

Short-Term Communication Effects or Longstanding Dispositions?

The Public's Response to the Financial Crisis of 2008

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The economic crisis that began in late 2008 is a watershed event in American history. The dramatic and sudden insolvency of the global financial system and the immensity of the government response to it are likely to have a major impact on the United States for years to come. Perhaps not since the Great Depression and the New Deal has an economic downturn demonstrated the potential to redefine the relationship between the state and the market in such a fundamental manner. Public opinion on the government response to the crisis was divided and vocal, and as with any other massive government expenditure, elected officials paid attention to the opinions of constituents in their districts. Understanding the factors that shape attitudes on the government response is therefore of obvious import.

The literature offers two largely distinct approaches for explaining public opinion on policy issues such as the government's response to the crisis. The first, more conventional approach is to focus on the policy's distributive consequences and its partisan underpinnings. Whether one is likely to benefit economically from the policy in question and whether the party one supports endorses or opposes it are, by this approach, the key factors shaping an individual's policy stance (e.g. Berelson et al. 1954; Campbell et al. 1960; Gelman et al. 2007; McCarty et al. 2006; Stonecash 2000). A second, more recent strand of research, builds on insights from social psychology and looks instead at the role of shorter term "communication effects," such as heuristics, framing, and media priming (e.g. Druckman 2001; Nelson and Kinder 1996; Sniderman and Theriault 2004). These studies suggest that if the costs in time and effort involved in reaching informed judgments on policy matters are sufficiently high, ordinary citizens are often drawn to the use of informational "shortcuts." These two approaches to explaining opinion formation are typically studied separately: scholars tend either to focus on the role of relatively stable, "weighty" factors (e.g. economic interests and partisanship), or instead turn their attention

to the impact of short-term communication effects, and emphasize the more contingent, seemingly arbitrary factors that shape decision making. We attempt to bridge the gap between these two research agendas. Rather than viewing people's policy attitudes as reflecting one source of considerations or the other, we contend that economic interests and party identification moderate the influence of communication effects on opinion formation in a substantial and theoretically predictable manner.

Although previous research has recognized the relationship between long-term dispositions and short-term forces,ⁱ little emphasis has been placed on the *content* of political communication. We argue that fundamental dispositions, in this case economic standing and party affiliation, affect policy views not merely by dictating the set of considerations on which individuals base their political attitudes, but also by diminishing or enhancing the impact of communication effects on attitude formation. This conditioning effect occurs when the substance of the communication is directly related to the dispositions.

More specifically, we hypothesize that when individuals are confronted with communication that increases the valence of *partisanship*, the impact of communication effects on judgment are not likely to be homogenous across the public. Instead, they are likely to be moderated by one's attachment to a political party and thus to vary in magnitude and significance along partisan lines. Similarly, when people are exposed to information that increases the valence of prospective *economic* outcomes, the influence of communication effects on people's judgments will be moderated by one's economic standing and thus will vary systematically across income groups. In contrast, communication effects are expected to be moderated by neither partisanship nor income (i.e., they should be homogenous across the population) when the information does not increase the valence of either dimension.

To explore these theoretical issues, we study the public's attitudes toward the stimulus proposals put forward by the Obama administration in response to the economic crisis of 2008. This specific issue is not only of inherent interest given its centrality to contemporary political debate, but is also well-suited to examining the interaction of short-term and long-term forces in public opinion formation for several reasons. First, the failures of the financial system and the proposed remedies were extremely difficult to comprehend and required expertise. Second, the mass scale of the crisis meant that almost every U.S. citizen was in some way personally affected by the downturn, either through investment and housing price declines or adverse changes in the labor market. Thus, public opinion on government response to the economic crisis is perhaps "meaningful," or personally significant in a way that attitudes on many other issues may not be. Third, in most debates involving substantial shifts in policy, public opinion typically takes shape during a long and drawn-out period of debate that brings many of the programs' proposed details to light. In the circumstances of the economic crisis, however, the need for emergency action meant that the public's attitudes toward the government's proposals were formed in a short time period. Thus, given this complexity, saliency, and immediacy, people may have relied both on long-standing identities as well as been influenced by more arbitrary, short-term factors.

Via three experimental studies conducted using a large national sample, we explore the interaction between partisanship, income, and the impact of three communication effects on people's policy views: *(i)* group-serving biases, *(ii)* goal framing, and *(iii)* threshold sensitivity. The content of the communication effects differs across experiments in that the first increases the valence of the partisan aspect of the debate, the second the valence of the economic outcome, and the third emphasizes neither. In examining public attitudes on the government's stimulus package, we find that people's purported preferences demonstrate a significant degree of

responsiveness to communication effects, but that these effects do not apply to all individuals in a similar fashion. In line with our theory, partisanship (and not income) moderates the effect of group-serving biases, income (and not partisanship) moderates the influence of goal framing, and neither partisanship nor income moderate people's sensitivity to symbolic thresholds.

The paper consists of four parts and proceeds as follows. The first part provides a theoretical overview of the literature on how opinion formation is shaped by partisanship, economic standing and the three types of communication effects described above. We lay out our argument and formulate predictions in the context of the economic crisis of 2008. The second part reviews the role of partisanship and economic standing, providing a baseline model of public attitudes on the government's response to the crisis. The third part is composed of three sections, each describing the design and results of an experimental study that empirically tests the theoretical predictions. The final section discusses the broader implications of the findings.

Theoretical Overview: The Impact of Communication Effects on Opinion Formation

Public opinion research has predominantly focused on two main variables in understanding how citizens construct attitudes on important policy questions (particularly on economic issues): partisanship (Campbell et al. 1960) and income (McCarty et al. 2006; Stonecash 2000).ⁱⁱ Although these two variables help explain a sizable portion of the variance in predicting political attitudes, there are obviously other factors that guide individual decision making. Political psychologists have argued that citizens are often affected by short-term communication effects that may distort attitude formation, particularly when the issue at hand is complex and characterized by uncertainty. In this paper, we focus on three types of communication effects that psychologists and researchers of judgment and decision-making commonly analyze: *(i)* group-serving bias; *(ii)* goal framing; and *(iii)* sensitivity to symbolic

thresholds. Our contention is that the influence of communication effects is *not* independent from partisanship and income; rather, all of these forces may *interact* in political decision-making. To be clear, our claim is not simply that prior opinions condition responses to communications. Rather, we contend that people's fundamental political dispositions systematically condition the impact of short-term communications based on the content that is communicated. Below, we present theoretical reasons to explain under what conditions various communication effects are moderated by longstanding individual dispositions.

Cues, Attribution, and Group-Serving Bias

Previous research has established the salience and importance of party cues in decision-making (e.g. Slothuus 2009; Campbell et al. 1960; Lupia and McCubbins 1998). In the case of electoral candidates and public policies, party labels provide relevant information as to whether an individual should offer her support. Yet party labels are not always informative. Whereas information about the party proposing a policy may provide relevant and substantive information about the proposal, information about who was to blame for a crisis does not provide meaningful information about the merits of a specific solution proposed to address the crisis. In other words, the political “blame game” should have, at least in theory, little bearing on whether one supports a specific policy prescription for resolving the crisis. The *retrospective* question of who is responsible for the economic downturn should not affect *prospective* attitudes on the preferred solution. Yet recent media coverage has suggested that competing blame judgments between the parties has been a central part of the debate over the response to the current economic crisis (Wilson 2009). Nonetheless, few studies to date have specifically looked at the impact of “blame attribution” cues in the political context.

Theories of “motivated reasoning” from political psychology (e.g. Taber and Lodge

2006; Taber et al. 2001) suggest that blaming one's partisan group may trigger in-group bias and attitude polarization. Sociopolitical issues often activate "hot cognitions"—or emotionally powerful attitudes that arouse associations before reasoned judgment can take place—and partisan goals often trump accuracy concerns in political decision making. For instance, Monin et al. (2008) find that when a person's group is blamed, they can become morally defensive, which activates hot cognitions. Hence, if one of the reasons to support a policy is that it will correct a crisis blamed on Republican politicians, Republican citizens will exhibit an in-group bias and become defensive, and potentially be more averse to the proposal. However, effects may be weaker if Democrats were blamed for the crisis because (i) Democrats generally would support the proposal given that it is a Democratic-sponsored program and (ii) the suggestion that Democrats were to blame for the financial crisis may be perceived as implausible given that the Democratic Party did not have significant political power throughout the 2000s. We test this hypothesis by examining the impact of blame attribution cues, which unlike endorsement cues do not provide informative signals about the content of the policy itself.

Importantly, the blame attribution cues have political valence but not economic valence. In other words, they directly stimulate thoughts and associations with political parties. Hence, we expect that cue taking should vary by partisanship, but *not* by income.

H1a: Attributions of blame targeted toward Republican/Democratic elites should decrease support for stimulus policies among Republican/Democratic citizens and increase support among Democratic/Republican citizens. This effect is likely to be much weaker when Democrats are blamed.

H1b: Attributions of blame targeted toward Republican/Democratic elites should not explain differences in support for stimulus policies across income groups.

Goal Framing

A “framing effect” refers to how subtle alterations in the statement or the presentation of a given choice set affect people’s judgments by emphasizing a subset of potentially relevant considerations (e.g. Sniderman and Theriault 2004; Druckman 2004).ⁱⁱⁱ The subcategory of “goal framing” refers to instances when a persuasive message has a different appeal depending on whether it stresses the positive consequences of performing an act (aimed to achieve a certain goal) or the negative consequences of not performing the act (aimed to avoid an outcome) (Rothman and Salovey 1997; Salovey and Wegener 2003). In the context of the national debate over the stimulus plan, the goal framing literature suggests that the way the stimulus is presented—in particular whether it emphasizes the potential gains to be obtained or the possible losses to be averted—may have a significant impact on people’s support for the plan.

However the framing literature also suggests that different frames are unlikely to have the same impact on all individuals. Various factors can influence the degree to which these emphases influence judgment “by leading individuals to resist the impact of the initial frame, envision alternative frames, and, as a result, avoid being driven by a particular frame” (Druckman 2004, 674). Studies that explore heterogeneity in frame strength focus primarily on individual characteristics such as expertise, need for cognition, and sophistication (Sieck and Yates 1997, Sniderman et al. 1991; Druckman and Nelson 2003). Yet research on framing of health messages shows that individual circumstances, such as people’s health conditions, can also affect their receptiveness to certain frames. For example, Rothman et al. (1993) find that gain-motivated frames that emphasized the merits of sunscreen use had a strong influence on individuals with concerns about tanning and skin cancer but not on individuals without such concerns. Maheswaran and Meyers-Levy (1990) report similar differential effects of framing as

a function of individual pre-conditions.

Analogously, we expect that in addition to cognitive characteristics or levels of perceived threat, the effect of framing depends on an individual's economic reference point.^{iv} In assessing the response to the financial crisis, different frames will resonate among individuals with different economic interests (i.e., how much an individual stands to lose).^v For example, those with substantial assets to lose are likely to find the frame emphasizing the potential downside more pertinent. Conversely, those currently worse off are likely to be more swayed by frames emphasizing future gains. In essence, frame strength varies according to one's economic reference point, which is determined by income level.

In sum, we expect that (i) support for the government's stimulus plan will be affected by frames that emphasize potential losses vs. potential gains; and (ii) these effects should vary as a function of people's economic standing. Unlike the attribution cues, these goal frames have no political valence, but instead contain economic valence as they deal with expected losses and gains due to the implementation of various policies. Hence, we expect frame strength to vary by income and *not* by partisanship.

H2a: Framing a policy as boosting/stabilizing/preventing the collapse of the economy (i.e. achieving gains/stability/avoiding losses) should increase support for stimulus policies among lower- /middle- /upper-income citizens.

H2b: Framing a policy as boosting/stabilizing/preventing the collapse of the economy should not explain differences in support for stimulus policies between partisans.

Sensitivity to Symbolic Thresholds

Our argument focuses on the interaction of income and partisanship with the impact of short-term communication effects on attitude formation. We contend that these interactions are

powerful when the individuals are exposed to communication content that increases the valence of class or partisanship. Under conditions where neither is activated, the influence of communication effects should be homogenous across the population. To test this third case, we examine people's sensitivity to symbolic thresholds in a context that emphasizes neither income nor partisanship.

During the debate over how the government should respond to the slowdown of the global economy, symbolic, arbitrary thresholds may have substantially influenced how Americans formulated their opinions and judgments about whether the price was "reasonable." A *New York Times* op-ed piece criticized the Obama stimulus plan as being too small in size, and cited press reports indicating "that Obama aides were anxious to keep the final price tag on the plan below the politically sensitive trillion-dollar mark" (Krugman 2009). In other words, Krugman implies that the public might be sensitive to a symbolic threshold—the round number of \$1 trillion.^{vi}

Psychologists and marketing researchers have noted the public's sensitivity to round numbers. Retailers often price products and services with numbers ending in nine to increase the perception that the goods are less costly (Bizer and Schindler 2005; Anderson and Simester 2003; Schindler and Kirby 1997). Analogously, Monroe (1990) and Simmons and Schindler (2003) argue that consumers have psychological illusions that goods that do not break the dollar threshold are indeed significantly cheaper. Applying this insight to the context of public opinion on government policy, sensitivity to round numbers may also affect people's judgments on the desirability of a given fiscal policy.

Note that such a symbolic threshold has neither political nor economic valence in the sense discussed above. Although the threshold does involve fiscal information, it is non-economic in that it does not stress future prospects relative to one's current economic position.

Psychological research, as noted, treats sensitivity to arbitrary thresholds as a universal aspect of cognitive processing. We should therefore expect the \$1 trillion threshold to influence the attitudes of *all* citizens, and should not be moderated by partisanship or economic standing.

H3a: Support for stimulus policies should decrease once they reach the price of \$1 trillion; however, citizens should not be sensitive to price increases above this threshold.

H3b: Sensitivity to the \$1 trillion threshold should not vary by partisanship or income.

Partisanship, Income, and Support for Stimulus Proposals

Before describing the results of our experimental studies, we first explore the impact of the two main variables described above (partisanship and income) in explaining baseline support for the economic stimulus plans in the wake of the 2008 financial crisis. The results we report are based on a survey we designed and administered online to a large national sample of 2,768 American adults between February 1-6, 2009. The study was conducted by Survey Sampling International (SSI) of Shelton, CT.^{vii}

Throughout the analysis, we categorized income groups by income terciles: low income (<\$30,000), middle income (\$30,000-\$60,000) and high income (>\$60,000). The results are robust to alternative income breakdowns. Following recent studies that have explored the effect of economic position on political behavior, we use income as a proxy of economic standing. We also divided respondents into Republicans, Democrats, and those who were Independents or supported other parties.^{viii}

We asked respondents two questions: (1) “Do you favor or oppose creating new jobs in government agencies as part of a new economic stimulus package, if that meant in the short term an increase in the national debt?” and (2) “Do you favor or oppose providing federal money to state governments that are facing budget shortfalls as part of a new economic stimulus package,

if that meant in the short term an increase in the national debt?” (response options: “strongly favor,” “somewhat favor,” “somewhat oppose,” “strongly oppose”).^{ix} These questions attempted to communicate the cost of the policies as well as the benefits.^x We dichotomized the response options, bifurcating respondents by whether they favored or opposed the policy.

As shown in Figure 1, both partisanship and income exert an independent effect on policy support for the stimulus package. With respect to support for creating new jobs in government agencies, Democratic respondents were much more supportive of the policies (65.1%) than Republican and Independent respondents (36.5% and 46.2%, respectively). Similarly, 76.3% of Democrats favored providing federal money to state governments, whereas only 49.4% and 62.6% of Republicans and Independents did, respectively. At the same time, policy support is negatively correlated with income. Support for new government jobs is 58.7%, 50.1%, and 42.0% among low-, middle-, and high-income citizens (68.8%, 64.5%, and 58.3% are analogous figures for the state governments item). These relationships exist even when conditioning on income and partisanship. Among Republicans, low-income individuals are nearly twice as likely as high-income individuals to support creating new jobs in government agencies. A large income gap is also observed in support for providing federal money to state governments. The inverse relationship between income and support for the stimulus is also seen among Independents, but is not as pronounced among Democrats.^{xi} Figure 1 also shows that within income categories, Democrats are more likely to support the policies than Republicans and Independents.

These findings demonstrate that attitudes on the government’s response to the economic crisis are closely associated with economic standing and partisan affiliation. These two factors remain central to our next analysis, as we turn to examine how communication effects influence people’s policy views conditional on their income level and partisan attachment.

Experimental Studies

Our primary question of interest is whether and to what extent the communication effects described above have an impact on people's thinking about the economic crisis, and how longstanding factors such as partisanship and economic standing moderate the impact of such communication effects. To do so, we leverage a set of randomized experiments. Respondents participated in all three experiments, but treatment assignment in each experiment was independent.^{xiii} The three experiments were placed in different parts of the survey, and were separated by questions that covered various policy issues. Using Transue et al.'s (2009) procedures, we find no spillover effects for both the second (Cue-Taking) experiment (Wald test assessing spillover: $p = .36$) nor the third (Goal Framing) experiment ($p = .25$).^{xiii} We also conducted a series of randomization checks, and found that demographic characteristics of respondents did not vary across treatment conditions.

The Cue-Taking Experiment

As noted above, individuals often rely on minimal information in the form of *cues* to form political preferences on complex issues. Sometimes cues provide information that is important and meaningful; other times, cues can highlight irrelevant and distracting information. To assess how citizens leveraged political cues in formulating their opinions on appropriate responses to the financial crisis, we designed and conducted The Cue-Taking Experiment.

Design. Respondents were asked about their support for an economic stimulus proposal to provide businesses with a \$3,000 tax credit for hiring a new worker (response options: “strongly support it,” “somewhat support it,” “neither support nor oppose it,” “somewhat oppose it,” “strongly oppose it”). Prior to asking the question, respondents were told “Policymakers^{xiv} are currently evaluating an economic stimulus proposal to provide businesses with a \$3,000 tax

credit for hiring a new worker,” and were randomly assigned to receive one of the following three follow-up statements (*italics only for our emphasis*).

(1) The goal [of the proposal] is to address the collapse in the global economy that some economists claimed was the fault of the *Republican-controlled White House*.

(2) The goal [of the proposal] is to address the collapse in the global economy that some economists claimed was the fault of the *Democratic-controlled Congress*.

(3) No blame cue.

The specific details of the stimulus program remain fixed in the different experimental treatments. Who is claimed to be blameworthy should have, in theory, little bearing on whether one should support a specific policy prescription for resolving the situation. Hence, we can assess whether the degree of politicization of the stimulus debate significantly affected how citizens formulated policy views.^{xv}

Results. Although they provide little meaningful information about the prospective value or content of the legislation, the injection of the “blame game” via the blame attribution cues significantly affected policy attitudes. Respondents were sensitive to the Bush Administration being blamed for the financial crisis, providing support for H1a. The percentage of Republicans expressing at least some support for the tax credit decreases by 16.2 percentage points when the Republican-controlled White House is to blame as compared to the control condition.

Conversely, Democratic support increases by 6.3 percentage points. As shown in Table 1, a logistic regression finds these effects to be statistically significant. The “blame Republicans” cue decreases support for the tax credit among Republicans ($\beta_{REPBLAMECUE} + \beta_{REPBLAMECUE \times REP} = -.68$, $p=.004$), increases support among Democrats ($\beta_{REPBLAMECUE} = .38$, $p=.05$), and the difference in the treatment effect between partisans is significant as well ($\beta_{REPBLAMECUE \times REP} = -1.06$, $p<.001$).

To interpret these effects substantively, we calculated predicted probabilities, manipulating the

treatment and party variables and holding all others at their medians. Blaming the Bush Administration increases the partisan divide in support by a substantively large 23.0 percentage points.^{xvi} However, the “blame Democrats” cue neither had an effect among the entire population, nor among any individual subgroup. As explained above, this can be potentially explained by pre-treatment effects.^{xvii}

Consistent with H1b, we found that income does *not* explain heterogeneity in use of either type of cue. As shown in Table 1, none of the four interaction terms between party identification and attribution cue are statistically significant at conventional levels. As explained above, this is sensible because these attribution cues have *political* valence, but not economic valence.

The Goal Framing Experiment

The way an issue is presented, or “framed,” can substantially affect people’s attitudes. In the complex debate over the stimulus package framing may have played a particularly prominent role in shaping the public’s views. As partisan elites quarrel over the specific details of the stimulus, the real battle over the public’s support may lie in the ability of the two parties to dictate the terms and phrases in which the debate is framed.

Design. To examine the effect of goal framing, we focused on people’s sensitivity to whether the stimulus plan is described in terms of obtaining a potential gain or averting a potential loss. Respondents were randomly assigned to one of three conditions. All respondents received a similar question asking whether they support or oppose the stimulus plan. The sole difference in the question wording was the stated objective of the stimulus:

In order to [X] the country’s economy, some believe Congress should authorize the economic stimulus plan currently proposed, estimated to cost at least \$700 billion. Others believe that the plan is too expensive and will weaken the economy in the long term. Do you favor or oppose Congress

passing the proposed economic stimulus plan to [X] the country's economy?
(Response options: "strongly favor," "somewhat favor," "somewhat oppose,"
or "strongly oppose")

The three variations of [X] used for describing the goal of the stimulus were: (1) boost; (2) stabilize; (3) prevent the collapse of.

The three frames highlight different appeals of the stimulus. Whereas the first emphasizes the upside of boosting the economy, the third "alarmist" treatment emphasizes the potential downside of not carrying out the stimulus plan, and the second reflects the middling prospect of stabilization. The appeal of these different frames is thus likely to vary as a result of what citizens feel is at stake given their own specific economic circumstances.

Results. Our findings indicate that (i) the framing of the stimulus proposal had a sizable and significant effect on people's level of support for the program, and that (ii) the effect of the different frames varied systematically as a function of people's economic standing. We coded support for the plan as a binary measure that took the value of '1' if respondents were either "strongly" or "somewhat" in favor of the stimulus proposal, and zero otherwise.^{xviii} When examining the respondents as a single population, the frames appear to have had only a small effect: 67% percent of respondents supported the stimulus proposal when it was framed in terms of stabilizing the economy, as opposed to 64.7% and 64.5% when it was framed in terms of boosting the economy or preventing its collapse, respectively. However, when examining the responses separately by people's income levels, substantial differences are apparent. Figure 4 illustrates the main results.

The dashed lines representing average support for the program by income group indicate a strong negative correlation between income level and support for the stimulus. Whereas 71% of low-income individuals were supportive of the proposal, only 64.8% of middle-income

individuals and 58.8% of high-income earners supported the plan.

Consistent with H2a, when we examine the effect of the framing on the three income groups, we find that each of the three groups was most affected by a different frame. High-income individuals were most supportive of the stimulus when presented in terms of “preventing collapse,” medium-income individuals were most supportive when the plan was presented in terms of “stabilizing” the economy, and “boosting” the economy had the strongest effect on increasing support among low-income respondents. Compared to each group’s “least favored” frame (i.e. the one that generated the least support for the stimulus), the framing with the greatest appeal increased support by 5.5%, 9.5%, and 9.2% among low-, medium- and high-income respondents, respectively. Given the high baseline rate of support for the program, these are sizable differences.

74.1% of low-income respondents in the “boost” condition supported the proposal compared to 68.6% in the “collapse” condition, a difference of 5.5 percentage points. The analogous gap among high-income respondents is -9.2 percentage points (reflecting the fact that they were more positively disposed to the policy in the “collapse” condition) and 0.4 percentage points among middle-income respondents. These three differences are all significantly different from one another in statistical terms (high-income vs. low-income: $p < .001$; high-income vs. middle-income: $p = .008$; low-income vs. middle-middle income: $p = .06$).

We further assess the statistical significance of this pattern of results via logistic regression. The baseline (omitted) category represents middle-income respondents exposed to the “stabilize” frame. There are many potential comparisons to make given that there are three treatment groups and three income categories. For simplicity, we focus on a single linear hypothesis test that captures the relationship illustrated in Figure 3. We compare the change in

support for the proposal among high-income individuals between the “boost” and “prevent collapse” frames against the change in support among low-income individuals between the two frames. Formally, the linear hypothesis test is:

$$(\beta_{COLLAPSE} + \beta_{COLLAPSE \times HIGHINCOME}) - (\beta_{BOOST} + \beta_{BOOST \times HIGHINCOME}) = (\beta_{COLLAPSE} + \beta_{COLLAPSE \times LOWINCOME}) - (\beta_{BOOST} + \beta_{BOOST \times LOWINCOME}) \quad (1)$$

Via simple algebra, equation (1) can be rewritten as:

$$\beta_{COLLAPSE \times HIGHINCOME} - \beta_{BOOST \times HIGHINCOME} - \beta_{COLLAPSE \times LOWINCOME} + \beta_{BOOST \times LOWINCOME} = 0 \quad (2)$$

We reject the null hypothesis stated by equation (2) at $p=.03$. In substantive terms, the difference in the predicted probabilities of supporting the proposal in the “prevent collapse” versus “boost” conditions between high- and low-income individuals is a substantively large 9.2 percentage points.^{xix} Hence, we confirm the interaction between income and sensitivity to framing illustrated in Figure 4. Income is positively correlated with a more favorable reaction to prospects that avoid losses over achieving gains.

Consistent with H2b, we did not observe any heterogeneity in the treatment effects by party identification. As shown in Table 2, the four interaction terms associated with partisanship and the different framings were all statistically insignificant, meaning that Republicans and Democrats did not differ in how they responded to policies framed in terms of losses and gains. Moreover, we fail to reject a similar linear hypothesis test to the one described above, except now comparing Republicans to Democrats instead of high-income to low-income citizens ($p=.23$). This conforms to our expectations given that the goal framing had *economic* valence but not *political* valence.

The Symbolic Threshold Experiment

As described above, people are sensitive to symbolic, arbitrary values and use them to

construct various judgments and estimations. In the context of the debate over the stimulus package, political observers claimed that the public may have been sensitive to the \$1 trillion cost threshold and would reject proposals with price tags above this round, arbitrary figure.

Design. To evaluate whether threshold sensitivity played a role in citizens' evaluation of the stimulus package, we designed and conducted The Symbolic Threshold Experiment.

Respondents were randomly assigned to one of five conditions, which varied solely in the estimated cost of the proposal. All respondents were asked a question using one of the following two forms:

Form 1: Policymakers are currently discussing the details of an economic stimulus plan estimated at a cost of \$[X] to help deal with the economic downturn. Some people contend that this plan is too costly and should be decreased in size. Other people believe that a plan of this size is necessary. What is your opinion of this economic stimulus plan? (response choices: "I am against it because the cost is too high," "I support the plan as proposed," "I am against it because it does not spend enough")

Form 2: Policymakers are currently discussing the details of an economic stimulus plan to help deal with the economic downturn that would be comprised of two stages. The first stage is estimated to cost \$[X] billion and the second stage an additional \$[X] billion. Some people contend that this plan is too costly and should be decreased in size. Other people believe that a plan of this size is necessary. What is your opinion on this economic stimulus plan? (response choices: "I am against it because the cost is too high," "I support the plan as proposed," "I am against it because it does not spend enough")

Respondents were randomly assigned to receive one of five values of "[X]" in the questions above. For Form 1, the following three values of [X] were used: (1) \$900 billion; (2) \$1.1 trillion; (3) \$1.4 trillion. Form 2 provided the basis of the remaining two experimental conditions, in which the estimated costs of the stimulus are broken down into two installments: (4) \$900 billion and \$200 billion; (5) \$800 billion and \$100 billion.

Using conditions (1)-(3), we can assess how sensitive people were to the \$1 trillion threshold, a round number that potentially affected political judgments. We can measure how support for the program changes as the cost increases from a figure slightly below the trillion

dollar threshold to a figure slightly above (\$900 billion vs. \$1.1 trillion), and then to an even *larger* increase in the estimated cost of the program (both in absolute and percentage terms) in a case where the baseline figure is already above one trillion (\$1.1 trillion vs. \$1.4 trillion). If support precipitously declines when moving from \$900 billion to \$1.1 trillion, but not from \$1.1 trillion to \$1.4 trillion, then it suggests that the \$1 trillion threshold was significantly affecting policy evaluation. However, politicians may be able to circumvent threshold sensitivity by dividing up the cost of the program into multiple, smaller expenditures. Hence, support may be similar between conditions (1) and (4) even though the size of the program exceeds \$1 trillion in the latter condition. We leveraged condition (5) to compare it to condition (1) and examine whether the two-installment structure *per se* has an independent effect on support.^{xx}

Results. Consistent with H3a, we found significant evidence of sensitivity to the \$1 trillion threshold among the entire population. The main results of The Symbolic Threshold Experiment are illustrated in Figure 5. We coded opposition to the plan due to excessive cost as respondents who selected the “I am against it because the cost is too high” response option. Overall, 40.8% of respondents found the stimulus proposal to be too costly, with significant variation by partisan identification (66.3% for Republicans, 19.2% for Democrats, 44.9% for Independents and members of other parties; $\chi^2(3) = 420.9, p < .001$). However, the cost of the plan significantly explained variation in support beyond the effect of party identification. As shown in Figure 4, only 36.9% of respondents opposed the plan when it was priced at \$900 billion but opposition increased to 42.3% once the price reached \$1.1 trillion. Interestingly, the breaking of the \$1 trillion threshold was crucial. Even though the \$1.4 trillion was a greater increase from \$1.1 trillion than \$1.1 trillion was from \$900 billion, overall opposition remained virtually unchanged (42.7%). Further, respondents were not assuaged by the splitting up of the

plan into multiple installments; the total \$1 trillion price tag threshold was paramount. Opposition to the “\$900 billion + \$200 billion” plan (42.9%) was similar to that of the \$1.1 trillion plan, and opposition to the “\$800 billion + \$100 billion” plan (38.8%) was similar to that of the \$900 billion plan.

We assessed the statistical significance of these effects more carefully via logistic regressions predicting opposition to the program (see Table 3). In column (1), we simply include a dummy variable for whether respondents received a treatment in which the cost of the plan exceeded \$1 trillion (conditions 2-4). Exceeding the threshold positively and significantly predicts opposition ($\beta = .22, p = .013$). Interpreting the coefficient in terms of predicted probabilities, crossing the \$1 trillion threshold increases opposition to the program by 5.2 percentage points, holding all other variables at their means. These findings are reinforced by examining the conditions individually. In column (2), we represent each of the conditions with dummy variables, with the “\$900 billion” condition set as the omitted category. Opposition to each of the conditions that exceeded \$1 trillion was significantly higher than to the \$900 billion condition ($\beta_{1.4T} = .28, p = .037$; $\beta_{1.1T} = .31, p = .026$; $\beta_{900B+200B} = .28, p = .042$). More importantly, Wald-tests revealed that all of the \$1 trillion-plus conditions were *not significantly different from one another*, reinforcing the effect of threshold sensitivity ($\beta_{1.4T} - \beta_{1.1T} = -.03, p = .85$; $\beta_{1.4T} - \beta_{900B+200B} = .00, p = .99$; $\beta_{1.1T} - \beta_{900B+200B} = .03, p = .84$).

Although the effect of the thresholds was significant among the entire group of respondents, there were no significant differences in the treatment effect by either partisanship or income, consistent with H3b. As shown in the third column of Table 3, none of the four interaction terms between the “Plan > \$1 trillion” dummy and partisanship/income achieve statistical significance.

Discussion

Via three experimental studies, this paper explored influences on citizens' attitudes in the wake of the greatest financial collapse in American history in eighty years. In a complex information environment characterized by uncertainty and the need for immediate action, we found that public opinion on the desired government response to the crisis was potentially influenced by several well-known communication effects. However, in contrast to most previous investigations that explored these effects individually and outside the political domain, we have shown that their impact is systematically moderated as a function of their content by two main determinants of policy preferences: people's economic interests and their partisan attachments.

Responsiveness to public opinion on the part of political elites is generally considered a normatively beneficial aspect of democratic governance. However, responsiveness may have pitfalls if public opinion is subject to systematic sensitivities and biases that distort decision making. If politicians act as delegates on behalf of their constituents, then ultimate policy choices may be suboptimal if reelection-minded office seekers pander to the public's reactions. Via the electoral connection, public officials may too be affected by heuristics and cognitive biases.

The different experiments contribute to the empirical investigation of the role of communication effects in shaping political attitudes. The Cue-Taking Experiment advances the emerging literature on blame attribution following government failure. Whereas most experimental studies treat blame as the *dependent* variable (e.g. Malhotra and Kuo 2008), we have shown that blame attribution can be a significant predictor of policy attitudes in its own right. Associating prospective policy alternatives with retrospective discussion of "the blame game" can be counterproductive in building support that transcends party lines. Admittedly, this study cannot determine whether partisanship only moderates issue frames or any frame where party is cued (as the attribution cue does both), but disentangling this mechanism is a fruitful

opportunity for subsequent research.

Growing literature has shown that cognitive characteristics of individuals moderate the influence of framing. The Goal Framing Experiment extends this insight by showing that one's material circumstances can affect the impact of framing that centers on economic outcomes.

Finally, whereas previous research has mainly focused on the impact of symbolic thresholds in terms of consumer behavior, The Symbolic Threshold Experiment suggests that further analysis of *politically*-sensitive thresholds is warranted. For example, subsequent studies can examine whether the 1,000 casualty marker in the Iraq war was a tipping point in galvanizing opposition to the war, or whether passing of the 10% unemployment rate uniquely affected support for President Obama. Sensitivity to round numbers may have substantive implications on public attitudes in a wide range of political domains.

Building on our studies, there is ample opportunity for additional research. First, we have only speculated that biases among the public translate into distortions in public policies. Future scholarship can more closely explore the link between public opinion and elite behavior on issues in which such biases are displayed. Second, our study of the response to the financial crisis highlights a need for developing a unified theory of communication effects. The literature on judgment and decision making has shown via replication solid evidence for the presence of various heuristics and biases among individuals, and has begun to uncover various mechanisms. However, investigation of how these biases interact with each other would be helpful for understanding how communication effects shape decision making in applied settings such as the political domain.

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Table 1: The Cue-Taking Experiment

| | |
|--------------------------------------|-------------------------------|
| Blame of Democrats | .22 (.19) |
| Blame of Republicans | .38 ⁺ (.20) |
| Blame of Democrats x Republican | -.24 (.24) |
| Blame of Democrats x Independent | -.45 [*] (.23) |
| Blame of Republicans x Republican | -1.06 ^{***} (.24) |
| Blame of Republicans x Independent | -.22 (.23) |
| Blame of Democrats x Middle Income | -.19 (.23) |
| Blame of Democrats x High Income | -.22 (.24) |
| Blame of Republicans x Middle Income | .03 (.23) |
| Blame of Republicans x High Income | -.29 (.24) |
| Republican | -.32 ⁺ (.17) |
| Independent | -.41 [*] (.16) |
| Middle Income | -.04 (.16) |
| High Income | .04 (.17) |
| Constant | -.54 ^{**} (.20) |
| Pseudo R ² | .04 |

*** $p < .001$; ** $p < .01$; * $p < .05$; + $p < .10$ (two-tailed)

Note: Logistic regressions predicting support of stimulus tax credit. Specifications include controls for race, age, education, and gender. Baseline categories are: "no blame" condition, Democrats, and low-income individuals. N=2749.

Table 2: The Goal Framing Experiment

| | |
|----------------------------------|----------------------------|
| "Boost" Framing | -.41 (.29) |
| "Prevent Collapse" Framing | -.50 ⁺ (.30) |
| Low Income x "Boost" | .71* (.30) |
| Low Income x "Prevent Collapse" | .41 (.30) |
| High Income x "Boost" | .18 (.31) |
| High Income x "Prevent Collapse" | .58 ⁺ (.31) |
| Republican x "Boost" | .11 (.32) |
| Republican x "Prevent Collapse" | .50 (.33) |
| Independent x "Boost" | -.07 (.31) |
| Independent x "Prevent Collapse" | -.15 (.31) |
| Republican | -2.05*** (.23) |
| Independent | -1.04*** (.23) |
| Low Income | -.19 (.22) |
| High Income | -.40 ⁺ (.22) |
| Constant | 1.89*** (.31) |
| Pseudo R ² | 0.13 |

*** $p < .001$; ** $p < .01$; * $p < .05$; + $p < .10$ (two-tailed)

Note: Logistic regressions predicting support for stimulus proposal. Specifications include controls for race, age, education, and gender. Baseline categories are: "stabilize" condition, Democrats, and middle-income individuals. N=2068.

Table 3: The Threshold Sensitivity Experiment

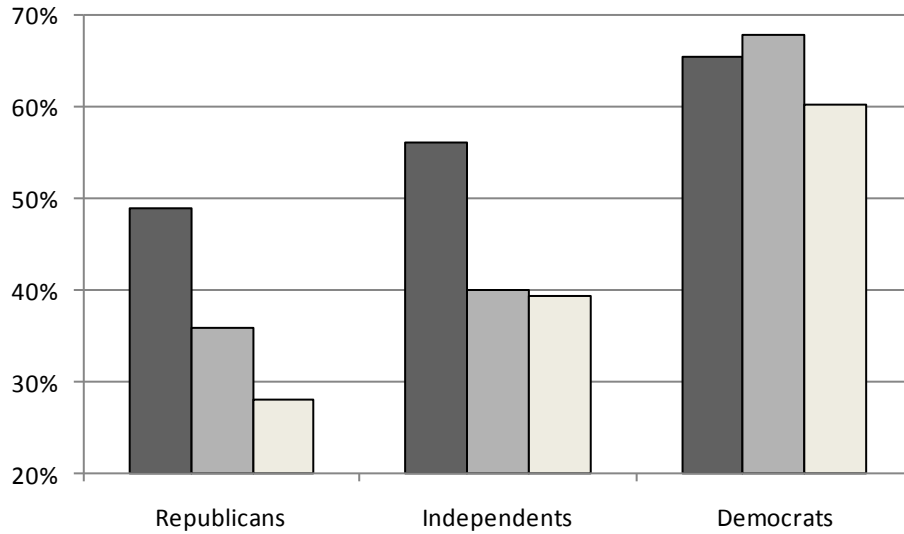
| | (1) | (2) | (3) |
|-------------------------------------|-------------------|------------------|-------------------|
| Plan > \$1 trillion | .22* (.09) | — | -.07 (.20) |
| \$1.4 trillion plan | — | .28* (.13) | — |
| \$1.1 trillion plan | — | .31* (.14) | — |
| \$900 billion + \$200 billion plan | — | .28* (.14) | — |
| \$800 billion + \$100 billion plan | — | .14 (.14) | — |
| Plan > \$1 trillion x Republican | — | — | .17 (.23) |
| Plan > \$1 trillion x Independent | — | — | .32 (.21) |
| Plan > \$1 trillion x Middle Income | — | — | .25 (.21) |
| Plan > \$1 trillion x High Income | — | — | .10 (.22) |
| Republican | 1.89*** (.11) | 1.89*** (.11) | 1.78*** (.18) |
| Independent | 1.09*** (.11) | 1.08*** (.11) | .89*** (.17) |
| Middle Income | .18+ (.10) | .18+ (.10) | .03 (.17) |
| High Income | .34** (.11) | .34** (.11) | .28 (.18) |
| Constant | -1.93*** (.20) | -2.00** (.21) | -1.76*** (.23) |
| Pseudo R ² | .14 | .14 | .14 |

*** $p < .001$; ** $p < .01$; * $p < .05$; + $p < .10$ (two-tailed)

Note: Logistic regressions predicting opposition to stimulus package due to high cost. Specifications include controls for race, age, education, and gender. Baseline categories are: “\$900 billion” condition, Democrats, and low-income individuals. N=2742.

Figure 1: The Effect of Partisanship and Income on Attitudes on the Stimulus

(a) Favor creating new jobs in government agencies, even if it meant in the short term an increase in the national debt



(b) Support providing federal money to state governments that are facing budget shortfalls, even if it meant in the short term an increase in the national debt

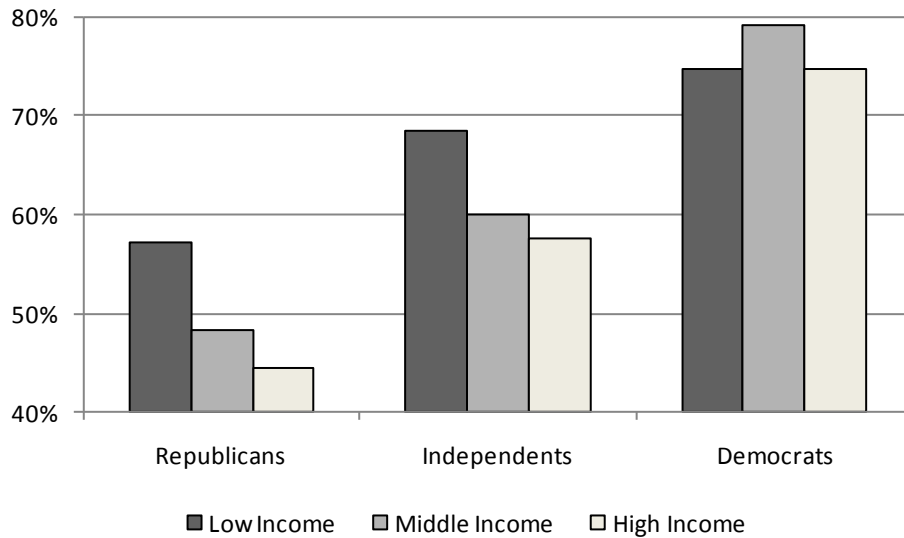
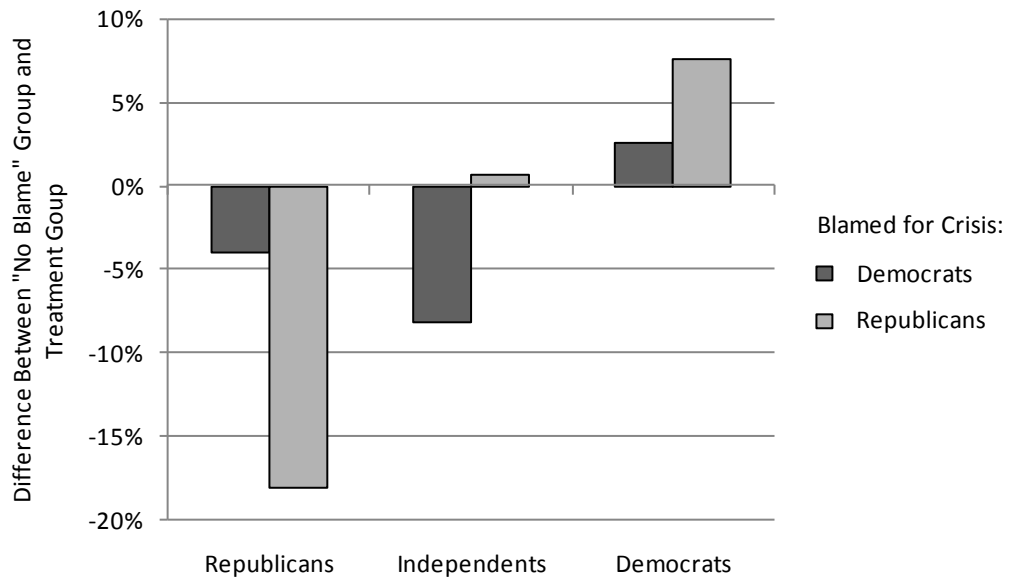
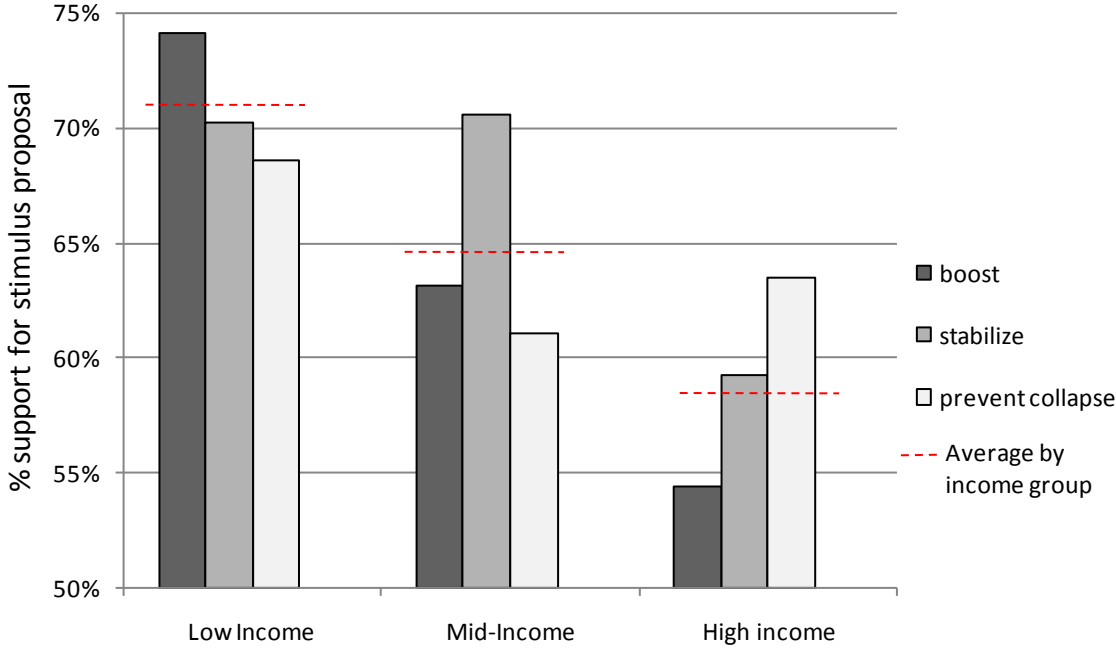


Figure 2. Sensitivity to Blame Attribution Cues is Moderated by Partisan Affiliation



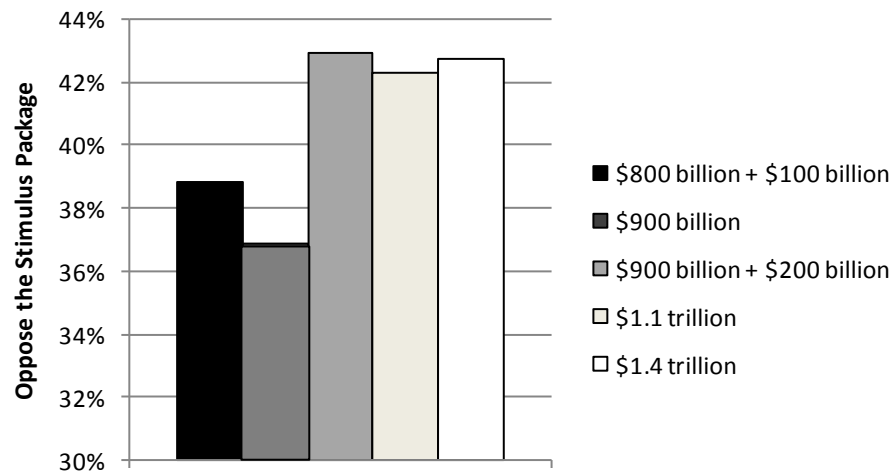
Note: Each bar represents the difference in support for the stimulus tax proposal when the economic crisis is described as either the fault of “the Republican-controlled White House” or “the Democratic-controlled Congress,” compared to the baseline condition of no blame being assigned. The differences are presented separately for each partisan group.

Figure 3. Sensitivity to Prospect Framing with Economic Valence is Moderated by Income



Note: Each bar represents the level of support for the stimulus plan by how the proposal is framed. Results are presented by income tercile.

Figure 4: The Public is Sensitive to the \$1 Trillion Threshold, but Not to Cost Increases Beyond.



Note: The graph presents the percentage of respondents opposed to the stimulus package because it is too costly. Each bar represents a different experimental treatment which differed only in terms of the estimated cost structure of the stimulus.

ⁱ See Chong and Druckman (2007) for a review of the literature on how prior opinions condition responses to communications. Indeed, this is not the first attempt to reconcile the gap between the two approaches. In analyzing the public's response to the Monica Lewinsky scandal, Zaller (1998) draws a similar distinction between what he labels "party politics" (i.e. substance) and "media politics" (i.e. communications) and highlights the need for theorizing about interaction between the two. Our argument can be seen as following a similar line of theorizing. See also Marcus et al. (1995), Gilens (1999), and the recent work by Peterson, Slothuus and Togeby (forthcoming) for additional contributions to this strand of research.

ⁱⁱ Some scholars have questioned the role of economic self-interest in shaping individual preferences. For example, some studies find little to no differences between the opinions of unemployed and employed workers on active labor market programs (Sears et al. 1980; Schlozman and Verba 1979). Nonetheless, as cited above, a sizable recent literature finds strong evidence of economic standing shaping policy views. Furthermore, research on economic voting also shows that personal stakes matter when individuals are primed to think in such terms (Abramowitz et al. 1988).

ⁱⁱⁱ See Druckman (2001) for an excellent discussion of the various interpretations of the term "framing" in social science research.

^{iv} In discussing the role of individual characteristics and context as moderators of framing, Druckman notes that "with a few recent exceptions... little attention has been given to contextual influences and their interaction with individual level variables" (Druckman 2004, p. 684). Other studies (e.g., Sniderman et al. 2004; Slothuus 2009) that examined how contextual forces moderate framing effects did not focus on the role of economic standing.

^v This is very much in line with the psychological literature on "motivated reasoning," which argues that individuals interpret new evidence in a biased manner that is consistent with their prior views (see Druckman et al. 2009)

^{vi} We conducted a content analysis using Google News, collecting all online sources between December 1, 2008, and February 15, 2009 (approximately the period during which the stimulus program was debated) that dealt with the potential trillion dollar cost level of the package. We found the trillion mark as a politically sensitive threshold was mentioned 41 times, about once every one-and-a-half days. Of these 41 mentions, 27 negatively portrayed the trillion dollar price tag as too expensive, 5 described it positively as a necessary cost, and 9 accounts were neutral.

^{vii} Although substantially more representative than a student or local convenience sample, the SSI sample tended to be somewhat more educated and partisan compared to the 2008 American National Election Study. Nonetheless, our estimated treatment effects are internally valid.

^{viii} We used the standard question used by the ANES to assess partisanship: “Generally speaking, do you consider yourself a Republican, a Democrat, an Independent, or what?”

^{ix} These questions were not associated with any of the experimental manipulations described in the next section. Thus, to discuss the baseline influences of partisanship and income on support for government action, we use these items instead of ones in which question wordings varied considerably across conditions.

^x Variants of these questions were used in a widely reported *AllState/Politico* survey (administered December 27-29, 2008). In the aforementioned survey, these questions yielded a distribution of responses with substantial variance, and thus seemed promising in the context of exploring and explaining the variation in public preferences.

^{xi} We estimated logistic regressions and found these effects of partisanship and income to be statistically significant even when including a host of demographic predictors.

^{xii} Only 2095 respondents were assigned to The Prospect Framing Experiment. Item non-response was not an issue in this dataset as completion rates for the three dependent variables of interest ranged from 98.6%-99.3%.

^{xiii} See Online Appendix at www.stanford.edu/~neilm or www.columbia.edu/~ym2297 for more details.

^{xiv} We also manipulated the identity of these policymakers via three experimental treatments (“policymakers in the federal government,” “policymakers in the Democratic party,” “President Obama and his team”). We pooled across these endorsement sources in conducting our analyses. There were no significant interactions between the endorsement and blame attribution cues.

^{xv} As with any experiment dealing with a current event, it is possible that pre-treatment effects (i.e. knowledge about facts related to the political debate over the response to the financial crisis) may decrease the treatment effects. In this case, both the knowledge that the program was constructed by the Democratic Party and the implausibility of the Democratic Party being to blame for the financial collapse may have dampened the efficacy of the cueing blame of Democrats. However, we do not believe this to be the case for the other experiments described below. Moreover, that pre-treatment effects would influence the heterogeneous effects by income and partisanship in precisely the manner we hypothesize and observe is very unlikely.

^{xvi} The components of these substantive effects are as follows. In the control group, the predicted probability of supporting the policy is 42.0% among Democrats and 34.4% among Republicans (a 7.6 percentage point difference). In the “blame Republicans” group, the predicted probability of supporting the policy is 52.2% among Democrats and 21.6% among Republicans (a 30.6 percentage point difference). Hence, the “blame Republicans” cue increased polarization by 23.0 percentage points (30.6-7.6).

^{xvii} We tested for moderation of the treatment effects by education, as more sophisticated respondents may have been aware of who had control over the government. We find no evidence of moderation by education.

^{xviii} Analyzing the dependent variable as a four-point scale via ordered logistic regression produces statistically and substantively similar results.

^{xix} This effect can be decomposed as follows. The predicted probability of support among high-income respondents (holding control variables at their medians) is 83.5% in the “prevent” collapse condition and 78.7% in the “boost” condition, a difference of 4.8 percentage points. The predicted probability of support among low-income respondents is 84.1% in the “prevent collapse condition” and 88.5% in the “boost” condition, a difference of -4.4 percentage points. The difference between high-income and low-income respondents is 9.2 percentage points (4.8-(-4.4)).

^{xx} By comparing only condition (4) to conditions (1)-(3), one cannot disentangle the effects of manipulating both the cost and structure of the program. To assess the impact of breaking down the cost structure to two installments, we also included condition (5). This enables us to compare (i) whether individuals pay attention to the total cost of the program or just to the fact that the trillion dollar figure is explicitly mentioned, and (ii) whether individuals have a certain preference for program with a one-time payment versus one in which the cost is broken down. Without condition (5) in the experiment, one could not properly test comparison (ii).