

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

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Contents

1	The Impression of Influence	5
1.1	The Impression of Influence: An Overview	10
1.2	Conclusion	13
2	An Impressionistic Model of Credit Allocation	15
2.1	The Accountant Model of Credit Claiming	18
2.2	An Impressionistic Model of Credit Allocation	24
2.3	How Intuitive Voters form Impressions	27
2.4	When and How Strategic Legislators Create an Impression of Influence	34
2.5	Conclusion	41
3	How Legislators Create an Impression of Influence	43
3.1	Measuring Legislators' Credit Claiming Propensity	47
3.2	Strategic Credit Claiming and District Demand	54
3.3	What Legislators Claim Credit for Obtaining	72
3.4	Conclusion	78
4	Creating an Impression, Not Just Increasing Name Recognition	81
4.1	Why Credit Claiming Differs from Other Non-Partisan Messages . . .	83

4.2	Why We Use Experiments to Evaluate the Effects of Credit Claiming	86
4.3	Study 1: Isolating the Effects of Credit Claiming Statements	89
4.4	The Distinct Effects of Credit Claiming	96
5	Cultivating an Impression of Influence with Actions and Small Ex-	
	penditures	101
5.1	Study 1: Evaluating the Mere Report of an Action, Not Money Delivered	104
5.2	Study 2: Evaluations based on Qualitative, Not Quantitative Information	112
5.3	The Cultivation of Support with Small Grants, Rather than Large	
	Investments	120
5.3.1	Study 3: The Limited Responsiveness to the Amount Claimed	120
5.3.2	Study 4: Frequent Messages Cultivate More Support than Large	
	Expenditures	132
5.4	The Small Amount of Money Claimed	143
5.5	Conclusion: Representation and Reform with Intuitive Constituents .	147
6	The Impression of Influence and the Abundance of Federal Grant	
	Programs	155
6.1	The Structure of Federal Spending and the Incentive to Cultivate Bu-	
	reaucratic Support	160
6.2	Study 1: Inferences about Influence and the Value of Announcements	166
6.3	Creating Credit Claiming Opportunities: Evidence from Fire Depart-	
	ment Grants	174
6.4	Defending and Expanding the Grant Programs: Evidence the AFGP	
	is Successful	183

6.5	Conclusion: Deceiving Constituents to Defend a Program	187
7	Criticism and Credit: How Deficit Implications Undermine Credit Allocation	191
7.1	The Decline of Republican Credit Claiming and the Rise of Tea Party Rhetoric	197
7.2	Rewarded for Spending, Punished for Deficits	208
7.3	Criticism and the Tea Party	217
8	Representation and the Impression of Influence	221
8.1	The Impression of Influence: Revisiting Our Argument	223
8.2	Representative's Problem, Representative's Opportunity	224
8.3	The Rise (and Fall?) of the Tea Party	226
8.4	Creating an impression of influence	227

Chapter 3

How Legislators Create an Impression of Influence

Bart Stupak works hard to cultivate an impression of influence in his northern Michigan district. For example, he was on Mackinac Island on May 31st, 2008 to participate in a groundbreaking ceremony for a new hospital. At the ceremony, Stupak praised the federal investment in the hospital asserting that the Hospital was “a vast improvement on the old facility” (Polk, 2008). Stupak’s efforts extended well beyond appearing at ceremonies throughout his district. His office regularly issued press releases claiming credit for money directed to the district. One press release “announced that the U.S. Department of Agriculture’s (USDA) Rural Development fund has approved a loan of \$440,000 to Calumet Township for improvements to the Township’s wastewater system” (Stupak, 2007). In another press release he “announced [that] Northern Michigan University in Marquette has received \$673,462 for the university’s Electrical Power Technician job training program” (Stupak, 2010*c*). In another press release he “announced three grants totaling \$80,000 for the cities of Beaverton and

Gladwin to purchase vehicles for public safety” (Stupak, 2010*b*), and that he “was able to secure \$3.4 million for a wide variety of vital projects for northern Michigan communities and facilities” in an Appropriations bill (Stupak, 2005). His office’s credit claiming efforts translated into local news coverage. One story broadcast that Stupak announced “\$750,000 grant...award to Central Michigan University” (Jankoviak, 2009). Another story explained how “the city of Gladwin has received two grants totaling \$65,000 to assist local businesses” and included a quote from Stupak who explained that “we must do everything we can to help create and save jobs in our communities” (Staff, 2010*a*).

Stupak’s credit claiming is an attempt to cultivate a personal vote with his constituents. And Stupak has strong incentives to cultivate support by creating an impression of influence over spending. Stupak represents a swing district. In 2000 and 2004 his district supported George W. Bush, but in 2008 it narrowly supported Barack Obama. To win reelection, Stupak must win the support of his co-partisans, but he must also secure the support of independents and Republicans. The demographics of Stupak’s district create further incentive to engage in credit claiming. His district is working class, with many local investments depending on federal government program for rural development.

In this chapter, we demonstrate that Stupak’s strategic response to his district reflects a broader pattern in who claims credit for spending and what projects they claim credit for obtaining. Legislators’ incentives to cultivate an impression of influence varies across districts and, therefore, so too does their credit claiming behavior. The incentive to credit claim can arise from district demographics—such as median income or concentration of unions—and from the partisan composition of the dis-

trict. Legislators with incentives to create a personal vote credit claim more often than those who need to appeal to their party's base. And we show the Tea Party movement magnifies the incentive to avoid credit claiming when appealing to the base for Republican incumbents: after the Tea Party mobilized Republican activists, Republican representatives substantially decreased their rate of credit claiming, with the largest decrease occurring among Republicans in the most Tea Party friendly districts.

We also demonstrate *what* legislators claim credit for securing. Legislators do claim credit for spending that actually occurs in the district or when construction of a new facility finishes. But legislators also claim credit for *actions* taken throughout the appropriations process that are far removed from actual expenditures—including merely requesting that expenditures be included in spending bills. Legislators also claim credit broadly. Not only do legislators tout earmarks secured during the appropriations process, they also claim credit for grants allocated by executive agencies. Legislators, therefore, have a broad set of actions and expenditures they can use to create an impression of influence, but not all legislators use these actions to cultivate support. Legislators have different incentives and priorities when engaging with constituents (Grimmer, 2013). Some frequently attempt to create an impression of influence over potential spending projects, while others avoid credit claiming to focus on policy issues. The broad and differential use of credit claiming helps explain why district spending, alone, is insufficient to understand how legislators use spending to cultivate a personal vote. Rather, it is necessary to look at legislators' rhetoric to understand how they articulate spending to constituents—for legislators to receive credit for an expenditure or action, they need to make the case they are respon-

sible for securing the expenditure. In the absence of this association, constituents will struggle to reward legislators for the spending. Together, this explains why the same levels of federal transfers to districts can have distinct effects on legislators' vote totals.

To demonstrate how legislators use the spending process to create an impression of influence we analyze a massive collection of House press releases—every press release, from each House office, from 2005 to 2010, a collection of nearly 170,000 press releases. To analyze the abundance of text, we make use of text as data methods, which facilitate efficient analysis in extremely large text collections (Grimmer and Stewart, 2013). Applying the text as data tools, we measure *how* often legislators claim credit for spending and *what* legislators claim credit for delivering to the district. With the measures of legislators' credit claiming behavior in hand, we provide comprehensive evidence of how legislators create an impression of influence.

Before examining legislators' credit claiming evidence, we want to emphasize that this chapter is not intended to demonstrate the causal effect of various district characteristics on legislators' rhetorical choices. Like many other studies of how legislators engage constituents (see Chapter 4), we lack a strong identification strategy to examine how district characteristics alter legislators' strategies (Caughey and Sekhon, 2012). This is all the more challenging because we analyze several facets of district demand—each of which are intimately intertwined, with some features of causal consequences of others. Rather than provide credible estimates of the effect of district characteristics or institutional activities on credit claiming frequency, we instead document the systematic variation between characteristics of districts and legislators' strategies. The simple comparisons that we make in this chapter are insufficient to

establish the causal effect of district characteristics on legislators' strategies. But they are sufficient to establish an important descriptive fact: legislators who represent different types of districts adopt different types of strategies (Grimmer, 2013). And building on this descriptive fact, we use a series of experiments to demonstrate the causal effect of legislators' credit claiming statements on constituent credit allocation and the personal vote in subsequent chapters.

We begin the chapter describing our strategy for measuring representatives' credit claiming propensity.

3.1 Measuring Legislators' Credit Claiming Propensity

To measure how legislators cultivate an impression of influence we use an original collection of Congressional press releases. Press releases may seem an odd choice for analyzing Congressional communication, but there is growing evidence that press releases provide a reliable source for studying how members of Congress communicate with constituents. Using a collection of Senate press releases, Grimmer (2013) shows that press releases broadly reflect senators' priorities in Washington and that the content of press releases are likely to reach constituents. Press releases commonly affect the content of newspaper stories and are sometimes run verbatim in local papers.

Press releases are also a medium where legislators regularly claim credit for spending. Press releases can be issued on any day—particularly useful for legislators who may want to announce a new grant or expenditure when Congress is out of session. Floor speeches are less useful for studying credit claiming—the limited time on the

House floor makes it difficult for House members to claim credit for funds and when Congress is out of session, and floor speeches are not all that useful for claiming credit for funds. Not surprisingly, representatives and senators rarely claim credit for spending in floor speeches (Grimmer, 2013). Newsletters are another potentially useful source for studying how members of Congress claim credit for spending (Lipinski, 2004). The prominence of franked mail makes it a potentially useful place for legislators to cultivate support with constituents. But only a few newsletters are sent each year, making them unable to reliably capture legislators' credit claiming efforts (Lipinski, 2004).

One of the virtues of press releases is that they are plentiful—likely to capture how members of Congress cultivate a relationship with constituents. But this virtue is also presents a large problem, because the abundance of text makes analyzing the press release corpus costly. With so many press releases, manually reading and classifying the collection of press releases would require an immense effort. Even if we ignore time spent training coders and refining our coding scheme, simply reading and attaching a label to each press release would be an immense task. Even at the extremely fast rate of one press release read every two minutes, classifying all the documents three times would require over 16,800 hours of coder labor.

The usual alternatives are not ideal for studying how members of Congress cultivate support. Scholars of Congressional communication commonly analyze only a small sample of legislators (Schiller, 2000; Lipinski, 2004; Sulkin, 2005; Sellers, 2010). But the small samples often make it difficult to detect relationships that are present among all members of Congress. Further, the specific samples usually include only behavior from a particular year (Lipinski, 2004; Sulkin, 2005) or particular set of

policy debates (Sellers, 2010). This provides valuable insights from the time periods studied, but are inappropriate for reaching more general conclusions.

Rather than rely on only a sub-sample of press releases, we analyze the entire collection of press releases using computational methods that ease the cost of analysis (Grimmer and Stewart, 2013). We make use of *supervised* learning methods to efficiently classify the content of our press releases (Hillard, Purpura and Wilkerson, 2008; Hopkins and King, 2010). Supervised learning methods begin like traditional manual content analysis. The first step is to manually classify a sample of the press releases. But then the sample of press releases are used to *train*—or *supervise*—statistical algorithms that classify the remaining documents. The end product is a set of labeled documents that, if the classification is performed accurately, allow us to analyze the entire collection of press releases as if they were hand labeled.

To classify the press releases we began with a four part coding scheme, developed from the classic typology of Congressional action advanced in Mayhew (1974) and then refined with our team of three coders. To refine our scheme we made two pilot attempts at coding documents—we used an existing coding scheme, assigned our coders to classify a set of documents and then met with the coders to diagnose ambiguity and to clarify disagreements. After two rounds, agreement improved substantially and we settled on our final coding scheme. All the press releases that we use to train our models are labeled *after* we settled on a coding scheme, ensuring we are not artificially inflating our agreement rates.

The first category in our coding scheme—our target category—are *credit claiming* press releases. Building off of the original definition of credit claiming advanced in Mayhew (1974), we define a credit claiming press release as one that explicitly

announces an expenditure targeted to the district. This includes tax expenditures—tax breaks that are particularly targeted at the district. Because we are interested in *particularistic* expenditures, we exclude expenditures that are national in scope—such as a legislator discussing spending on a war.

Our second category describes *egregious earmark* press releases. These press releases discuss earmarks and particularistic spending, but criticize such legislation rather than claiming credit for it. Disaggregating this category in our coding protocol ensures that our classifier will also distinguish these linguistically similar press releases. The vast majority of our egregious earmark press releases come from Jeff Flake (R-AZ), a conservative legislator known for his opposition to government spending projects. In a similar style to William Proxmire’s Golden Fleece awards, Flake used creative messages to highlight spending he viewed as inappropriate. One press release criticized spending to address abandoned mines. In it, Flake stated that “With this earmark, taxpayers are quite literally getting the shaft” (Flake, 2008).

Our remaining categories describe other types of messages that legislators may convey that often have little connection to expenditures. Our third category are *advertising* press releases or press releases that *honor* the achievements of local constituents (see Chapter 4). Press releases in this category commonly include announcing winners of Congressional art contests or announcing nominations for the service academies. The fourth category are *position taking* press releases. This includes press releases where a legislator touts a position on a prominent policy debate, claims credit for passing legislation that does not fall into the previous categories, or explicitly attacks the other party (Grimmer and King, 2011).

With this coding scheme, we asked our team of three coders to classify 800 sam-

pled press releases—a number that we chose to balance the accuracy of our statistical models against the cost of hand coding documents (Hopkins and King, 2010; Jurafsky and Martin, 2008). Our coders displayed extremely high accuracy. Across all documents, at least one pair of coders agreed on 98% of documents and all three coders agreed 68% of the time. Agreement is even higher if we focus on just the credit claiming press releases—with all three coders agreeing 87% on whether a press release is claiming credit for an expenditure or not. Across categories we have an extremely high level of agreement, with a Krippendorff’s Alpha of 0.66.

A further indication of our coder’s reliability is that words that we expect to be associated with credit claiming messages are much more likely to occur in press releases our coders labeled as credit claiming. We use the *mutual information* between a word and the credit claiming category to identify words that a document is claiming credit for spending. Heuristically, mutual information measures how well a single word separates credit claiming press releases from other press releases—higher mutual information indicates that a word better separates categories than a word with lower mutual information. The words that have the highest mutual information with the credit claiming category are words like **funding**, **million**, **announces**, **grant**, **funds**, **department**, **project**, **secured**. As we will see below, each of the words are regularly used when legislators cultivate an impression of influence over spending that occurs in the district.

With an accurate sample of hand labeled documents, we are ready to train statistical models to classify all the remaining press releases. Our primary focus is on understanding credit claiming behavior, so we first use the hand labels to identify whether each press releases is credit claiming or not. To train the statistical models,

we first need to reconcile the three labels from our hand coders. Given the extremely high agreement, we used a voting procedure to determine each document’s label—the median code for each document is the final label.

We create an *ensemble* classifier, which combines a collection of prediction methods to analyze our text. Ensemble methods are increasingly used in machine learning tasks (Dietterich, 2000; Hillard, Purpura and Wilkerson, 2008). This is because ensemble classifiers usually improve accuracy, while also making predictions more stable and facilitate learning about more complicated functional forms than any one of the constituent methods of the ensemble. We include five methods in our ensemble: a support vector machine (SVM), LASSO, elastic-net, random forests, and KRLS. Our ensemble of classifiers weights methods according to their predictive accuracy. The ensemble method attached weight to three of the constituent methods: 61% of the weight was given to random forest, 23% to elastic net, and 16% to SVM. (For full details on the ensemble see the Appendix.)

This ensemble method is *extremely* accurate—able to achieve very reliable individually coded documents (Hillard, Purpura and Wilkerson, 2008; Hopkins and King, 2010). We assess the performance of our ensemble method by replicating our classification task using *cross validation* (Hastie, Tibshirani and Friedman, 2001). We create our entire ensemble for a subset of hand coded documents and then use the ensemble to classify the held out hand coded documents. This allows us to test the performance of our model against the “gold standard” of hand labeled documents. This demonstrates that the ensemble method was able to accurately replicate hand coding: 90% of our out of sample classifications agreed with the hand coders. Given that a document is credit claiming, we identified it at a high rate (67% of the time)

and given that we made a prediction that a document was credit claiming, it was very likely to actually be credit claiming (85%).¹

Given this high accuracy rate, we trained our ensemble of classifiers on the full sample of hand coded press releases and applied it to our collection of 169,779 press releases. The product is that each press release is labeled as credit claiming or not. This reveals a high rate of overall credit claiming—20.3% of all the press releases—over 34,000 press releases—are labeled as credit claiming press releases.

The labeled documents are useful on their own. But our primary interest is in assessing legislators' credit claiming rate. We characterize the legislators' credit claiming rate with the *proportion* of press releases each legislator, in each year, allocate to credit claiming (Grimmer, 2010). The simplest estimate of this proportion would just count the total number of a legislator's press releases that are credit claiming in a year and then divide by the total number of press releases from that year. But some House members issue only a few press releases in a year, causing the estimated proportion to be highly variable (Gelman and Hill, 2007). We introduce a small amount of smoothing—computed in a multilevel model—to obtain a less variable estimate of legislators' propensity to credit claiming (and decrease the mean square error of our estimate of the credit claiming rate) (Gelman and Hill, 2007).²

After smoothing, we now have a measure of the proportion of press releases from each representative, in each year, that claim credit for expenditures in the district.

¹To make the binary classification we had to determine a cut off in the probability of being a credit claiming document. We did this to maximize an out of sample measure of our performance—setting the threshold at 0.46.

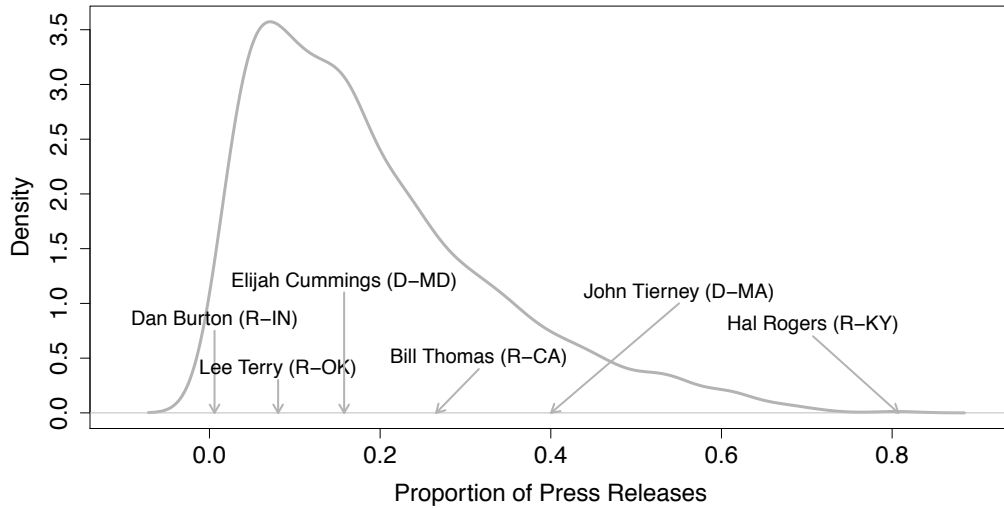
²The smoothing was quite mild—with the primary effect ensuring that legislators who issued only a few press releases not being assessed as sending out all their press releases as credit claiming or all as not credit claiming.

3.2 Strategic Credit Claiming and District Demand

Using our measures of credit claiming, we characterize *how* often legislators claim credit for expenditures. Figure 3.1 summarizes the distribution of credit claiming propensities in the House of Representatives from 2005 to 2010. The density plot shows the substantial variation in how often legislators use credit claiming in their press releases and provides further face validity to our measures of credit claiming propensity. At one end of the extreme is Dan Burton (R-IN), who allocated only 0.5% of his press releases to credit claiming in 2008. Burton’s avoidance of credit claiming is expected. Burton is a prominent conservative Republican who represents a heavily Republican district in central Indiana. In 2008, Burton faced a difficult challenge from John McGroff. McGroff alleged that Burton “voted for every spending bill that went through the office” and that Burton’s “are not the actions of a fiscally conservative congressman who cares about personal responsibility” (Staff, 2008). At the other extreme of the distribution is Hal Rogers (R-KY), who used 80.7% of his press releases in 2008 to claim credit for spending. Rogers, who has served on the Appropriations committee for nearly 30 years, was described in a Washington Times profile as using “his seat on the Appropriations Committee to protect one of his district’s most important economic engines” (Staff, 2012). Between the two extremes, representatives adopt distinctive strategies for associating themselves with spending in the district. We now examine how features of the district—and legislators’ experience in Washington—covary with where they fall on this distribution.

As we argued in Chapter 2, the variation in legislators’ credit claiming propensity is strategic, and determined in part by a consideration of how legislators can cultivate support among constituents (Mayhew, 1974; Stein and Bickers, 1997; Grimmer, 2013).

Figure 3.1: Substantial Variation in Credit Claiming Propensity



This figure shows the substantial variability in credit claiming propensity across House members, as measured in the proportion of press releases that claim credit for spending.

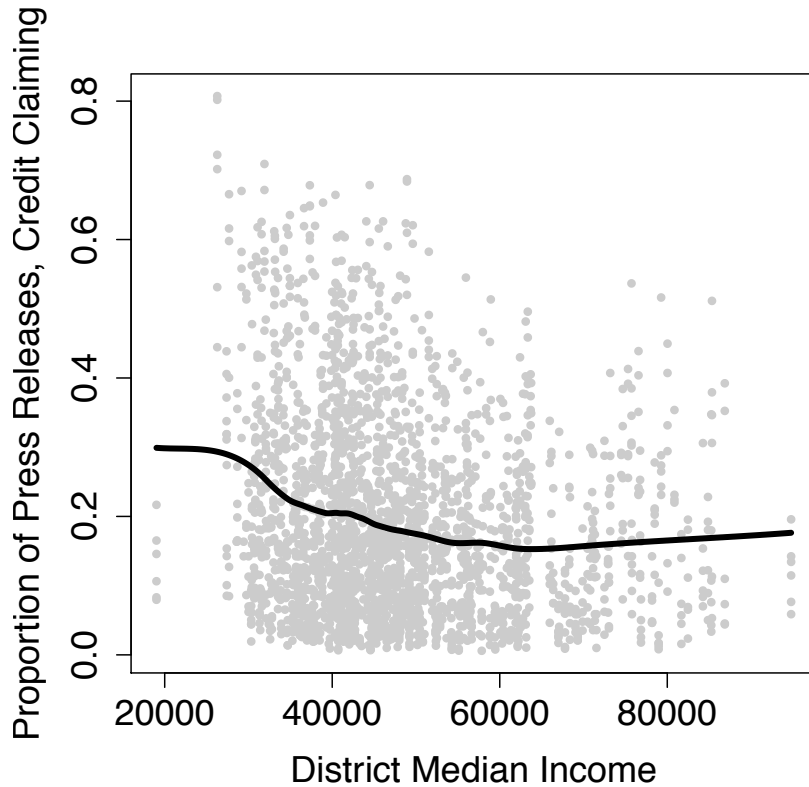
The decision calculus is straightforward: legislators tend to use credit claiming more often when it is valuable to them electorally and when alternative strategies are likely to be less effective. District demand for spending partially determines the value of claiming credit: when there is a greater need for spending there is likely a greater return on credit claiming efforts. Median district income will partially affect this perceived demand. Residents of low-income districts, like Stupak’s Michigan district, are more reliant on federal spending to build new infrastructure and to continue providing public services.

Figure 3.2 shows that legislators’ from low-income districts tend to claim credit more often than their colleagues who represent wealthier districts. In Figure 3.2 we plot the proportion of legislators’ press releases allocated to credit claiming against median district income. We summarize the relationship with a simple non-parametric

regression (Cleveland, 1979), with cross validation determining the amount of smoothing. Figure 3.2 shows that legislators who represent poorer districts allocate a larger share of their press releases to credit claiming than representatives in richer districts. Legislators who represent districts in the lowest quartile of income—districts with median incomes below \$39,000 claim credit for spending in 4.6 percentage points more of their press releases than other representatives (95 percent confidence interval, [0.02, 0.07]) and 6.5 percentage points more than the representatives in the richest districts (95 percent confidence intervals, [0.04, 0.09]). Representatives of the poorest districts, like Bart Stupak, make the consistent case that they exercise influence over the appropriations process and deliver money to the district.

The types of industries in a district and the occupations of residents will also affect legislators' perceptions of how spending is rewarded in the district (Adler and Lapinski, 1997). Perhaps the density of unions in a district is one of the strongest indicators of a profession that is more likely to reward federal spending (Adler and Lapinski, 1997). Union members recognize that government spending can lead to new construction, or provide much needed resources for education or the public sector. Representatives in districts where there are more unions do tend to claim credit for spending at a higher rate than other representatives, though the differences are more subtle than income differences. We can summarize this relationship with a simple linear regression of the proportion of press releases that are credit claiming against the percent of district residents who are members of a labor union (Tausanovitch and Warshaw, 2013). Legislators who represent a district at the 75th percentile of unionization allocate about 2.5 percentage points more to credit claiming than a legislator who represents a district at the 25th percentile of unionization (95 percent

Figure 3.2: Proportion of Credit Claiming Press Releases are Responsive to District Income



This figure shows that the representatives in the poorest districts also tend to claim credit for spending at a higher rate than representatives of richer districts.

confidence interval, [0.01, 0.04]).

Chip Pickering (R-MS), exemplifies a legislator who represents a lower income district with a high rate of credit claiming. He represented Mississippi's third Congressional district, a working class district with a median income of only \$34,750, in a state that has a weak tax base and few social services. This makes Pickering's district particularly reliant on federal expenditures to provide basic services. And Pickering makes clear his role in delivering money to the district. From 2005 to 2008, the four

years Pickering is in our sample, he claimed credit for spending in 50% of his press releases. Pickering announced a variety of expenditures in his district supporting basic public services, including education, fire, and police. For example, Pickering announced a “\$2,468,070 Department of Justice Grant for Mississippi State University for computer crime training and law enforcement assistance” (Pickering, 2006*a*). He also announced “five grants from the U.S. Department of Justice for Mississippi law enforcement” (Pickering, 2006*b*) and “Homeland Security Operations and Safety Grant of \$75,391 for the Forest Fire Department” (Pickering, 2007*a*). He also claimed credit for money to fund local infrastructure. This included funding secured in a supplemental appropriation for highway spending, including “\$25 million in funding for projects in Mississippi’s Third District”, which included \$10 million to “widen MS Hwy 19 between Philadelphia and Collinsville” (Pickering, 2007*b*).

Slowly changing district demographics—such as income and union concentration—are one district characteristic that covaries with legislators’ credit claiming priorities. But as describe in Chapter 2, legislators must consider the political consequences of their credit claiming statements—deciding how to balance appeals to co-partisans and the cultivation of a personal vote with opposing partisans and independents. The tension between the personal and partisan vote became particularly strong for Republicans after Barack Obama was elected president. The Tea Party movement—with the help of national political action committees and prominent pundits—became extremely critical of particularistic spending in the district. Pressure from Tea Party activists made it extremely *costly* for incumbent Republicans to use credit claiming to cultivate a personal vote with constituents. The Republicans could still, perhaps, win support from Democrat constituents with credit claiming appeals. But Republican

Tea Party activists would view credit claiming as a legislator participating in the particularistic spending the group opposed. The support of Democrats, then, would come at the cost of the base.

The Tea Party's revulsion towards spending, then, undermined the value of credit claiming for Republicans. The result is a substantial decrease in the Republican credit claiming rate. Figure 3.3 shows the proportion of press releases from each party that claimed credit for spending from 2005 to 2010. In 2005, Republicans and Democrats allocated nearly the same share of their press releases to claiming credit—Republicans claimed credit for spending in 0.5 percentage points *more* of their press releases than Democrats, but the difference is indistinguishable from zero (95 percent confidence interval, [-2.2, 3.1]). This nearly identical credit claiming behavior persisted in 2007—the year that the Republicans lost their majority in the House. Beginning in 2008, however, a small difference emerged between the parties. That year, Democrats claimed credit for spending in 18.6 percent of their press releases, while Republicans claimed credit in only 13.9% of their press releases—a 4.5 percentage point difference (95 percent confidence interval, [2.2, 7.1]).

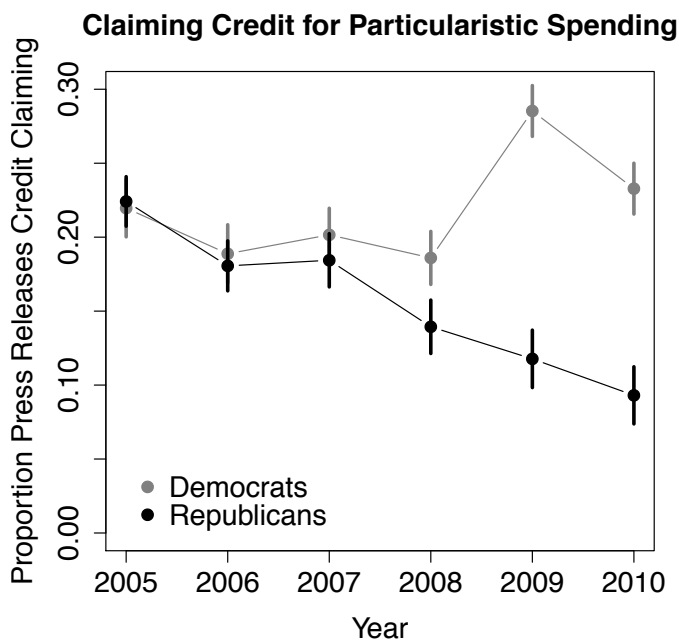
This initial decline corresponds with a surge in conservative attention to the earmarking process. This occurred, in part, because in the presidential race John McCain took his anti-pork barrel rhetoric to a broader audience. John McCain regularly attacked Barack Obama as a big spender—using Obama's use of earmarks while in the Senate as evidence. In the first debate, McCain argued that Obama was not credible on spending reform because “he has asked for \$932 million of earmark pork-barrel spending, nearly a million dollars for every day that he's been in the United States Senate.” At the third debate, McCain became more specific, criticizing Obama for

“including \$3 million for an overhead projector in a planetarium in his hometown.” This rendered salient growing Republican discontent with the earmarking process.

After the 2008 election, as anger about stimulus spending rose, the Republican credit claiming rate plummeted. In 2009, Republicans claimed credit for spending in only 11.7% of their press releases—a decline from the 2008 Republican credit claiming rate, and substantially less than Democrats claimed credit at the same time. Democrats claimed credit for spending in over 28.5% of their press releases—with the stimulus bolstering their credit claiming opportunities. The decline in Republican credit claiming is even more pronounced in 2010—when the Tea Party movement had emerged as a force in American politics (see Chapter 7). That year Republicans claimed credit for spending in only 9.3% of their press releases. In just five years, then, Republicans reduced their credit claiming propensity 13.1 percentage points, with many Republicans nearly abandoning credit claiming for spending all together (95 percent confidence interval, [-15.7, -10.6]). The result is that Republicans were much less likely to cultivate support using credit claiming messages.

The Republican decline in credit claiming propensity occurred both because of who lost in the 2008 Congressional elections and how the remaining Republicans responded to pressure from Tea Party activists. Republicans who were credit claiming-focused were routed in the 2008 election—in part because they represent marginal districts that were most likely to swing towards Obama. Republicans who left Congress—either because they lost reelection, retired, or sought a higher office—claimed credit for spending in 18.2% of their press releases in 2008. The Republicans who returned to Washington claimed credit for spending in 12.8% of their press releases. This 5.4 percentage point difference is large and explains in part why the Republican caucus

Figure 3.3: The Decline of Republican Credit Claiming



This figure shows the decline in Republican credit claiming after Obama’s election. The figure presents the proportion of credit claiming from Republicans (black) and Democrats (grey) over the 6 years of press releases included in this study. The points are the average for each year and the thick lines are 95 percent confidence intervals. While the two parties claimed credit at about the same rate in 2005, by 2010 Democrats claimed credit for spending at over two-and-a-half times Republicans claimed credit for spending.

that arrived after Obama was reelected was so opposed to spending: they relied upon it less to cultivate support with constituents (95 percent confidence interval, [-0.09, -0.01]).

This systematic elimination of credit claimers occurs only once in our data set—among Republicans after the 2008 election. There was no difference between Republicans who returned and left Washington after the 2006 election, when Republicans first lost their majority. The Republicans who returned to Washington after the 2006

claimed credit for spending in 0.3 percentage points more of their press releases, a difference we cannot distinguish from zero (95 percent confidence interval [-0.04, 0.05]). There was also no systematic differences in credit claiming behavior between the Democrats who returned to Washington and those who left after the 2008 election. Those who won claimed credit in 0.4 percentage points fewer of their press releases, a difference indistinguishable from zero (95 percent confidence interval, [-0.07, 0.06]).

The elimination of the Republican credit claimers dramatically reshaped how the Republican caucus presented their work to constituents, eliminating those Republicans who relied most on credit claiming to cultivate electoral support. Selection, however, is only part of the reason that there is such a dramatic drop in credit claiming among Republicans. The remaining Republicans altered their credit claiming behavior in response to pressure from party activists—with the largest changes occurring among those Republicans who were likely to feel the strongest pressure from conservative activists. Republicans from the most conservative districts—those where McCain performed well—had the largest declines in their credit claiming frequency. To demonstrate this responsiveness to activists, we regressed the proportion of credit claiming press releases for the remaining Republicans in 2009 against the proportion of their press releases that were credit claiming in 2008, and the proportion of district voters who supported McCain. This shows that a 10 percentage point increase in support for McCain in a district is associated with a 1.6 percentage point decrease in credit claiming focus (95 percent confidence interval, [-3.2, -0.00]). The relationship is robust. If we measure the change in credit claiming as a difference or include a variety of potentially confounding variables we still find that Republicans from districts where McCain performed well—districts that served as the base for Tea Party

movement—had sharper declines in their credit claiming propensity.

The decrease in credit claiming propensity among Republicans in Republican districts is particular to 2009 and 2010—exactly when Tea Party activists began demanding their representatives make cuts to federal spending. After the 2006 election—when Republicans lost their majority in the House—there was no systematic relationship between district vote share and change in credit claiming behavior. A 10 percentage point shift in a pro-Republican direction after that election is associated with only a 0.5 percentage point increase in credit claiming frequency, an increase that is indistinguishable from zero (95 percent confidence interval, [-0.02, 0.03]).

While Republicans were systematically avoiding credit claiming, Democrats embraced it. The American Recovery and Reinvestment Act provided ample credit claiming opportunities for Democrats, resulting in a substantial boost in Democrats' propensity to claim credit for spending. In 2009 Democrats increased their credit claiming rate 9.9 percentage points (95 percent confidence interval [0.07, 0.13])—a nearly 53 percent increase in their credit claiming rate. This increase was nearly universal among Democrats, with new representatives claiming credit at nearly the same rate as the returning incumbents. Though the increase was largest among the misaligned representatives—those with the greatest incentive to bolster their credit claiming rates to cultivate constituent support.

Figure 3.3 demonstrates the power of the Tea Party movement—and stimulus spending—to shape the propensity to claim credit for spending. And yet, the characteristics of a district still create incentives that are associated with differential rates of credit claiming in the district. Legislators who are misaligned with their districts still have incentive to engage in credit claiming more often than legislators who are

well aligned with their constituency. Though the relationship will depend upon the relative return on credit claiming and the costs to touting particularistic spending.

Stephanie Herseth-Sandlin (D-SD) is an example of an ideologically out of step representative who attempts to generate leeway with credit claiming statements. Herseth-Sandlin represented South Dakota in the House from 2004-2010—a state that the Republican presidential candidate carries regularly. To cultivate support with constituents, Herseth-Sandlin regularly claimed credit for spending in the state in addition to touting her blue-dog Democrat stances, such as voting against the Affordable Care Act. Her highest rate of credit claiming occurring in 2009, when she claimed credit for spending in 42.5% of her press releases. This contrasts sharply with Cynthia Lummis, a Republican who is the representative from nearby Wyoming in the House. Wyoming is a deep red, conservative state. When appealing to this base, Lummis almost *never* claims credit for spending that occurs in Wyoming—allocating only about 2.8% of her press releases to credit claiming in 2009.

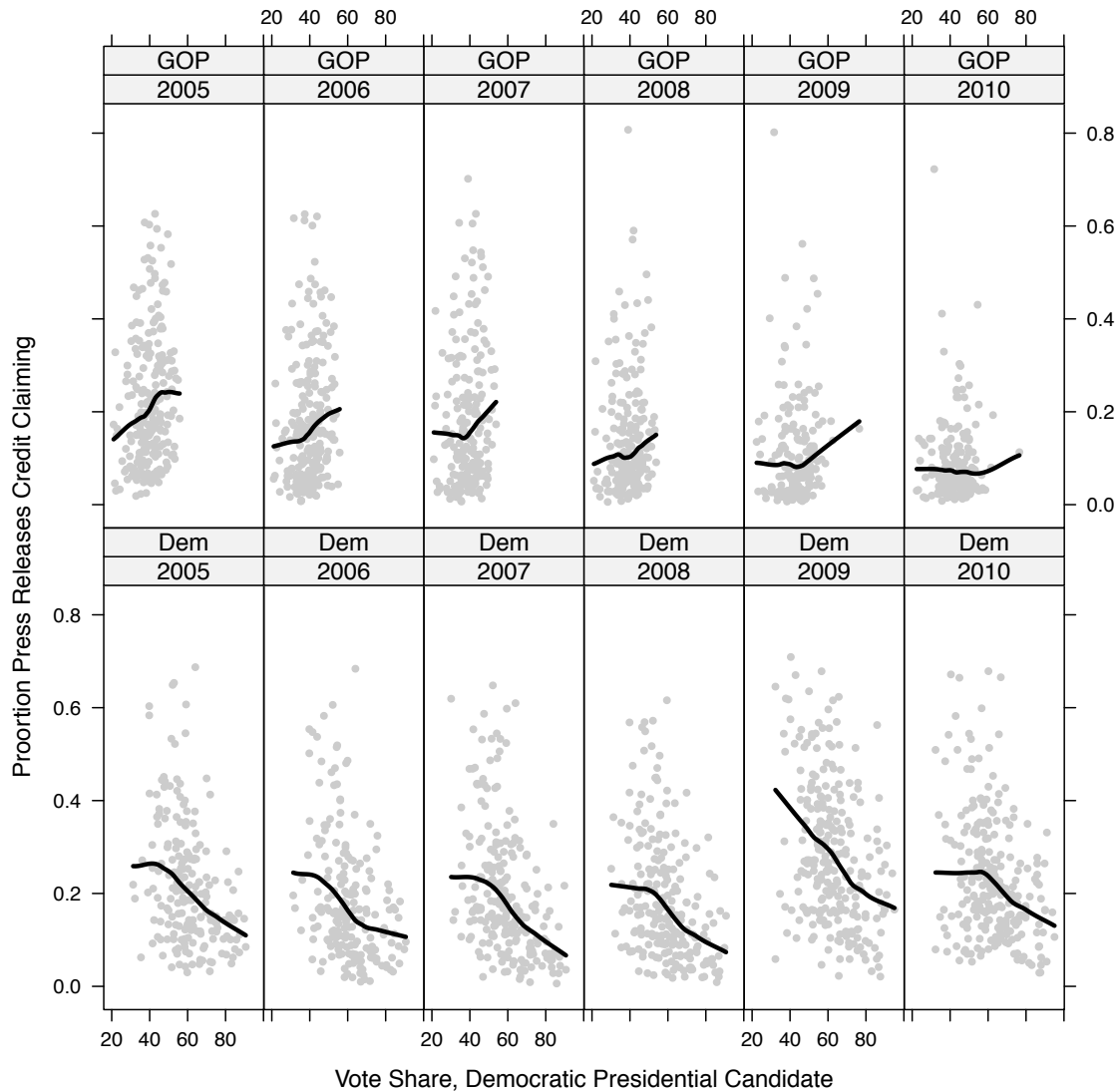
Herseth-Sandlin and Lummis exemplify the pattern that we have identified thus far: that representatives' credit claiming rates are systematically related to district characteristics. We have shown that legislators styles are strongly related to district characteristics. Another implication of this argument is that legislators' credit claiming rates will be relatively stable. Even when conditions affect the overall rate in a party, such as the rise of the Tea Party or the stimulus spending—legislators' styles will reflect the overall district conditions. This occurs because district demographics change little in between redistricting cycles.

Figure 3.4 shows that marginal Democrats and Republicans claim credit for spending more often than their well-aligned colleagues. Consider the bottom row of Figure

3.4, which presents the credit claiming propensity against the vote share in the district for the Democratic presidential candidate. In each year, the more marginal Democrats are substantially more likely to claim credit for spending than their more well aligned colleagues. Overall, a shift from a district that supported the Democratic presidential candidate with 69% of the vote (the 75th percentile of districts with a Democratic representative) to a district that supported the Democratic presidential candidate with 52% of the vote (25 percent of Democrat represented districts) is associated with a 5.1 percentage point increase in credit claiming propensity (95 percent confidence interval [0.03, 0.07]). This relationship is strongest in 2009—when the stimulus spending provided ample opportunity for marginal Democrats to claim credit for spending. That year the same shift in support is associated with a 6.1 percentage point increase in credit claiming (95 percent confidence interval [0.03, 0.09]).

The top-row of Figure 3.4 shows how the strategy of marginal Republicans responded to pressure from the Tea Party—evidence of how representatives trade off pressure from the base and the need to cultivate a personal vote with constituents. From 2005 to 2007 there is a strong relationship between the composition of a district and Republican’s propensity to credit claim. In those years a shift from a district who supported with the Democratic presidential candidate with 35% of the vote (75 percentile of Republican districts) to a district who supported the Democratic presidential candidate with 44% of the vote (25th percentile of Republican districts) is associated with a 2.9 percentage point increase in the credit claiming rate (95 percent confidence interval, [0.01, 0.05]). But as the Tea Party’s influence emerged and increased the opportunity cost of credit claiming for Congressional Republicans, this relationship disappeared. In 2010 the same shift in alignment is associated with a

Figure 3.4: Proportion of Credit Claiming Press Releases are Correlated with Partisan Composition



This figure shows the relationship between the partisan composition of a district and representatives' propensity to credit claim. Representatives with the strongest incentive to cultivate a personal vote—Republicans in Democratic districts and Democrats in Republican districts—have the highest rate of credit claiming. Legislators who are well-aligned with their district—Democrats in Democratic districts and Republicans from Republican districts—claim credit much less often.

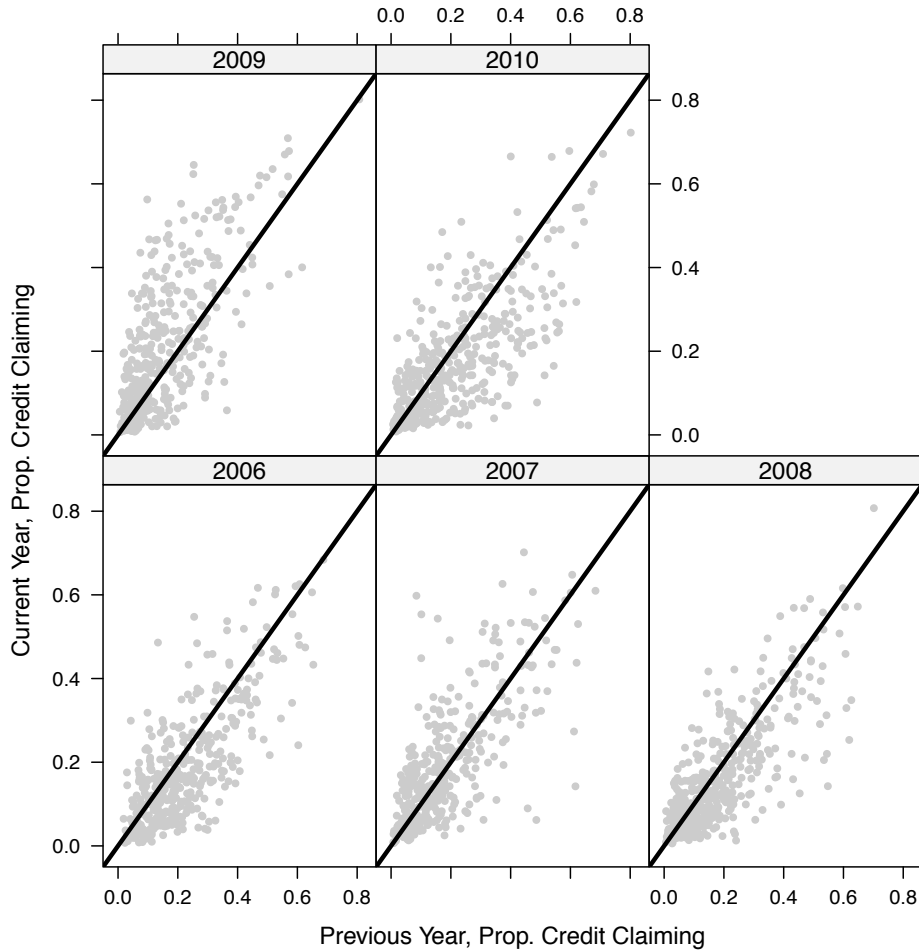
decrease in credit claiming propensity of 0.2 percentage points, a difference indistinguishable from zero (95 percent confidence interval, [-1.7, 1.2]).

The changes that we've described in response to the tea party are on the margin and overall. There is still variation within parties, but little variation over time. Figure 3.5 shows that legislators' credit claiming rates are relatively stable from year-to-year. This plot shows the relationship between credit claiming propensity in the year labeled in each cell (vertical axis) and the credit claiming propensity in the prior year (horizontal axis) for all representatives who served in both years. The 45-degree line is where all points would fall if there were a perfect relationship between the two years of credit claiming.

Legislators' credit claiming rate in a previous year is an excellent predictor of the credit claiming rate in the subsequent year. Legislators may alter their styles, but they are still responsive to slowly changing district characteristics. This stability is reflected in the correlation between the two years' credit claiming propensity—a strong 0.71. Even when there are visible shifts in the credit claiming propensity, there is still a strong relationship between legislators' credit claiming propensity. For example, in 2009 there is a clear shift above the break-even line, indicative of the increase in Democrats' propensity to claim credit. And yet, the correlation between Democrats' credit claiming propensity in 2008 and 2009 remains a high 0.72.

Legislators, then, adopt stable styles that reflect the characteristics of their constituency. But legislators' credit claiming propensities will also reflect their work in Washington (Grimmer, 2013). One reason for this reflection is that constituents also affect work in Washington, inducing a correlation. Consider Figure 3.6, which shows the relationship between the proportion of credit claiming press releases against leg-

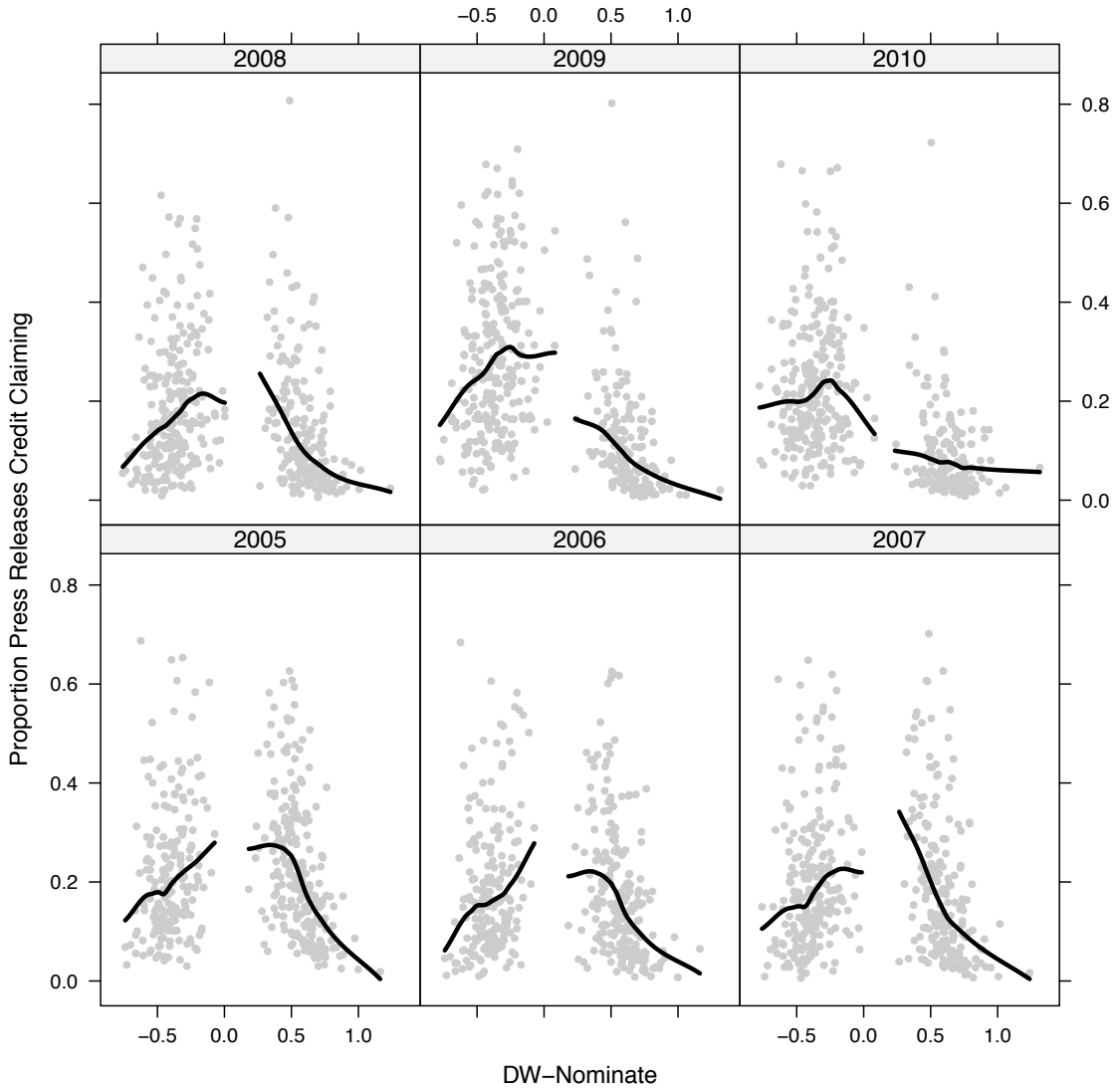
Figure 3.5: Stability in Proportion of Press Releases that Are Credit Claiming



This figure shows that representatives' credit claiming propensities are relatively stable from year to year.

islators' DW-Nominate scores. DW-Nominate scores are an extremely well validated measure of legislator ideology, based on voting coalitions that occur in Congress (Poole and Rosenthal, 1997). The lines in each cell summarize the relationship between credit claiming rate and ideology for Democrats (left-hand line) and Republicans (right-hand line).

Figure 3.6: Proportion of Credit Claiming Press Releases are Correlated with Legislator Ideology



This figure shows that ideological moderates are the most likely to engage in credit claiming.

Figure 3.6 shows that moderate legislators, for most of the years presented here, are much more likely to claim credit for spending. Consider, for example, 2006—the bottom, center cell in Figure 3.6. That year moderate Democrats claimed credit

for spending in 23% of their press releases, while liberal Democrats only claimed for spending in 16% of their press releases—a substantial and significant difference in credit claiming strategy (7.1 percentage point difference, 95 percent confidence interval, [2.4, 11.7]). The relationship between ideology and credit claiming was even stronger for Republicans in 2005 and 2006. Moderate Republicans in 2005 allocated 16.6 percentage points more of their press releases to credit claiming than the most conservative Republicans (95 percent confidence interval [0.12, 0.15]).

Figure 3.6 also shows how the Tea Party pressure dampened the incentive for moderate Republicans to engage in credit claiming. In 2010—the top-right cell in Figure 3.6—there is a much weaker relationship between credit claiming propensity and ideology for Republicans. Moderate Republicans had a 7.6 percentage point higher rate of claiming credit than moderate Republicans (95 percent confidence interval [0.03, 0.12]). While the relationship between ideology and credit claiming remains significant, it is a much weaker relationship in 2010 than in 2005—a decrease that is distinguishable from changes by chance (8.9 percentage point decrease, 95 percent confidence interval, [0.01, 0.17]).

The relationship between ideology and credit claiming is partially due to responsiveness to district preference. But the relationship also reflects legislators' personal policy preferences. For example, libertarian crusader Ron Paul (R-TX) has one of the lowest credit claiming rates in our data—estimated to claim credit for spending in only about 3% of his press releases from 2005-2010. Paul's aversion to credit claiming is one component of his much broader set of objections to government spending. During Paul's time in Congress he built a national base of support with a libertarian message that called for massive cuts from the federal government. Both for his own personal

beliefs—and to remain a consistent spokesman for his agenda—Paul had to avoid claiming credit for spending. Or consider Pete Stark (D-CA) a California liberal who opposes expenditures he views as unnecessarily helping businesses—including farm subsidies and the government bailouts of financial institutions.

Another reason that moderates may credit claim more often is that they may be in the best position to extract earmarks for their votes in Congress. As Evans (2004) explains, earmarks are an important tool party leaders use to push legislation through Congress. Moderates are likely to have an advantage in this market, because they are cheaper to purchase than more ideologically extreme members of their coalition. This certainly could explain some of the differences in legislators' credit claiming. But as we show in the next section, legislators claim credit for a wide array of expenditures and legislators who want to claim credit for spending certainly have opportunity, not just earmarked funds in the district.

Legislators' roll call voting history—one facet of their work in Washington—is systematically related to their credit claiming propensity. Away from the floor, we should expect other facets of what representatives do in Washington to be systematically related to their propensity for credit claiming. For example, consider members of the Appropriations committee. Representatives on Appropriations tend to use the committee to direct funds to the district and bolster support among constituents (Fenno, 1973; Deering and Smith, 1997). If representatives are using their position on Appropriations to bolster their impression of influence, then we should expect members of the committee to *claim credit* for spending at a higher rate than other representatives.

Press releases provide evidence for this expectation: members of Appropriations

claim credit for spending at a higher rate than other representatives. Members of the Appropriations committee allocate 8.3 percentage points more of their press releases to credit claiming than other representatives (95 percent confidence interval [0.06, 0.10]). No representative makes better use of their position on Appropriations than Hal Rogers, the most frequent credit claimer in our collection of press releases. Rogers claims credit for spending at a high rate. On average, Rogers claims credit for spending in 67% of his press releases. Rogers' credit claiming statements were about a wide array of expenditures. This includes small grants, such as when he “announced that the U.S. Department of Agriculture and Rural Development (USDA-RD) program has approved a \$41,523 grant for the Leslie County Sheriff’s Department” (Rogers, 2009*a*). And larger expenditures, such as when he explained how an Appropriations bill that recently passed committee “included \$9.5 million for flood control and flood damage reduction activities” (Rogers, 2009*b*).

This section shows the systematic relationship between legislators’ strategic incentives and their credit claiming propensity. Legislators who represent different types of districts adopt different credit claiming rates. The result of this process is that legislators will be differentially associated with spending in the district—making the dollar amount spent in the district insufficient to understand legislators’ impression of influence.

3.3 What Legislators Claim Credit for Obtaining

The differential rates of credit claiming are interesting, but our previous measures are unable to account for *what* legislators claim credit for in their press releases. One approach to assessing what legislators claim credit for would be to develop a more

complex coding scheme, have our coders reclassify documents, and then refit our supervised learning method to collection of press releases. This, however, is difficult to implement. More nuanced coding schemes pose a challenge for even experienced coders. They tend to struggle to remember the rules, confuse terms, or over utilize particular categories. It is also difficult to identify the categories of expenditures before hand, with many potential diverse ways the government can spend money (Grimmer, 2013).

Rather than define the categories before hand, we use a statistical method that discovers a set of *topics* (Blei, Ng and Jordan, 2003; Quinn et al., 2010; Grimmer, 2010) and estimates how documents are divided across those topics. The particular model that we apply—Latent Dirichlet Allocation (LDA)—defines a topic to be a set of words that tend to occur together across documents. For example, words like **highway**, **road**, **transportation**, and **bridge** are likely to co-occur as members of Congress claim credit for highway expenditures. Unlike our supervised methods that require us to specify topics before hand, LDA is an unsupervised method. This means that LDA *discovers* the topics that occur in documents. Given the set of topics, LDA then estimates the proportion of the topics that occur in each document. The result of applying LDA, then, is that we simultaneously will identify what legislators claim credit for securing and how often legislators discuss those particular topics.

We applied LDA to the credit claiming press releases we identified in the previous section, estimating the model in MALLETT. We set the number of topics at 25—a number that we arrived at using a substantive search from five to fifty topics. Following Quinn et al. (2010), we look for substantive topics that are not about particular sub-groups, such as states. Too few topics grouped together distinct spending topics—such as

farming and highway expenditures. Too many topics and we had many location specific topics. 25 topics represented an excellent middle ground between the two extremes—capturing distinct topic areas without too many area specific topics.

Table 3.1 presents the estimated topics and their frequency in representatives' credit claiming messages. The first column provides a short, one word summary for each of the estimated topics. To obtain this, we read a random sample of about 10-15 press releases that have a large share of their content allocated to the topic (Quinn et al., 2010) and the second column contains words that occur with a high frequency under each topic. The third column measures the proportion of documents that are allocated to each of the topics

The topics in Table 3.1 reveal the diverse types of spending that legislators claim credit for. Detailed exploration shows the many stages in the appropriations process where legislators announce expenditures. This is evident in the most prevalent topic: *Requested appropriations*. These are expenditures that representatives have inserted into spending bills, but have yet to be allocated to the district. For example, in one press release Dave Camp (R-MI) “announced today that he was able to secure \$2.5 million for widening M-72 from US-31 easterly 7.2 miles to Old M-72” (Camp, 2005). Later, Camp explains that the funding actually has “two more hurdles to clear to make sure the money is in the bill when it hits the President’s desk: a vote in the Senate and a conference committee” (Camp, 2005). In a similar message, Mike Ross (D-AR) issued a press release stating that he “has successfully secured \$5,122,000 for Millwood Lake in the Fiscal Year 2010 House Energy & Water Appropriations Bill. The bill passed the full U.S. House of Representatives July 16” and that he would “continue fighting for these important infrastructure dollars as they move through

the appropriations process. Upon passage of the Energy & Water Appropriations Bill in the Senate, the measure will then go to a Conference Committee” (Ross, 2009a). And Doc Hastings (R-WA) stated he “boosted federal funding for work on the Odessa Subaquifer for next year. This year Hastings has added \$1 million, which when combined with the funding in the President’s budget request, totals \$1.185 million for Fiscal Year 2008”, even though the funding had “been approved by the full House Appropriations Committee”—with a final passage vote in the House still needed (Hastings, 2007).

The prevalence of claiming credit for *requests* demonstrates that representatives are able to use a broad set of actions to create an impression of influence over federal expenditures. Not only are legislators able to claim credit for spending once it has been finally approved, or when the expenditure actually occurs in the district. Legislators also claim credit for merely *inserting* an expenditure into a bill or even *requesting* an expenditure for the district. Rather than actual spending, then, legislators claim credit for *actions* that they perform in Washington. Even if those actions only *may* lead to spending in the district *eventually*.

The second most prevalent topic in credit claiming press releases cover *fire department* grants, which legislators use to create an impression that they influenced executive branch spending in their district. These grants have nothing to do with congressional spending. Rather, these press releases announce small, executive-branch expenditures made to local fire departments through the Assistant to Firefighter Grant Program (AFGP)—a FEMA administered competitive grant program (see Chapter 6). Such credit claiming occurs regularly, even though the grants are relatively small. For example, Brian Higgins (D-NY) used a press release to “announce Walden Fire

Table 3.1: Credit Claiming Topics

Labels	Key Words	Proportion
Requested appropriations	bill,funding,house,million,appropriations	0.08
Fire department grants	fire,grant,department,program,firefighters	0.08
Stimulus	recovery,funding,jobs,information, act,	0.06
Bureaucratic compliance	state,federal,congress,states,secretary	0.06
Transportation	transportation,project,airport,transit,million	0.06
Local education	education,school,students,program,college	0.05
Grants	rep,grant,news,county,release	0.05
Economic development grants	development,economic,business,jobs,county	0.05
Water projects	water,project,river,projects,corps	0.04
Justice grants	enforcement,law,police,program,justice	0.04
Rural grants	rural,agriculture,usda,development,county	0.04
HUD/Block grants	housing,program,grants,home,families	0.03
Tax credits	tax,act,small,credit,bill	0.03
Health care	health,care,services,veterans,medical	0.03
Disaster declarations	disaster,assistance,fema,federal,emergency	0.03
Winter heating	liheap, rep,maine,funding,funds	0.03
National parks	national,park,jersey,land,area	0.03
Defense construction	military,defense,million,air,army	0.03
University research	research,university,technology,center,science	0.03
New York projects	york,rep,hinchey,ny,federal	0.03
Energy projects	energy,renewable,efficiency,oil,fuel	0.02
Ribbon cutting/Assistance	county,florida,rep,office,north	0.02
Arkansas projects	arkansas,connecticut,state,washington,rep	0.02
Local disaster declarations	rep,san,california,county,maryland	0.02
Homeland security	security,homeland,border,million,emergency	0.02

This table shows what legislators discuss in their credit claiming statements.

District will receive \$75,259 in federal funding through the Assistance to Firefighters Grants Program (AFGP) for fiscal year 2005” (Higgins, 2006). In another press release, Mike Rogers (R-AL), “congratulated the men and women of the Mount Olive Volunteer Fire Department and County Line Volunteer Fire Department today for receiving grants from the U.S. Department of Homeland Security”, even though the funding was relatively small. The press release went on to explain that “the Mount

Olive Volunteer Fire Department should receive \$26,125 in funding and the County Line Volunteer Fire Department should receive \$16,957 in funding to help purchase operations and safety equipment” (Rogers, 2008*b*). Even smaller expenditures receive Rogers attention: in one press release he “congratulated the men and women of the Daviston Volunteer Fire Department today for receiving a \$9,975 grant from the U.S. Department of Homeland Security” (Rogers, 2007). Even Appropriations cardinals claim credit for fire grants. David Obey—then chair of the Appropriations committee— issued a press release where he “applauded the release of a \$94,196 federal fire grant to the Antigo Fire Department” (Obey, 2007).

Representatives tout money secured through the standard Appropriations process to create this impression. The use of the fire department grants is evidence that legislators can claim credit for spending decisions allocated by bureaucrats. But representatives also *announce* spending allocated by bureaucrats. Representatives’ opportunities for creating an impression of influence are many and extend far beyond activities that legislators have direct influence over. This is evident in the many other topics that are primarily about credit claiming for expenditures executive department allocate—including economic development grants for towns, justice department grants for law enforcement, grants for rural economic development, and urban block grants to help cities function.

Legislators also claim credit for ensuring wayward bureaucracies deliver necessary funds or encouraging Congressional commissions to reconsider their decisions to shift funds away from the district (Cain, Ferejohn and Fiorina, 1987). For example, Tom Udall (D-NM) issued a press release to say that he and other members of the New Mexico delegation met “with members of the Base Realignment and Closure (BRAC)

Commission” where they “ tackled the flawed reasoning behind the Pentagon’s decision to target Cannon Air Force Base for closure and expressed appreciation that the commission seems receptive to additional information that might save the base” (Udall, 2005). The credit claiming press releases can defend other military jobs. Maurice Hinchey (D-NY) stated that “in an effort to save local jobs, Congressman Maurice Hinchey (D-NY), a member of the House Appropriations Subcommittee on Defense, today formally announced that he will soon introduce a measure in Congress that would block a recent Pentagon decision to privatize hundreds of inherently government jobs at West Point” (Hinchey, 2009).

3.4 Conclusion

Table 3.1 demonstrates the diverse ways legislators create an impression of influence. Together, the evidence of this chapter shows why legislators’ impression of influence may have only a loose relationship with spending as it occurs in the district. This occurs because representatives differ in the extent to which they associate themselves with spending in the district. Some legislators have a strong incentive to pursue a personal vote—their reelection coalitions depend on cultivating a personal vote with opposing partisans or independents. Other legislators, however, have a strong incentive to appeal to their co-partisans, so they allocate a smaller share of their press releases to credit claiming.

The result is that legislators cultivate differential impressions of influence over expenditures. If representatives regularly attach themselves to spending in the district then we expect—and we show in subsequent chapters—representatives will be perceived as more efficacious at delivering money to the district. Legislators who do

not engage in this credit claiming will not have the same association and will not receive the same benefit. This demonstrates why our impressionistic model of credit allocation is essential for understanding how credit is allocated: spending alone is insufficient to create a personal vote for incumbents.

We also show that the opportunity to claim credit extends far beyond money actually being spent in the district. Legislators are able to claim credit for appropriations as they move through the institution—even when money is far from being spent in the district or will not be spent for some time, legislators are able to claim credit for the spending. And legislators need not have a direct role in securing the money. Legislators are able to create an impression of influence across a variety of actions—the opportunities are expansive and regular. Expenditures in the district—or money a legislator directly secures—is only one small component of the much broader set of activities legislators can use to create an impression of influence.

Legislators claim credit at different rates and for many distinct types of spending. Before demonstrating how constituents evaluate and allocate credit for credit claiming statements, we consider whether credit claiming is just bolstering name recognition (Cain, Ferejohn and Fiorina, 1987). Using an innovative experimental design embedded in an actual context where constituents may encounter credit claiming messages, we demonstrate the distinct effects of credit claiming. distinct effects of credit claiming.

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. Constituents, however, 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 im-

perfect 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. We use computational linguistic tools to identify how much money legislators discuss when they claim credit for spending in their district. 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 per-

manent, highly visible platform for legislators to receive credit for advocating for their district. Far from limiting the power of particularistic spending, our results show that earmark reform created conditions that could *amplify* the credit legislators receive for their actions 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 our three action conditions with two *Money* conditions, that vary the specificity that legislators use when describing the funding for the project. In our 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 *Support* for the district.

Table 5.1: Article Content Across Conditions

<p>Headline: Senator senatorName (secured/requested/will request) [\$84 million/support] for local projects</p>
<p>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.</p>
<p>Key senatorName: Senator’s name senatorParty: Senator’s party state: Senator’s state</p>
<p>Treatments Actions: (Secured/Requested/Will Request) Money: [Money/Support]</p>

With the control condition, this constitutes a $3 \times 2 + 1$ experimental design (pro-

viding 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 officials), 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 constituents 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 as-

signed 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 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

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

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 substantively 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* condi-

¹This 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.

tion 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 than 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 explanation 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 almost certain that the null hypothesis is not exactly true. 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 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.

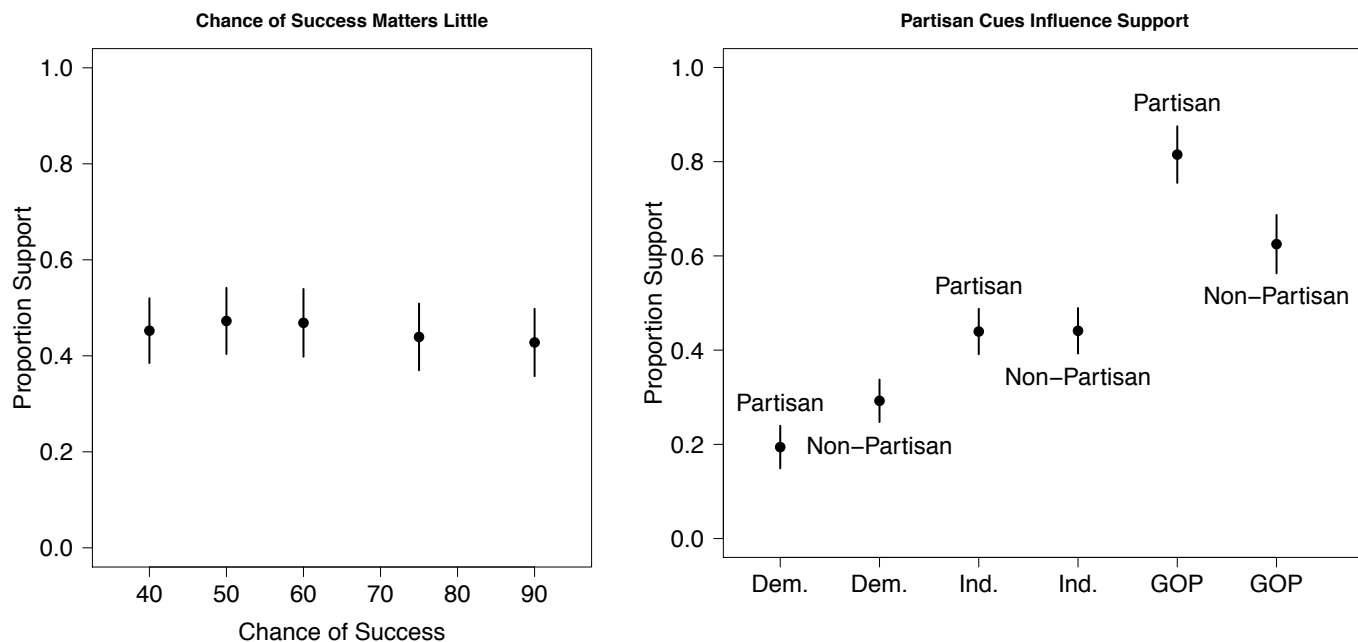
Table 5.3: Varying Probability of Success and the Source of Information

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—analogue 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 only 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 the non-responsive 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 informa-

tion. 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 will 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 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 representative’s 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. Given the power of party in determining support for the tax cut, we also randomly varied whether the legislator claiming credit was a Democrat or Republican. 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

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]

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 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

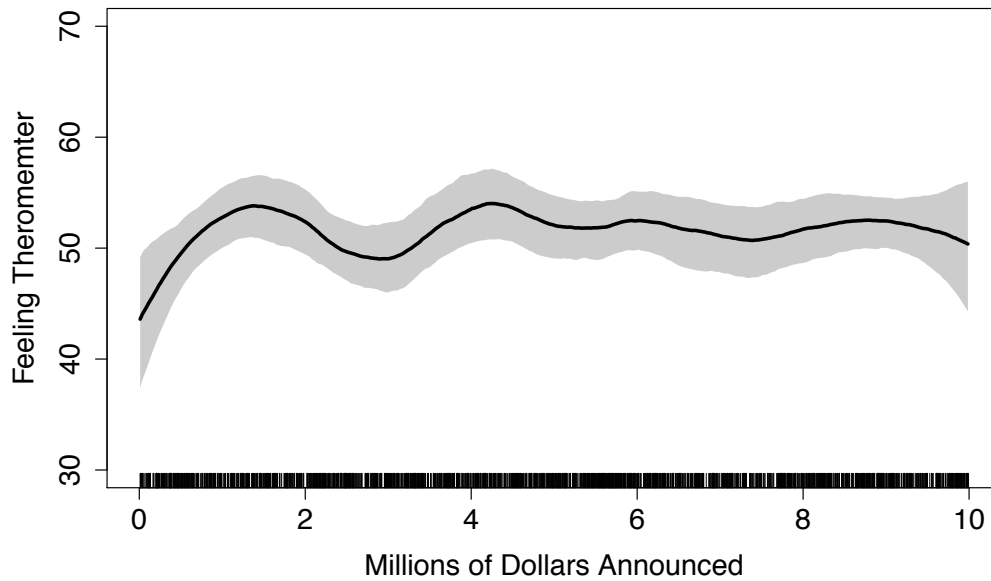
²The random assignment of whether the respondent saw an explicit dollar figure in the first condition is particularly useful, because it allows us to check for anchoring effects (Tversky and Kahneman, 1974). An anchoring effect would occur if the large amount in the first study created an artificial 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.

constituents allocate credit, without failing to discover systematic differences across the dollar amounts because we lack statistical power. To do this, non-parametric 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.

These plots show that participants are initially very responsive to the total dollar amount claimed. 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]). Extra money, in this area, cultivates substantial support. Each additional \$100,000 added to the program increases the average thermometer score 0.85 points

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.

(95 percent confidence interval, [0.08, 1.62]). The initially low evaluation and increase in response to the increase in funds is indicative that participants intuitively evaluate the amount claimed and allocate more credit for delivering more particularistic funds to the district.

As the funds are increased substantially, however, there is no additional increase in support for the representative—indicative of participants struggling to quickly 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. Increasing the total amount secured from \$1.4 million to \$8 million leads to an expected *decrease* in average feeling thermometer of 2.13 points, but this change is neither statistically nor substantively significant (95 percent confidence interval, [-5.80, 1.95]). This systematic non-response to the expenditures differs substantially from the initial large response. The change in feeling thermometer from \$10,000 to \$1.4 million dollars is 13.4 points larger than the response from \$1.4 million to \$8 million (95 percent confidence interval, [3.66, 21.80]).

This evidence, then, points to constituents who are only responsive to small increases in funding when allocating credit. 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 and displayed the representatives name as “(redacted),” to a black box. 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 constituents were the most responsive in the previ-

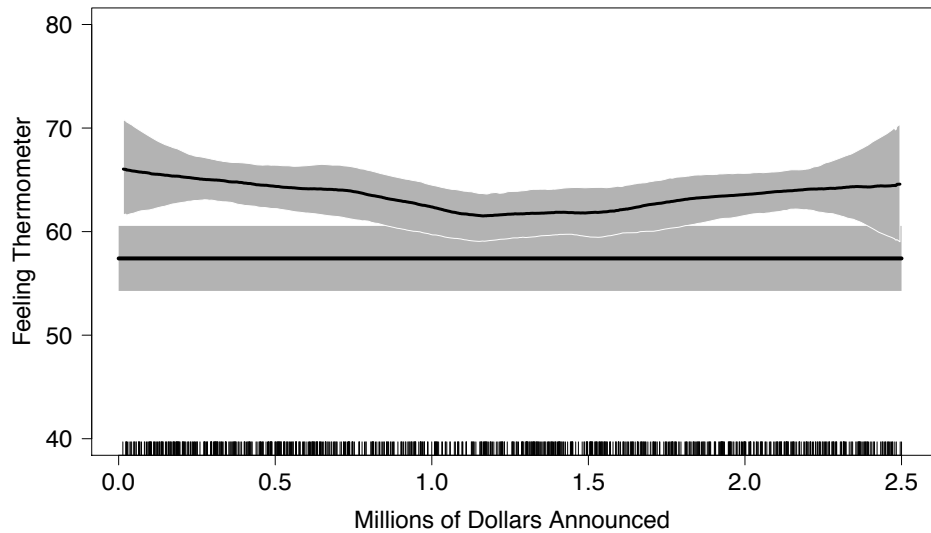
ous experiment: the amount constituents read in the press release was drawn from a continuous uniform distribution, with a minimum dollar amount of \$10,000 and a maximum dollar amount of \$2.5 million. And to determine if legislators were being punished for providing too little money or too much money, 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.com’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 from between \$10,000 and \$2.5 million, uniformly distributed.

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 present 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, 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

Figure 5.3: The Limited Responsiveness to Increases in Dollar Amount



This figure shows constituents' limited response to increases in the dollar amount claimed. In general, constituents fail to alter their evaluation of the legislator as the amount claimed increases. But, the credit claiming condition does boost support substantially over the advertising condition. Credit claiming messages boost support, but the amount claimed appears to matter little.

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

Credit Claiming Condition	Advertising Condition
<p>Headline: Representative (redacted) Secures amount for Local Road Projects.</p> <p>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.</p>	<p>Headline: Representative (redacted) announces Local Wins Congressional Art Contest</p> <p>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.</p>
<p>Treatments</p> <p>Type of Message: Credit Claiming (left-column), Advertising (right-column)</p> <p>Amount: amount</p>	

statistically significant. It would appear that the limited responsiveness detected with the police force manipulation was not an artifact of the type of expenditure. Even when presented with highway expenditures, constituents are *less* responsive 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 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 *high frequency* condition received emails for five consecutive days, while subjects assigned to the *low frequency* condition 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
Low Frequency (one message)	\$15,000	\$1,500,000
High Frequency (five messages)	Day 1: \$15,000	Day 1: \$1,500,000
	Day 2: \$19,000	Day 2: \$1,900,000
	Day 3: \$85,000	Day 3: \$8,500,000
	Day 4: \$21,000	Day 4: \$2,100,000
	Day 5: \$36,000	Day 5: \$3,600,000
	Total: \$176,000	Total: \$17,600,000

Table 5.7: Example Credit Claiming Manipulation

<p>Headline: Representative lastName (party, state- district) Brings Local Fire Departments amount for Firefighter Safety</p> <p>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.</p> <p> 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.</p> <p>“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.”</p>
<p>Key</p> <p> lastName: The representative’s last name</p> <p> firstName: The representative’s first name</p> <p> party: The representative’s party</p> <p> state: The representative’s state</p> <p> district: The representative’s district</p> <p> amount : The dollar amount claimed</p>

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 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 *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.

³Again, 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.

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, numerical 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 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 guess were 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 their 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, 2006*b*), 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 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), using the Stanford Political Communication Lab’s MUCK-toolkit. 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 (and human supervision) 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.

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, 2010*a*). 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, 2009*b*).

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, we think, 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 committee—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.

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 this serendipity is unlikely. 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 used 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.

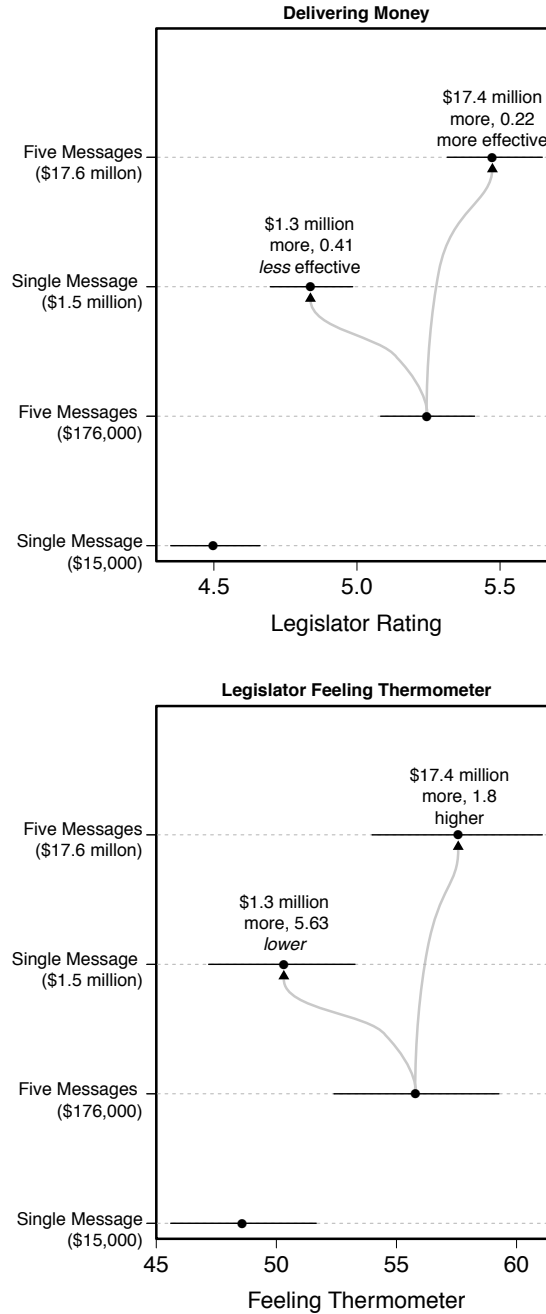
The reforms did have an effect on earmark transparency. As Stephen Slivinski of the Cato Institute explains, before the reform, “numerous congressmen could often take credit for a single project. There was no official way to verify who was really the main supporter of the earmark” (Slivinski, 2007). Slivinski goes on to 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 creates 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.

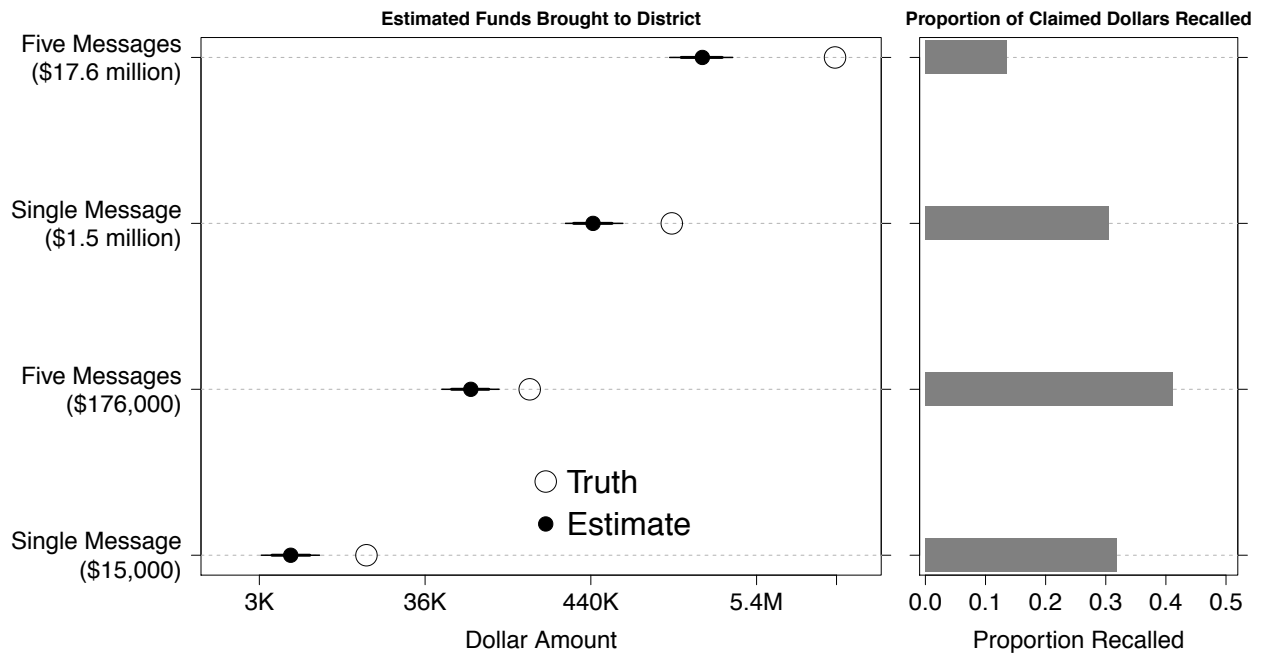
As we document in the next chapter, the way intuitive constituents allocate credit creates even greater opportunity for representatives to claim credit for spending they only had an indirect influence in securing. To show this, we examine how legislators claim credit for *fire department* grants allocated to the district.

Figure 5.4: Number of Messages Dominates the Amount Claimed



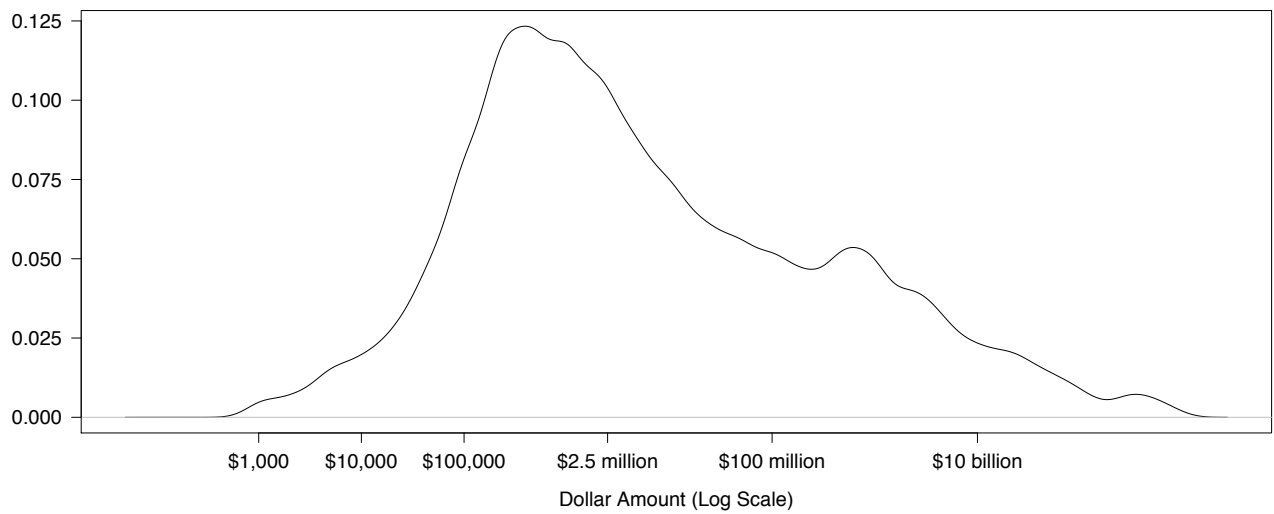
This figure shows that multiple messages cultivate more support than increasing the amount claimed. The left-hand plot presents subjects' evaluations of their legislator's effectiveness at delivering money to the district. The points are the average evaluations and the lines are 95-percent confidence 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



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.