). And for most of a legislator's term there is no clearly identified challenger to criticize the implications of the credit claiming. The result is that legislators receive credit for their actions, even though constituents may prefer greater expenditures.

Our evidence not only identifies challenges in the representative constituent relationship. It also provides greater context for recent reforms to the appropriations process—and helps explain why they were so rapidly adopted. After the 2006 midterm elections and a series of lobbying related scandals both the House and Senate adopted reforms to the earmarking process in spending bills. The hope was to increase transparency, ensuring that members of Congress could be easily held accountable for securing spending for campaign donors. To do this, an earmark database was created and the member responsible for requesting the earmark was identified.
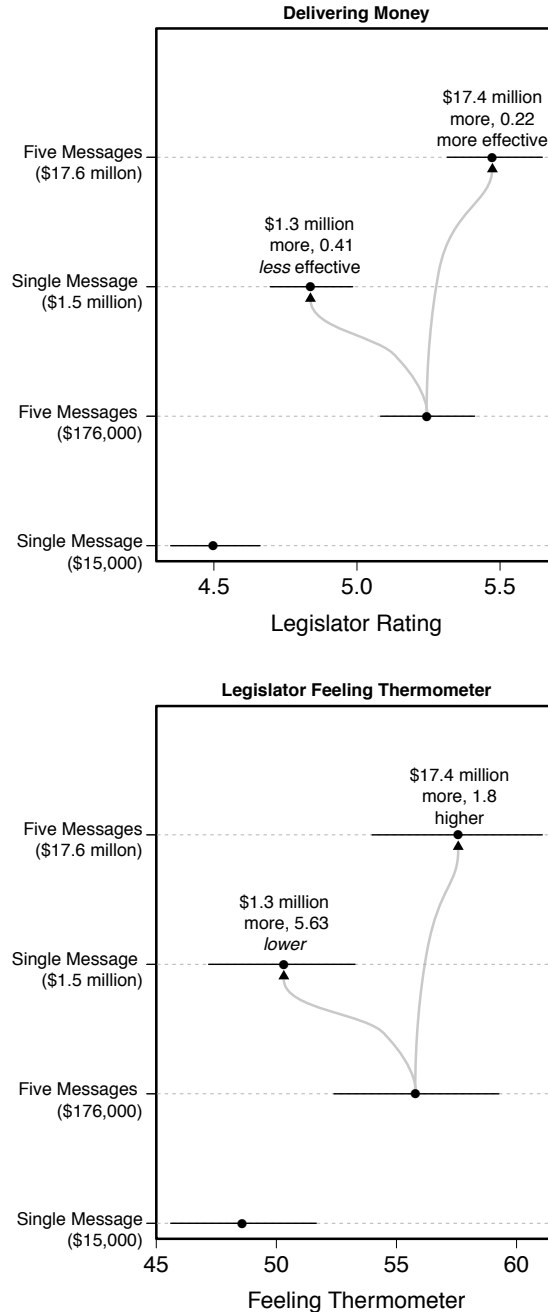
The reforms did have an effect on earmark transparency. As Stephen Slivinski of the Cato Institute explains, before the reform, "numerous congressmen could often take credit for a single project. There was no official way to verify who was really the

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main supporter of the earmark" (Slivinski, 2007). Slivinski goes on the explain that the reform created a way to identify who requested an expenditure, analogizing it to "intellectual property protection for government waste" (Slivinski, 2007). After the reform those who *merely requested* an expenditure would have official record of the request and a guarantee that they would be clearly associated with the spending.

The attempt to eliminate corruption in the earmarking process instead created a prominent place for legislators to broadcast that they requested money for constituents—potentially creating an opportunity for legislators to receive more credit than before the reform was enacted. This, too illuminates the representation problem inherent in legislators' creating an impression of influence over expenditures. Legislators receive credit for actions that are often far from expenditures actually occurring. And increases in transparency make it even easier for representatives to attach their name to actions and to ultimately receive credit for the expenditures.
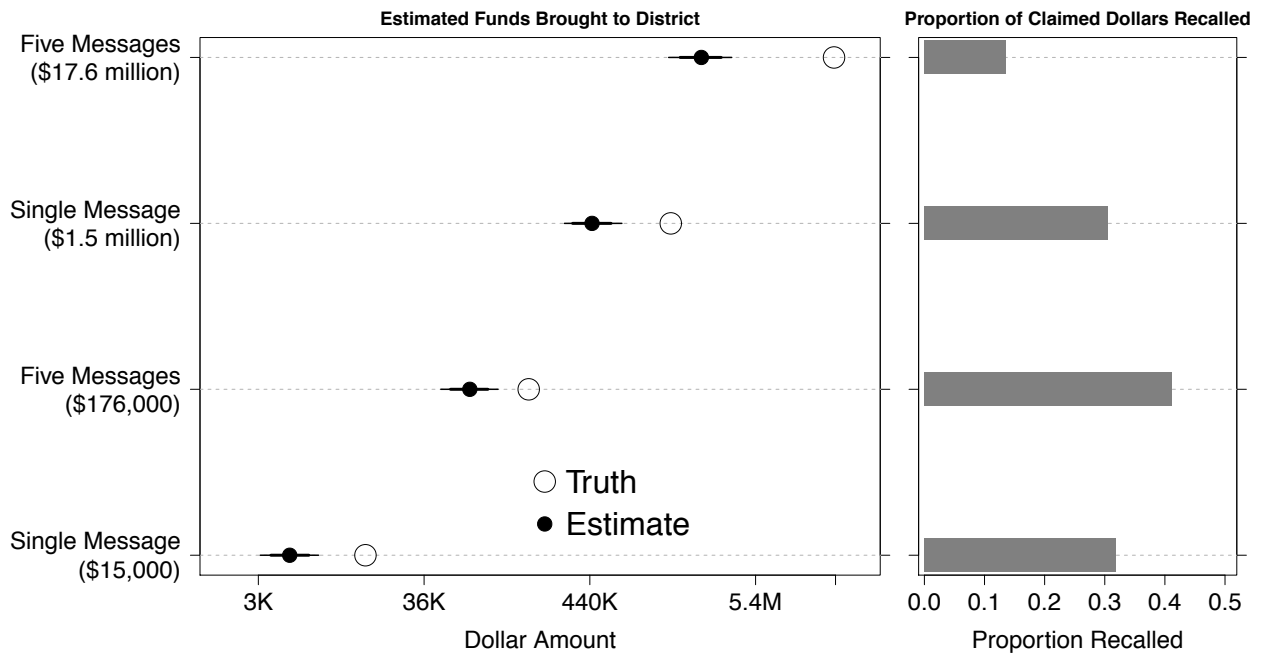
As we document in the next chapter, the way intuitive constituents allocate credit creates even greater opportunity for representatives to claim credit for spending they only had an indirect influence in securing. To show this, we examine how legislators claim credit for *fire department* grants allocated to the district.

Figure 5.4: Number of Messages Dominates the Amount Claimed

Delivering Money

$17.4 million more, 0.22 more effective

$1.3 million more, 0.41 *less* effective

Five Messages ($17.6 millon)

Single Message ($1.5 million)

Five Messages ($176,000)

Single Message ($15,000)

4.5   5.0   5.5

Legislator Rating

Legislator Feeling Thermometer

$17.4 million more, 1.8 higher

$1.3 million more, 5.63 *lower*

Five Messages ($17.6 millon)

Single Message ($1.5 million)

Five Messages ($176,000)

Single Message ($15,000)

45   50   55   60

Feeling Thermometer

This figure shows that multiple messages cultivate more support than increasing the amount claimed. The left-hand plot presents subjects' evaluations of their legislator's effectiveness at delivering money to the district. The points are the average evaluations and the lines are 95-percent confidence intervals. Even though there is $1.3 million more announced in the large award, low frequency condition (second line) subjects evaluated their representative as less effective at delivering money than the small award, high frequency condition (third line). And the large increase in money claimed in the large award, high frequency condition (top line) does not result in substantially higher evaluations. The right-hand plot shows a similar effect of more messages on feeling thermometer evaluations—the number of messages dominates the amount claimed.

Figure 5.5: Constituents Only Loosely Recall Total Expenditures

Estimated Funds Brought to District   **Proportion of Claimed Dollars Recalled**

Five Messages ($17.6 million)
Single Message ($1.5 million)
Five Messages ($176,000)
Single Message ($15,000)

○ Truth
● Estimate

3K   36K   440K   5.4M

Dollar Amount

0.0   0.1   0.2   0.3   0.4   0.5

Proportion Recalled

This figure shows the average amount of money participants recall their representative claiming credit for delivering (solid points) and the actual amounts delivered (open points), presented against a log-scale. We present the exponentiated axis for ease of interpretation. Experiment participants were able to recover the correct rank order of the amount delivered. But across conditions we see that the participants underestimate the amount delivered to the district. And the errors increase as the amount of money delivered increases. Providing one explanation for why constituents fail to be responsive to the increased amount of money delivered.

Figure 5.6: Legislators Regularly Claim Credit for Small Expenditures
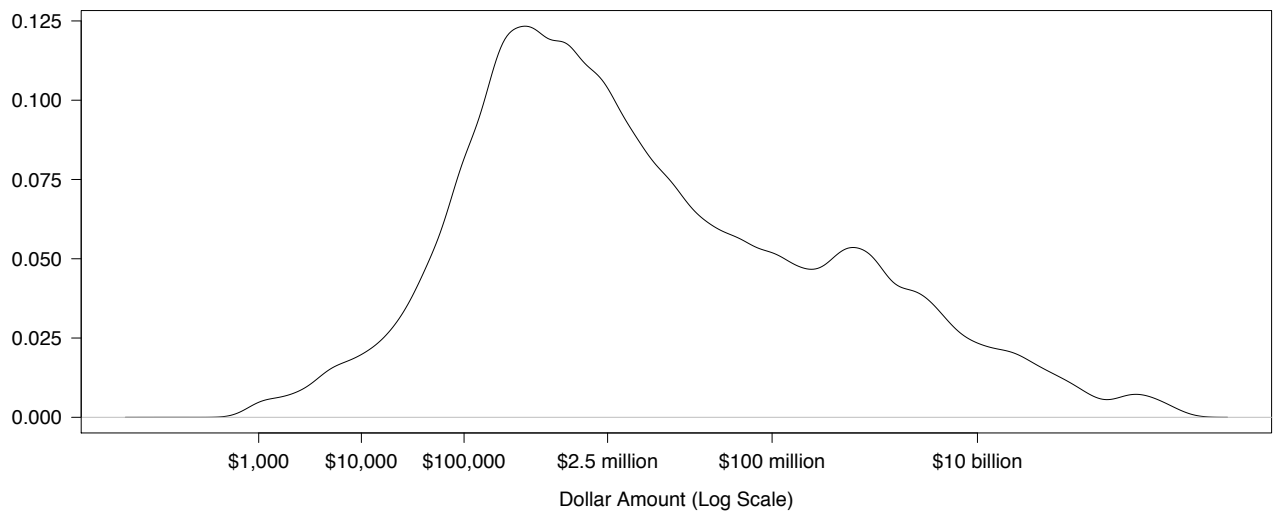
This figure shows the distribution of dollar figures discussed in credit claiming press releases. Legislators regularly discuss very small amounts and the majority of figures discussed are only a small amount—less than $2.5 million. This suggests legislators now, at least intuitively, that constituents reward reported actions.

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