

# *Ideology, Learning, and Policy Diffusion: Experimental Evidence\**

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## **Abstract**

We introduce experimental research design to the study of policy diffusion in order to better understand how political ideology affects policymakers' willingness to learn from one another's experiences. Our two experiments, embedded in national surveys of U.S. municipal officials, expose local policymakers to vignettes describing the zoning and home foreclosure policies of other cities, offering opportunities to learn more. We find that: (1) policymakers who are ideologically predisposed against the described policy are relatively unwilling to learn from others, but (2) such ideological biases can be overcome with an emphasis on the policy's success or on its adoption by co-partisans in other communities. We also find a similar partisan-based bias among traditional ideological supporters, who are less willing to learn from those in the opposing party. The experimental approach offered here provides numerous new opportunities for scholars of policy diffusion.

The ability to learn from other governments about the effects of policies is one of the more powerful tools available to public officials in federal systems. Learning from others is especially important for local, regional, and state officials who typically do not have the resources to conduct extensive policy analyses on their own. These sub-national officials can benefit from widespread experimentation with novel policies, wherein policymakers abandon failures and help successes diffuse, learning from others' experiments.

However, officials may not always be open to learning about policies that do not fit their world-view. Indeed strong empirical results suggest that governments are most likely to adopt the laws and practices of ideologically similar governments (e.g., Grossback, Nicholson-Crotty, and Peterson 2004; Martin 2009; Gilardi 2010). What is not clear, though, is the process by which policymakers brush aside or embrace ideologically incongruent policies.

By focusing on aggregate policy choices, current empirical research cannot discern the individual-level role of ideology in policymakers' learning processes, nor the conditions under which any ideological biases may be overcome. With some exceptions (e.g., Karch 2007), the literature on policy diffusion focuses mainly on which policies are adopted by which governments at which points in time (e.g., Graham, Shipan, and Volden 2013). These observational studies of *policy adoption* are too aggregated (and tend to focus too late in the diffusion process) to discern how ideology affects learning at the level of the individual policymaker.<sup>1</sup>

We propose an alternative approach to study the role of learning in the diffusion process. Recently, political scientists have used experiments to study classic problems, often producing

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<sup>1</sup> Some have placed the idea of “bounded learning” or “heuristic-based learning” central to their research agendas (e.g., Meseguer 2006), resulting in qualitative studies that highlight concerns about various biases that may emerge in the policymaking process (e.g., Weyland 2007).

important, new insights (e.g., Arceneaux and Johnson 2013; Butler and Nickerson 2011; Druckman 2004; Grimmer, Messing, and Westwood 2012). We argue that experiments can also be usefully applied to the study of policy diffusion. To be sure, there are limitations to this approach. For example, it is clear that little can (or should) be done to actually manipulate the policies chosen by governments and to observe the subsequent reactions of others. On the other hand, one can manipulate the information available to policymakers to determine the conditions under which they seek to learn from the experiences of others. This is precisely what we do in the current study.<sup>2</sup>

Specifically, we embedded experiments about information-seeking within surveys administered to local government officials across the United States. As part of the survey, we provided vignettes about other cities' experiences with current problems facing municipalities (zoning/mixed-used developments and home foreclosures). We then asked whether the official would like to learn more about the policy, offering a link to further information to be provided at the end of the survey. Our survey experiments reveal strong ideological biases in the policy learning process, with liberal policymakers being up to twice as likely as conservatives to express interest in learning more about the described government interventions.

The experimental part of the research design explored whether such ideological biases could be overcome by changing how the government's policy experience was described in the vignette. In the experiments, we varied whether the policy was characterized as successful or failing and whether the adopting government was Republican or Democratic. Both frames had a significant impact in altering whether conservative policymakers were interested in learning

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<sup>2</sup> Similarly, scholars have used experiments to study the diffusion of other types of innovations (e.g., Rogers 2003, 70-72) and to examine policy learning among citizens (e.g., Taber and Lodge 2006).

more, strongly mitigating their ideological bias against learning about these policies. Partisan framing also affected liberal policymakers, who were significantly more interested in learning about the policy when they discovered that a Democratic government had implemented it than in learning about the same policy implemented by Republicans.

These findings shed new light on the ideological nature of learning and policy diffusion, and especially on ways that policy entrepreneurs and others can help overcome ideological biases. Specifically, we find: (1) ideological biases exist even at the municipal level and on common local policy choices, and (2) these biases can be overcome with an emphasis on policy success or on earlier adoption by co-partisans. Further, this work serves as a template for future experimental research on policy diffusion.

### **The Conditional Effect of Ideology on Learning and Policy Diffusion**

Scholarship on policy diffusion is immense and fast-growing (e.g., Stone 1999; Meseguer and Gilardi 2009; Graham, Shipan, and Volden 2013). Some of the increased interest stems from the opportunity to understand diffusion processes well beyond the geographic clustering of policies. For instance, scholars have focused on the many diverse mechanisms through which policies spread (e.g., Simmons, Dobbin, and Garrett 2006; Shipan and Volden 2008), the role of similarities across governments (e.g., Case, Hines, and Rosen 1993; Simmons and Elkins 2004; Grossback, Nicholson-Crotty, and Peterson 2004), the conditions under which diffusion is enhanced or diminished (e.g., Walker 1969, Keleman and Sibbitt 2004, Brooks 2005), the influence of policy success (e.g., Meseguer 2006, Volden 2006), and the extent to which the nature of policies themselves influences their diffusion (e.g., Mooney and Lee 1995, Nicholson-Crotty 2009, Makse and Volden 2011).

The experimental approach that we advocate can shed new light on each of these. For now we restrict ourselves to the mechanism of learning-based policy diffusion, the role of ideological similarity, the policy's perceived success, and the partisanship of previous policy adopters.

We expect officials' own ideological views to strongly affect their affinity for different policy alternatives. In broad strokes, conservative policymakers tend to be cautious about expanding the role of government, while liberal policymakers may hesitate to rely on market forces. We argue that government officials who hold such viewpoints will be less likely to seek out information about policies that they are ideologically predisposed against. Such avoidance of ideologically dissonant information may arise for psychological reasons (e.g., Lowin 1967, Iyengar and Hahn 2009).<sup>3</sup> This reticence can also arise because officials simply do not want to spend time learning about a policy they are ultimately unlikely to support. However, by choosing to not learn about it at all, policymakers miss the opportunity to thoughtfully consider potentially useful programs and laws that they would in fact implement. We test this argument with the following hypothesis.

***Ideological Learning Hypothesis:*** *Policymakers who are ideologically predisposed to adopting a policy will be more interested in learning about others' experiences than are those who are ideologically predisposed against the policy.*

Theoretical models suggest that the effect of such ideological considerations may be moderated by policy success. For example, the model in Volden, Ting, and Carpenter (2008)

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<sup>3</sup> Also rooted in psychology is the idea that liberals and conservatives may be differentially open to new ideas and experiences (e.g., Carney et al. 2008). However, our experiments tend to indicate that any such biases can be easily overcome with framing, which tends against the idea of a strong innate opposition to learning. Ultimately, future research would be required to separate out (and adjudicated between) these competing psychological processes.

predicts that the policymakers most predisposed to a new policy idea will experiment with it regardless of evidence of failure or success. However, those who are less predisposed to the policy will only invest in learning about the policy if it has achieved success elsewhere.

Evidence of success may also work because unexpected information leads to learning (e.g., Meyer, Reizenzein, and Schutzwohl 1997; Schutzwohl and Borgstedt 2005; Atkeson and Maestas 2012). Officials who are predisposed against a policy will expect it to fail and so may be surprised when it achieves success. Consequently, evidence of success may make policymakers more willing to overcome their priors and seek out more information. As a result of these dynamics, the effect of ideology on learning should be conditional on policymakers' perceptions of the policy's effectiveness, as follows:

***Success Overcoming Ideology Hypothesis:*** *Evidence of policy success will significantly increase the interest in learning about others' experiences among those who are initially ideologically predisposed against a policy.*

Ideological-based biases against learning may also be overcome by fellow co-partisans. When co-partisans embrace a policy that an official opposes, this may signal to the official that the policy is not as inconsistent with her ideological worldview as she had initially thought. In this sense, the co-partisans' support for the policy may influence learning because it causes her to update her priors and thus be more likely to seek out additional information in order to find out why her co-partisans embraced the policy.

The actions of co-partisans may also lead to enhanced learning by providing officials with political cover. Policymakers may be reluctant to learn about a law or program that is not consistent with their ideological predispositions because of fears that embracing the policy will hurt their credibility within the party and their reelection prospects. However, when co-partisans

elsewhere have already embraced the policy, officials have more political cover and are less likely to be singled out. Officials should thus be less likely to preemptively rule out these policies, which in turn should make them more willing to learn.

For instance, President Bill Clinton, by embracing free trade and exploiting the timely support of partisan allies, was able to win over a sufficient number of Democrats to secure passage of the North American Free Trade Agreement (Box-Steffensmeier, Arnold, and Zorn 1997).<sup>4</sup> In the context of policy diffusion, Governor Tommy Thompson's efforts in Wisconsin opened up welfare reform to experimentation by other Republican policymakers across the country. Such examples serve to highlight how partisanship can play a role in overcoming ideological biases, as outlined in our final hypothesis.

***Partisanship Overcoming Ideology Hypothesis:** Evidence of policy experimentation by co-partisans will significantly increase the interest in learning about others' experiences among those who are ideologically predisposed against a policy.*

### **Testing the Determinants of Learning and Policy Diffusion**

In recent years, scholars have made significant progress in characterizing the nature of policy diffusion by using new empirical approaches to confront a range of methodological problems (e.g., Berry and Baybeck 2005, Franzese and Hays 2008, Gilardi 2010, Volden 2006); but many obstacles remain. Testing the above hypotheses, for example, is difficult because the research design must isolate policy learning from other diffusion processes. In addition to learning, governments compete, coerce, and imitate one another (e.g., Boehmke and Witmer 2004; Shipan and Volden 2008). Moreover, policy choices may appear interrelated merely because similar governments face similar circumstances at about the same time.

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<sup>4</sup> Certainly other factors, such as side payments and President Clinton's political influence over his party, were also at play in garnering Democratic support for NAFTA.



To test the above hypotheses, we believe it is helpful to move from studies of aggregate policy choices to examinations of individual learning within policy diffusion. Specifically, an ideal research design would (a) isolate the learning process involved during the consideration of a new policy, while (b) capturing characteristics of the specific policymaker engaging in learning and (c) exogenously manipulating the policymaker's perceptions of the policy's success and its acceptance among co-partisans. We are able to match these ideal conditions rather well by embedding experiments within an original survey of local government officials that we conducted in 2012.<sup>5</sup> We focus on municipalities and ask about common local issues of zoning and foreclosure policy (discussed below), for two main purposes. First, at the local level, there remains an extensive diversity of preferences across officials, with members of each political party arrayed from liberal to conservative, thus better allowing us to isolate the influence of ideological positions apart from partisanship. Second, these are issues that, despite revealing ideological differences, have not been so tainted by partisan polarization as to close off any further consideration by members of either political party.<sup>6</sup>

The online survey was created using Qualtrics and was administered to municipal officials by sending them a link to the survey, yielding more than a thousand respondents across our two experiments. We sent an initial invitation with two follow up reminders in the subsequent week. Exploring possible non-response biases, the Supplemental Appendix reports an analysis comparing those who responded to our early versus late requests with respect to the

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<sup>5</sup> The sample of city officials for the survey was constructed by first downloading a list of all of the cities in the U.S. Census. Research assistants then searched for the website of each town or city taken from the census. If the research assistants were able to identify the city's website, they then collected the name and email address of the city's mayor and council members (or the equivalent).

<sup>6</sup> Future work extending our approach to other levels of government or to more partisan-charged issues would be welcome. Moreover, some issues do not map easily onto ideological positions (e.g., Toshkov 2013), perhaps resulting in fewer biases that need to be overcome.

findings we report below.<sup>7</sup> Overall, the survey had a response rate of about twenty-three percent, on par with recent expert surveys of this nature (e.g., Fisher and Herrick 2013; Harden 2013). Policymakers from smaller towns were slightly less likely to take the survey, with the median city in the sample having a population of just over 10,000. About twenty-three percent of the respondents were serving as the municipality’s chief executive (mayor or the equivalent), with the remaining respondents serving as city councilors (or the equivalent). Staff members who filled out the survey on behalf of the actual municipal official were excluded from the analysis.<sup>8</sup> A full description of the survey sample is provided in Appendix A.

We are able to test the effects of ideology on policy learning because we asked survey respondents about their positions on a large number of issues. Estimating ideology through these questions avoids the sorts of biases that tend to accompany traditional measures of ideology like self-identification (Ansolabehere, Rodden, and Snyder 2008). We drew questions from the “Political Courage Test” (formerly the National Political Awareness Test) that Project Vote Smart has administered to state and federal candidates in every election cycle since 1996. Specifically, policymakers were asked 28 questions drawn from the sample of 53 questions listed in Appendix B. We asked these questions at the end of the survey, to avoid priming on ideological dimensions during the experiments themselves.<sup>9</sup>

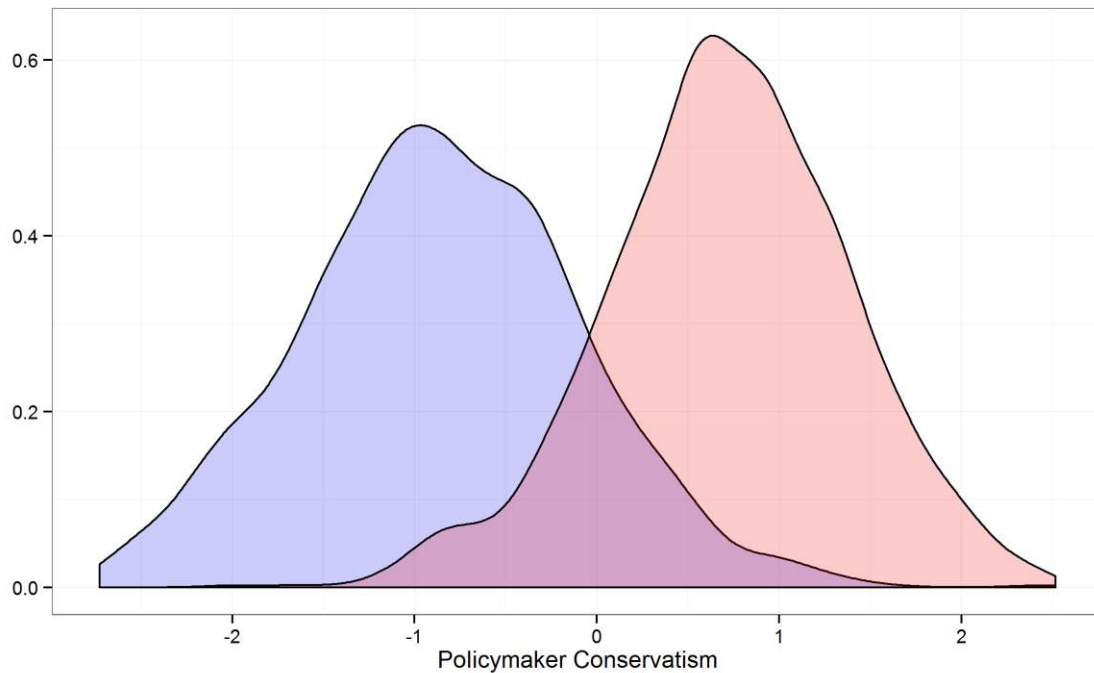
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<sup>7</sup> The key comparison in our tests is between those who responded to our early requests versus those who responded to our third and final request. Those analyses reveal no statistically significant differences across early and late respondents for our main hypotheses. However, the size and direction of the interactive variables we include suggest that non-respondents may be less willing to overcome their ideological biases due to evidence of policy success and more willing to learn from co-partisans than were the early respondents.

<sup>8</sup> Gathering policy information may be a staff responsibility in many municipalities. Therefore, further research on the willingness of staff to learn from other cities would be welcome.

<sup>9</sup> Given the extensive number of questions used to measure ideology, relative to the single question for each experiment (and numerous unrelated questions in the survey), we believe there is little chance that the experimental treatments may have primed the ideology responses.

**Figure 1: Municipal Officials' Conservatism**



*Note:* The figure shows the Conservatism distribution for Democrats (on the left) and Republicans (on the right) across the two experiments discussed below.

Like previous researchers, we treated these questions with their binary response options like roll call votes to estimate the policymakers' ideal points (e.g., Ansolabehere, Snyder, and Stewart 2001; Shor and McCarty 2011). Ideal points are estimated using a Bayesian item-response model (Jackman 2000, 2004; Clinton, Jackman, and Rivers 2004), in which the model assumes that preferences are characterized by quadratic utility functions with independent and normally distributed errors.<sup>10</sup> The scale for their ideal points is constructed with a mean of zero and a standard deviation of one. Higher values indicate more conservative preferences. We therefore label this key independent variable *Conservatism*. Figure 1 displays the distribution of this measure for the Republicans (red) and Democrats (blue) in our sample. Interestingly, unlike

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Further, the bivariate relationship between the respondents' ideology scores and the treatments are neither statistically nor substantively significant.

<sup>10</sup> Estimation is done with the "pscl" package (Jackman 2011) in R.

the U.S. Congress, where Democrats and Republicans no longer overlap ideologically, a substantial number of self-identified partisan municipal officials overlap.

### **Experiment #1: Ideology, Learning, and Policy Success**

In each of the two experiments, we described a policy used elsewhere and then asked the official if he or she wanted to learn more about the other government’s experiences. We varied key aspects of the policy we described in order to test whether those changes affected policymakers’ interest in learning. Respondents were randomly assigned to treatment conditions upon beginning the survey.

Our first experiment was designed to test the role of success in overcoming ideological biases against learning. In the experiment, officials read about a city that had recently converted an obsolete strip mall into a residential community (see Box 1 for the full text of the experiment).<sup>11</sup> We then asked, “Would you want to learn more about the pros and cons of a program like this to see if it would work in your area?” We asked this question because it captures the first, necessary stage of learning-based diffusion—information-seeking. We included balanced language about both the pros and cons in the question to ensure that we were not priming respondents to systematically favor either treatment. Policymakers who answered “Yes” were given a link at the end of the survey that took them to an information page on policies in this area at the National League of Cities’ website.<sup>12</sup> We use the official’s response to

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<sup>11</sup> Based on Dillon’s Rule and various state restrictions, municipalities may vary in their autonomy and abilities to address the issues raised in the two experiments. Random assignment across treatments should help mitigate any concerns about the need to control for such external considerations.

<sup>12</sup> Although we did not track the users beyond the survey itself, future work could also explore the amount of time that officials spent gathering more information about the policies in question.

this question to measure the outcome (dependent variable) for the analysis, *Interest in Learning*, which takes a value of 1 for a response of “Yes” to this question and 0 for a response of “No.”<sup>13</sup>

### Box 1: Experiment #1

Recently, many communities have confronted the problem of abandoned or underutilized retail stores or shopping centers. In some cases, city officials have chosen to re-purpose these properties, such as turning them into community centers or mixed-use developments. For instance, [one city]<sup>14</sup> recently helped convert an obsolete strip mall into a residential community **[and quickly attracted enough residents to completely fill the community / but failed to attract sufficient residents to make the renovated community sustainable]**.

Would you want to learn more about the pros and cons of a program like this to see if it would work in your area?

Yes (we’ll provide a link to an external website at the end of the survey)

No

*Note:* The experimental manipulations are given in bolded, bracketed text here. In the actual experiment it was displayed as regular text.

For the experiment, we varied whether the venture was a success. We indicated the success or failure of the policy in the last line of the description of the city and the policy it implemented. Policymakers assigned to the successful policy treatment read that the decision to convert the strip mall into a residential community “quickly attracted enough residents to

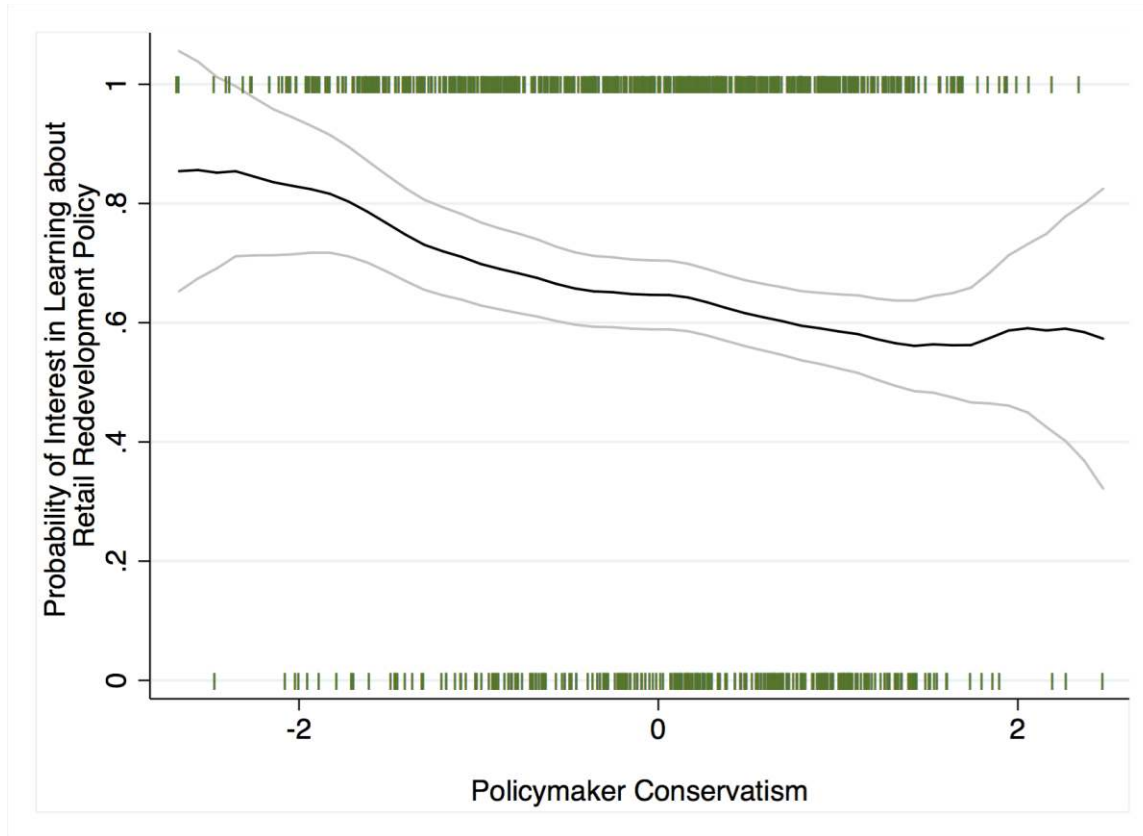
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<sup>13</sup> This dependent variable is therefore something of a low-cost signal of intention or interest in policy learning. Future survey experiments may expand upon this approach to see how long a respondent spends on a subsequently viewed website, for example, or whether the respondent participates in a conference call or attends a meeting to find out more about a policy. Behavior at later stages of the public policy process, such as placing policy proposals on a governmental agenda, voting in their favor, or ultimately changing policy, could be explored as well, although significant ethical considerations arise in conducting experiments that may greatly impact actual public policy choices.

<sup>14</sup> For other purposes, we also manipulated whether this city was described as “large” or “about your size.” That treatment has no effect on the substantive findings of our analyses, and all respondents across the city size treatment are pooled.

completely fill the community.” Those assigned to the failed policy treatment read that the same decision “failed to attract sufficient residents to make the renovated community sustainable.”<sup>15</sup>

**Figure 2: Diminished Interest in Learning among Conservative Policymakers**



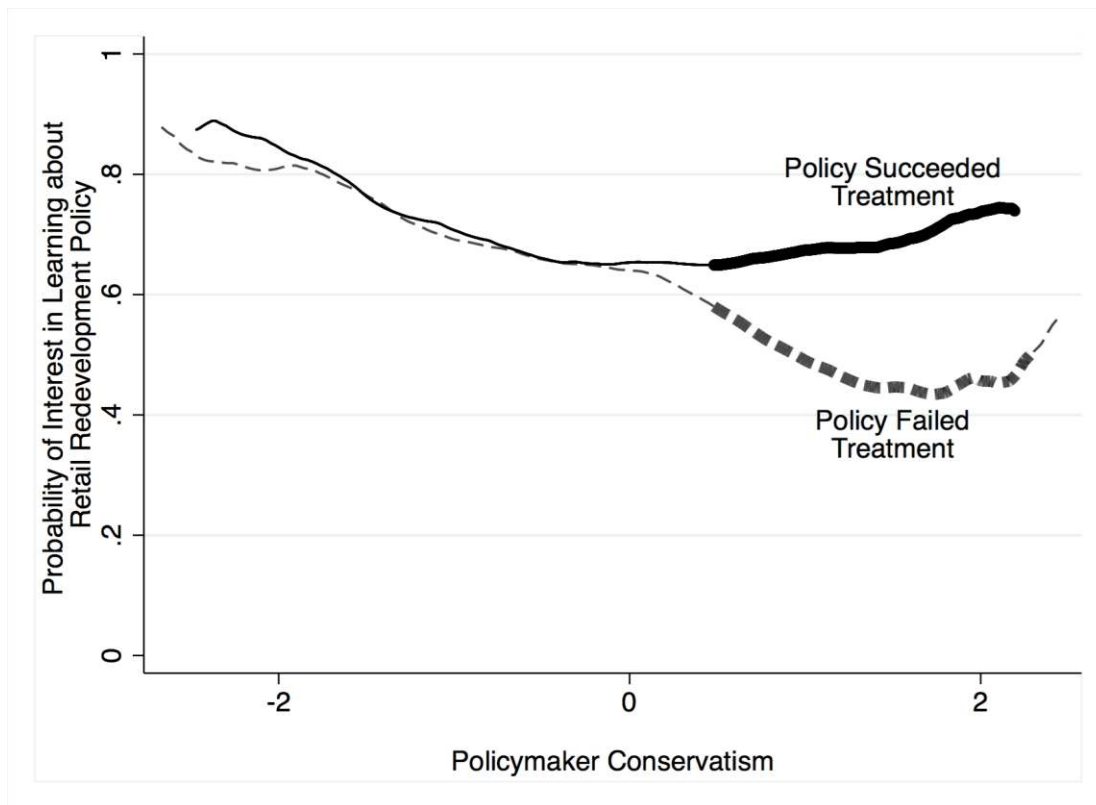
*Notes:* Local mean smoothing is used to calculate the average of the probability (and the associated 95 percent confidence intervals) for *Interest in Learning* in Experiment #1. Carpet and ceiling plots show the exact values for each observation.

As an initial test of the Ideological Learning Hypothesis, Figure 2 illustrates policymakers’ Interest in Learning across the ideological spectrum. The figure shows the raw

<sup>15</sup> We also included a “control” group, leaving out the description of the success or failure of the policy. As might be expected, the *Interest in Learning* among this control group was between the levels for the success and the failure groups, somewhat more in line with successes than with failures. Multinomial logit results based on the full dataset offer support for the same hypotheses as those reported for the subset of success and failures only. Further attempts to isolate control group effects in survey experiments of the sort reported here are difficult, because at least some context must be offered when asking about interest in learning more about a policy. However, future work can and should consider relevant control groups when pursuing similar research.

data, with local mean smoothing and 95% confidence intervals.<sup>16</sup> Consistent with the hypothesis, about 80% of the most liberal policymakers—who should be predisposed in favor of active government intervention in repurposing retail space—wish to learn more about the policy experience of other cities. In contrast, conservative policymakers were more than 20 percentage points less likely to express an interest in learning more. Although a majority still wanted to learn more, the drop in interest is quite large.

**Figure 3: Ideological Learning from Success**



*Notes:* Local mean smoothing is used to calculate the average of the probability for *Interest in Learning* in Experiment #1. The solid line represents the “policy succeeded” treatment and the dashed line represents the “policy failed” treatment. The thick, bold sections of the lines show where the difference between the treatments is significant at the 95 percent confidence level ( $p < 0.05$ ).

<sup>16</sup> The polynomial is calculated using the default kernel function and a bandwidth of 0.40 within the ‘lpoly’ command in Stata. We use this approach consistently throughout the analysis to best match results from lowess smoothing, while also yielding the variance calculations needed for confidence intervals in Figures 2 and 4 and for ranges of significant differences across treatments in Figures 3 and 5.

The level of interest is even lower among conservatives who were told that the policy had failed. Figure 3 shows similar smoothed curves, now broken down across the two experimental treatments, with policy success indicated by the solid line and policy failure indicated by the dashed line. Three main findings emerge from the figure. First, for liberal policymakers (on the left-side of the figure), interest in learning is not conditional on policy success. About 70-80% of them wished to learn more, regardless of whether the policy was described as a success or a failure. Second, both of the lines in the figure are downward sloping, suggesting that conservative policymakers are less interested than liberals in learning more about this policy. This is consistent with the Ideological Learning Hypothesis, given that conservatives are more distrustful of government interventions and so less interested in learning about such programs.

Third, the two lines diverge significantly for conservative policymakers. For the policy failure treatment, the line continues its downward trend. However, policy success is enough to stop this decline among conservatives. Consistent with the Success Overcoming Ideology Hypothesis, evidence of success is a significant factor in overcoming conservative policymakers' reservations about learning more about the other city's policy experiences. The bold portions of the curves in Figure 3 show areas of statistically significant difference ( $p < 0.05$ ). And the size of this difference is quite large. Among policymakers with ideal points above 1.0, the two lines are 20-30 percentage points apart; conservatives require greater evidence of policy success before they wish to learn more about policies that they initially view with suspicion.<sup>17</sup>

We explore the robustness of these results by estimating empirical models that test the effect of ideology and success on learning while also controlling for other relevant factors.

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<sup>17</sup> As shown in Appendix D, these differences are found mainly among conservative officials in the Republican Party.



Logistic regression models are used because our dependent variable, *Interest in Learning*, is binary. As reported in Table 1, each model includes respondents' *Conservatism* to explore the effect of ideology.

**Table 1: Success and Ideological Learning**

	(1)	(2)	(3)
Respondent's Conservatism	-0.34** (0.10)	-0.51** (0.14)	-0.54** (0.18)
Conservatism × Success		0.34 (0.19)	0.43* (0.21)
Treatment: Success		0.29 (0.19)	0.32 (0.20)
Considered Issue Before			1.26** (0.23)
Democrat			0.02 (0.32)
Republican			-0.04 (0.25)
Partisan Election			-0.13 (0.24)
Logged Population			0.08 (0.07)
Percent Black			1.19 (1.06)
Percent Latino			-0.03 (0.81)
Percent with Some College			-0.85 (0.92)
Unemployment Rate			-2.30 (2.08)
Percent: Unpaid 1st Mortgage			-1.69 (1.11)
Percent: Unpaid 2nd Mortgage			2.21 (2.74)
Constant	0.64** (0.09)	0.50** (0.13)	0.21 (0.91)
N	541	541	514
$\chi^2$	13.2**	19.7**	70.9**

*Notes:* Logit analysis of the dichotomous *Interest in Learning* dependent variable, from Experiment #1. Self-identified Independents/Non-partisans are the excluded group in Model 3. Standard errors in parentheses. \*\*  $p < 0.01$ , \*  $p < 0.05$ , two-tailed.

Model 1, which gives the results when not including any control variables, confirms the pattern shown in Figure 2. The negative coefficient on *Conservatism*, which is statistically significant ( $p < 0.01$ ), means that conservatives generally show a lower level of interest in learning about this policy.

However, this ideological bias is moderated by whether the policy in question was successful. Model 2 tests the moderating impact of success by including a term for the interaction between the ideology measure and the *Success* indicator, which takes a value of 1 for subjects exposed to the success treatment, in the regression model. The positive coefficient ( $p = 0.04$ , one-tailed) on the interaction term suggests that evidence of success is more important for conservatives than for liberals. This is in line with expectations from the Success Overcoming Ideology Hypothesis. The large negative coefficient on *Conservatism* indicates a significant ideologically based learning bias for policies described as failures, whereas the similar effect for successful policies is calculated by adding the coefficient on the interactive term to this main effect. In so doing, we see that the effect of ideology is diminished to a third of its size upon characterizing the policy as a success rather than a failure.<sup>18</sup>

These results are also robust to including control variables in the regression model. The control variables added to Model 3 come from the information gathered in the survey and from details about cities gathered independently from the American Community Survey.<sup>19</sup> Using information from these sources, we controlled for the policymaker's partisanship (with self-identified Independents/Non-partisans representing the excluded category) and electoral status,

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<sup>18</sup> The total effect for *Conservatism* among those receiving the successful treatment is  $(-0.51) + 0.34 = -0.17$ , which is only 33% as large as the -0.51 effect for the failed policy treatment. Of course, the impact of these variables on the probability of *Interest in Learning* taking a value of one depends on values taken by other independent variables and on the logit function.

<sup>19</sup> The smaller sample size is the result of missing data for some of the control variables.

as well as the city's size, racial makeup, average educational attainment, unemployment rate, and potential foreclosure status.<sup>20</sup> All variables, their sources, and descriptive statistics are given in Appendix C.

Perhaps most importantly, we control for whether the officials had considered the issue before. We measure prior interest in the issue based on policymakers' responses to the following question that we asked earlier in the survey: "Have you ever considered redevelopment and rezoning of abandoned retail space in your area?" We control for prior interest in the issue to prevent omitted variable bias and to provide something similar to a manipulation check. If our experiment is capturing true interest in a policy, then the policymakers who represent communities confronting this issue *should be more interested* in learning about the policy.<sup>21</sup>

The large and positive coefficient on the variable *Considered Issue Before* provides strong evidence that our experiment is capturing real interest among policymakers in learning about the policy. Setting all other variables at their means in Model 3, the policymakers for whom mixed-use developments were recently relevant have a 73% chance of responding that they want to learn more, relative to only 44% for those who had not previously considered the issue.

The results of Model 3 provide further support for the Success Overcoming Ideology Hypothesis. Significantly, the moderating effect of success on the ideological bias in learning holds after controlling for the individual-level factors. In fact, the coefficient on the interaction term is about half a standard deviation larger in magnitude than in Model 2, and is statistically

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<sup>20</sup> Additional controls for the type of government in the city and for size thresholds (beyond which learning might become more likely) did not have a meaningful impact on support for the main hypotheses in either of the experiments, nor were they statistically significant.

<sup>21</sup> This enhanced interest may be partially offset by those who have already received sufficient information about the issue and therefore have little interest in additional information.

significant at the 0.05 level (two-tailed). To put this in perspective, moderate policymakers (*Conservative* = 0) express an interest in learning from failures 70% of the time and from successes 76% of the time, when holding other variables constant at their mean values. In contrast, the comparable rates for conservatives (*Conservative* = 1.5) are 52% and 73%, a difference of 21 percentage points.<sup>22</sup> This gap is about the same size shown in Figure 3 without controlling for other factors affecting the desire to learn. These results support the Success Overcoming Ideology Hypothesis, showing that many ideological policy skeptics require evidence of success in order to be enticed to learn more, whereas those ideologically predisposed to a policy do not require such evidence.

## **Experiment #2: Ideology, Learning, and Partisanship**

In our second experiment we look at the moderating effect of partisanship on the ideological bias in policymakers' interest in learning more about housing policies to deal with foreclosures and vacant properties. This experiment was again embedded within the 2012 American Municipal Official Survey, although it was delivered to a different, randomly-chosen subset of officials than those in the first experiment. Our vignette, shown in Box 2, described a community that had an increase in foreclosures and dealt with it by passing various measures (including a measure to allow neighbors to buy and maintain a foreclosed property after the house was demolished). We then asked the policymakers, "Would you want to learn more about the pros and cons of a program like this to see if it would work in your area?" We altered the specific policy across Experiments #1 and #2 as a way to ensure that our findings for the baseline Ideological Learning Hypothesis were robust to alternative policies, although we maintained

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<sup>22</sup> This is calculated based on Model 3, setting all control variables to their means. The estimated marginal effects are for Republicans and are practically unchanged when looking at Democrats or Independents at those same levels of *Conservatism*.

nearly every other aspect of the experiment for the sake of consistency. As in Experiment #1, we noted that if they clicked yes we would give them a link at the end of the survey to an external website on the topic (officials who clicked “yes” were redirected to information about these policies provided on the National League of Cities’ website). We again code the variable *Interest in Learning* so it takes a value of 1 for “Yes” and 0 for “No.”

### Box 2: Experiment #2

In a community dealing with an increase in foreclosures, **[Republican/Democratic]** officials passed a comprehensive measure to address foreclosures and vacant properties. Among other aspects, the policy facilitated neighbors purchasing and maintaining their former neighbors’ property after the house was demolished.

Would you want to learn more about the pros and cons of a program like this to see if it would work in your area?

Yes (we’ll provide a link to an external website at the end of the survey)

No

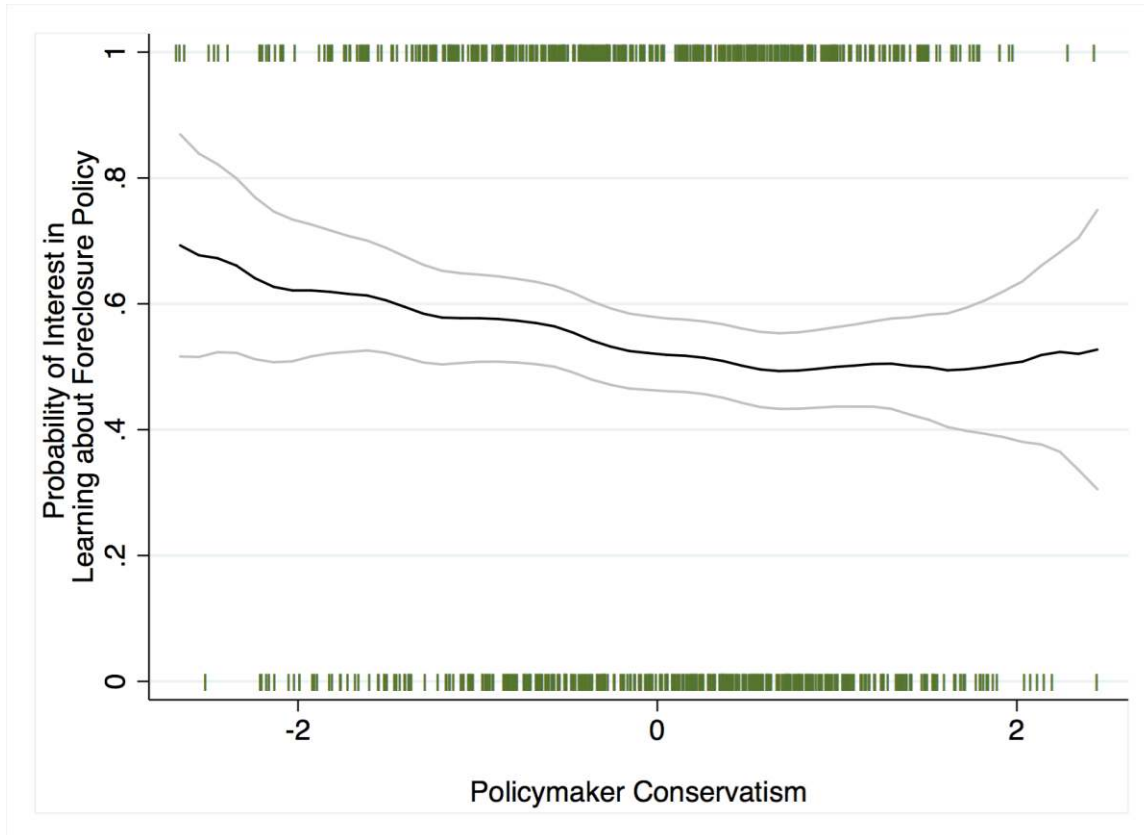
*Note:* The experimental manipulations are given in bolded, bracketed text here. In the actual experiment it was displayed as regular text.

We experimentally manipulated whether the officials who implemented the policy were Republicans or Democrats (see the bolded text in brackets in Box 2) in order to test whether government officials are more interested in learning from co-partisans. If the Partisanship Overcoming Ideology Hypothesis is correct, officials should be more interested in the policy implemented by their co-partisans than by the opposing party, especially among those respondents who are ideologically predisposed against the policy.

Figure 4 gives the average percent of policymakers expressing an interest in learning more about the policy as a function of their ideology. As with Figure 2, this figure shows the raw data across both treatments, smoothed locally. Once again, the figure offers preliminary support for the Ideological Learning Hypothesis. The more-conservative policymakers are about

15 percentage points less interested in learning about other cities' foreclosure policies than are their liberal counterparts.<sup>23</sup>

**Figure 4: Conservative Disinterest in Learning about Foreclosure Policy**



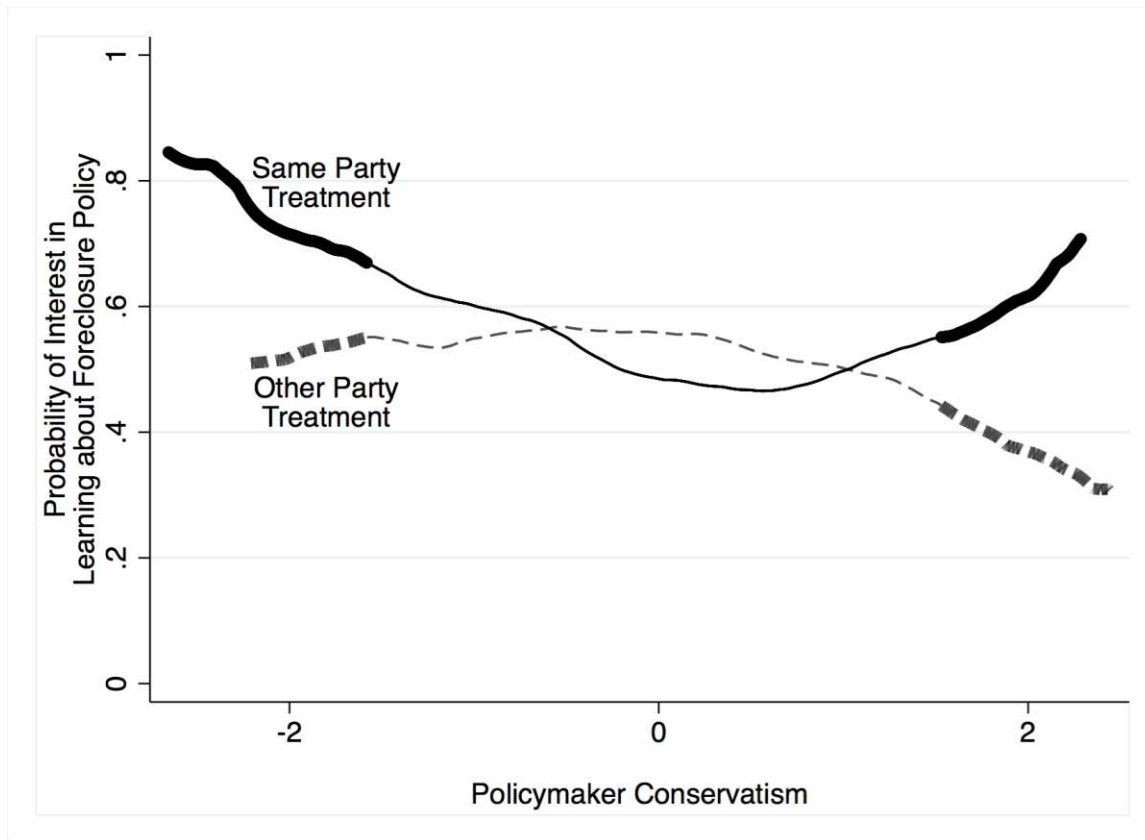
Notes: Local mean smoothing is used to calculate the average of the probability (and the associated 95 percent confidence intervals) for *Interest in Learning* in Experiment #2. Carpet and ceiling plots show the exact values for each observation.

The key treatment in the second experiment is whether the officials in the implementing community were from the same party as the respondent. Therefore, based on whether the

<sup>23</sup> While we argue that this policy is generally liberal-leaning (in its government involvement in the market), the specific policy of neighbors (rather than the government) buying the property has a market-based component. This consideration may help explain the smaller ideological effect in Experiment #2 compared to that in Experiment #1. In contrast to the liberal-leaning policies explored in these two experiments, future work replicating and extending our analyses on conservative-leaning policies would be welcome.

officials in the vignette were described as Republican or Democratic, we created the indicator variable *Same Party* to take a value of 1 if respondents were from the same party as the officials in the vignette and 0 if they were from the opposing party. Non-partisan and Independent respondents are thus excluded from this analysis (and from the results shown in Figure 4).

**Figure 5: Ideology and Learning from One's Own Party**



*Notes:* Local mean smoothing is used to calculate the average of the probability for *Interest in Learning* in Experiment #2. The solid line represents the same party treatment and the dashed line represents the other party treatment. The thick, bold sections of the lines show where the difference between the treatments is significant at the 95 percent confidence level ( $p < 0.05$ ).

If the Partisanship Overcoming Ideology Hypothesis is correct, we should see that ideological conservatives (who in this case are almost entirely Republicans) should be much more interested in learning from members of their own party than in learning from the other party. Illustrating a smoothed version of the raw experimental data, Figure 5 shows just such a

pattern. As with Figure 3, the two lines show locally weighted average interest in learning across treatments, here with the dashed line showing the level of interest when the implementing officials are from the opposition party and the solid line when the implementing officials are co-partisans.

The results are striking. While conservatives (typically Republicans) have little interest in learning about the opposition's policies in this area, their interest is piqued when given the opportunity to hear about Republicans' activities. This interest in learning from co-partisans mitigates and actually reverses the ideological bias. For policymakers who are very conservative, their interest in learning from co-partisans is even higher than the interest among moderates. For the most conservative respondents, the interest-in-learning gap between the other-party treatment and the same-party treatment rises to about 30-40 percentage points. Perhaps they are intrigued by other Republican governments embracing the policy of neighbors, rather than the government, purchasing and maintaining foreclosed properties.

While less relevant to testing the Partisanship Overcoming Ideology Hypothesis, the other parts of the figure are also intriguing. For moderates, there is little difference between wishing to learn from co-partisans or from the opposing party, with perhaps even a small enhanced desire to reach across party lines. These moderates appear like "ambivalent partisans," as the source of the policy evidence does not affect their interest in learning (e.g., Lavine, Johnston, and Steenbergen 2012). In contrast, only half of liberal Democrats (on the left side of the figure) are interested in learning from Republicans, whereas more than 70% want to hear about Democratic policy experiments. Thus the effect of partisanship, while helping overcome the ideological bias among conservatives, raises concerns for a new partisan-based bias among liberals. Rather than being a force that solely broadens the pattern of learning and policy



diffusion, partisanship can also undermine such learning precisely where it is most likely to occur absent any partisan cues. Finally, as shown in Appendix D, the same patterns in Figure 5 emerge upon examining Democrats and Republicans separately, with the difference on the liberal end occurring among Democrats and that on the conservative end emerging mainly among Republicans.

In Table 2, we test the robustness of the results relating to ideological bias and partisan learning by using logit regressions to estimate models that include the same set of controls used in the regressions from the first experiment. Model 4, like Model 1 in Table 1, provides strong support for the Ideological Learning Hypothesis. Conservatives are considerably less likely to express an interest in learning about other municipalities' policies in this area than are liberals. Model 5 shows something of a muddled result, with neither the main effect for *Conservatism* nor its interaction with the *Same Party* treatment attaining statistical significance. This is a consequence of trying to project a linear model onto a clearly nonlinear pattern, as illustrated in Figure 5. To account for this, we create a new variable, *Extremism*, which equals the policymaker's *Conservatism* if the respondent is Republican; but for Democratic policymakers, *Extremism* is set at  $(-1) \times \text{Conservatism}$ .<sup>24</sup> Thus, the most conservative Republicans and most liberal Democrats have the highest values of *Extremism*.<sup>25</sup>

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<sup>24</sup> As detailed in the Supplemental Appendix, the results uncovered in the figures and tables here are robust to exploring further nonlinearities through generalized additive models.

<sup>25</sup> This approach differs somewhat from merely taking the absolute value of *Conservatism*, which would lump together very conservative and very liberal Democrats, for instance. Although such an alternative approach largely yields the same patterns uncovered here, we believe that the direction of a policymaker's extremism relative to others in his or her party is important.

**Table 2: Ideological Extremism and Partisan Learning**

	(4)	(5)	(6)	(7)
Respondent's Conservatism	-0.18*	-0.12		
	(0.08)	(0.12)		
Treatment: Same Party		0.11	-0.48	-0.54
		(0.17)	(0.25)	(0.28)
Conservatism × Same Party		-0.10		
		(0.16)		
Ideological Extremism			-0.18	-0.20
			(0.18)	(0.19)
Extremism × Same Party			0.81**	0.90**
			(0.25)	(0.27)
Considered Issue Before				1.03**
				(0.20)
Democrat				0.26
				(0.19)
Partisan Election				0.29
				(0.21)
Logged Population				0.12
				(0.06)
Percent Black				1.66*
				(0.84)
Percent Latino				-0.23
				(0.73)
Percent with Some College				-2.68**
				(0.95)
Unemployment Rate				-2.84
				(2.60)
Percent: Unpaid 1st Mortgage				-0.78
				(1.12)
Percent: Unpaid 2nd Mortgage				-2.76
				(4.17)
Constant	0.15	0.10	0.23	-0.19
	(0.08)	(0.12)	(0.18)	(0.87)
N	575	575	575	551
$\chi^2$	4.9*	5.7	15.8**	87.2**

Notes: Logit analysis of the dichotomous *Interest in Learning* dependent variable from Experiment #2. Standard errors in parentheses. \*\* $p < 0.01$ , \* $p < 0.05$ , two-tailed.

In Model 6, the patterns of Figure 5 clearly emerge once again. Most notably, the large, positive, and statistically significant coefficient on the interaction between *Extremism* and *Same*

*Party* reveals the enhanced desire to learn from co-partisans among conservatives and liberals. Put simply, more ideologically extreme policymakers exhibit a stronger co-partisan learning bias.

Model 7 shows that this same relationship holds even when we include the individual-level and municipal-level control variables found in Table 1; ideological extremists from both sides of the spectrum strongly prefer to learn from co-partisans. For example, the probability that an ideologically extreme Republican (*Extremism* = 1.5) will indicate *Interest in Learning* more about the policy rises from 34% to 53% as we move from the other party treatment to the same party treatment.<sup>26</sup> The results for extreme Democrats are nearly identical.<sup>27</sup> In contrast, for the more moderate policymakers of both parties (*Extremism* = 0), *Interest in Learning* is actually lower for co-partisans, consistent with the findings from Figure 5. Taken together, these results offer strong evidence for the Partisanship Overcoming Ideology Hypothesis.

The results from Model 7 also show that prior interest in this issue (*Considered Issue Before* variable) strongly predicts interest in learning more about the policy. This is the same pattern we saw in the first experiment. It is worth reiterating that the experiments involved two different sets of randomly chosen policymakers. Yet in both cases, the policymakers who cared most about this issue were the ones who wanted to learn more. This provides strong evidence that policymakers' desire to learn about the policy (i.e., our dependent variable) captures real engagement with the issue and is not simply cheap talk.

## **Discussion and Future Directions**

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<sup>26</sup> Calculations reported here hold all other variables at the means.

<sup>27</sup> The probability that an ideologically extreme Democrat (*Extremism* = 1.5) will indicate *Interest in Learning* more about the policy rises from 38% to 59% when moving from the other party treatment to the same party treatment.

In order to gain the benefits of learning-based policy diffusion, ideological-based biases against learning from others must be overcome. These biases are endemic and have a substantial effect on learning and policy diffusion. In the two municipal policy experiments presented here, conservatives were much less willing to learn about others' activist policies. On the basis of our evidence, we would expect that liberals would be similarly averse to learning about conservative, market-based policy interventions, such as privatization of traditionally city-provided services.<sup>28</sup> If policymakers, both liberal and conservative, are unwilling to learn from others, they stand little chance of adopting somewhat ideologically incongruent but promising policies at home.

However, our experimental manipulations show that these biases against learning can be overcome to a large degree. Emphasizing either the success of these policies or co-partisan experimentation in other communities significantly enhances the willingness of ideologues to learn about others' experiences. Such findings offer clear implications to policy entrepreneurs looking to facilitate the spread of successful policies (e.g., Balla 2001, Haas 1992, Mintrom 1997). That said, there is a subtlety in our findings, in that emphasizing the acceptance of a policy by an opposing party can undermine the learning process among those who would otherwise be interested in learning.

These findings complement and extend earlier scholarship. For example, consistent with previously untested theoretical predictions (Volden, Ting, and Carpenter 2008), we establish that policymakers seek out additional information if the portrayal of the policy as a "success" overcomes their natural disinclination to consider a given intervention. Moreover, learning is conditional not only on ideology but also on partisanship. Both liberal and conservative policymakers are more likely to express an interest in learning from their co-partisans than from

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<sup>28</sup> Studies exploring the robustness of our results to conservative-leaning policies would be welcome.

those in the opposing party. In contrast, moderates are equally willing to learn from the policy experiments conducted by officials in either political party. Extending observational studies that find enhanced policy adoptions by ideologically similar governments (e.g., Grossback, Nicholson-Crotty, and Peterson 2004), we establish that ideological biases arise at the individual level, early in the diffusion process. Without an intervention, such as an emphasis on consistency with partisan goals or highlighting the policy's success, ideological biases in learning may seriously alter the policy choices entertained by ideologically motivated policymakers.

In reaching these conclusions it is important to note that our study focused on how local officials responded to liberal proposals dealing with zoning and foreclosure policies. More work can be done to test whether the results apply more broadly. Our study provides a template for how to incorporate experimental research design into studies of policy diffusion to better judge the generalizability of our findings and to generate knowledge in entirely new areas. For example, scholars have been interested in discerning among the many possible *mechanisms* that lead to policy diffusion. We focus here on learning; but mechanisms such as competition, imitation, socialization, or coercion could be examined with clever experimental designs. For instance, policymakers could be primed to think about competition with their neighbors through a description of policies designed to lure away businesses. Under what conditions are competitive pressures heightened?

Second, scholars have been interested in the *conditional* nature of policy diffusion. We highlight two such conditions, but there are many others that can be studied carefully through experimental designs. For example, future experiments could manipulate information about the communities that implement the policy in the vignette to assess the role of similarities across

governments in learning. Likewise, whether policy entrepreneurs, information clearinghouses, and interest groups are characterized (and perceived) as nonpartisan, as bipartisan, or as made up of co-partisans may influence policymakers' initial consideration of their ideas.

Third, the *types* of policies themselves affect the diffusion process and thus merit careful analysis. Future experiments could focus on policies that vary on many additional dimensions, including policy complexity, economic vs. morality policy, perception as a local vs. national issue, or favorability to conservatives rather than liberals, to name but a few. Future experiments could also extend beyond local officials to those at the state or national level, both within the U.S. and beyond, and to other relevant political actors such as bureaucrats or legislative staff members.

While we see fertile ground for experimental research on policy diffusion, ultimately the most useful conclusions will come from uniting theoretical, observational, and experimental approaches. For instance, observational studies have well characterized aggregate decisions at the policy adoption stage in the diffusion process. In contrast, we capture individual interest in learning more about other governments' policy experiences early in the diffusion process. Combining these approaches can foster a better understanding of why the spread of policies appears to be based on the partisanship and ideology of policymakers. Scholars can expand upon this work with observational studies of bill introductions, experimental studies of policy entrepreneurs and interest groups, and theoretical understandings of still other stages of the public policy process. Doing so will allow us to better trace out the causal steps that lead to the interrelated web of policies across governments, and to better understand the politics behind such policy choices.

## References

- Ansolabehere, Stephen, James M. Snyder, Jr., and Charles Stewart, III. 2001. "Candidate Positioning in U.S. House Elections." *American Journal of Political Science* 45(1): 136-159.
- Arceneaux, Kevin, and Martin Johnson. 2013. *Changing Minds or Changing Channels? Partisan News in an Age of Choice*. Chicago: University of Chicago Press.
- Atkeson, Lonna Rae, and Cherie D. Maestas. 2012. *Catastrophic Politics: How Extraordinary Events Redefine Perceptions of Government*. New York: Cambridge University Press.
- Balla, Steven J. 2001. "Interstate Professional Associations and the Diffusion of Policy Innovations." *American Politics Research* 29(3): 221-245.
- Berry, William D., and Brady Baybeck. 2005. "Using Geographic Information Systems to Study Interstate Competition." *American Political Science Review* 99(4): 505-519.
- Boehmke, Frederick J., and Richard Witmer. 2004. "Disentangling Diffusion: The Effects of Social Learning and Economic Competition on State Policy Innovation and Expansion." *Political Research Quarterly* 57(1): 39-51.
- Box-Steffensmeier, Janet M., Laura W. Arnold, and Christopher J.W. Zorn. 1997. "The Strategic Timing of Position Taking in Congress: A Study of the North American Free Trade Agreement." *American Political Science Review* 91 (2): 324-338.
- Brooks, Sarah M. 2005. "Interdependent and Domestic Foundations of Policy Change: The Diffusion of Pension Privatization around the World." *International Studies Quarterly* 49(2): 273-294.
- Butler, Daniel M., and David W. Nickerson. 2011. "Can Learning Constituency Opinion Affect How Legislators Vote? Results from a Field Experiment." *Quarterly Journal of Political Science* 6(1): 55-83.
- Carney, Dana R., John T. Jost, Samuel D. Gosling, and Jeff Potter. 2008. "The Secret Lives of Liberals and Conservatives: Personality Profiles, Interactions Styles, and the Things They Leave Behind." *Political Psychology* 29(6): 807-840.
- Case, Anne C., James R. Hines, Jr., and Harvey S. Rosen. 1993. "Budget Spillovers and Fiscal Policy Interdependence: Evidence from the States." *Journal of Public Economics* 52(3): 285-307.
- Clinton, Joshua, Simon Jackman, and Douglas Rivers. 2004. "The Statistical Analysis of Roll Call Data." *American Political Science Review* 98(2): 355-70.
- Druckman, James N. 2004. "Political Preference Formation: Competition, Deliberation, and the (Ir)relevance of Framing Effects." *American Political Science Review* 98(4): 671-686.

- Fisher, Samuel H., III, and Rebekah Herrick. 2013. "Old versus New: The Comparative Efficiency of Mail and Internet Surveys of State Legislators." *State Politics & Policy Quarterly* 13(2): 147-162.
- Franzese, Robert J., Jr., and Jude C. Hays. 2008. "Interdependence in Comparative Politics: Substance, Theory, Empirics, Substance." *Comparative Political Studies* 41(4-5): 742-780.
- Gilardi, Fabrizio. 2010. "Who Learns from What in Policy Diffusion Processes?" *American Journal of Political Science* 54(3): 650-666.
- Graham, Erin, Charles R. Shipan, and Craig Volden. 2013. "The Diffusion of Policy Diffusion Research in Political Science." *British Journal of Political Science* 43(3): 673-701.
- Grimmer, Justin, Solomon Messing, and Sean Westwood. "How Words and Money Cultivate a Personal Vote: The Effect of Legislator Credit Claiming on Constituent Credit Allocation." *American Political Science Review* 106 (4): 703-719.
- Grossback, Lawrence J., Sean Nicholson-Crotty, and David A.M. Peterson. 2004. "Ideology and Learning in Policy Diffusion." *American Politics Research* 32(5): 521-545.
- Haas, Peter M. 1992. "Epistemic Communities and International Policy Coordination." *International Organization* 46(1): 1-35.
- Harden, Jeffrey J. 2013. "Multidimensional Responsiveness: The Determinants of Legislators' Representational Priorities." *Legislative Studies Quarterly* 38(2): 155-184.
- Iyengar, Shanto, and Kyu S. Hahn. 2009. "Red Media, Blue Media: Evidence of Ideological Selectivity in Media Use." *Journal of Communication* 59(1): 19-39.
- Karch, Andrew. 2007. *Democratic Laboratories: Policy Diffusion among the American States*. Ann Arbor: University of Michigan Press.
- Lavine, Howard, Christopher Johnston, and Marco Steenbergen. 2012. *The Ambivalent Partisan: How Critical Loyalty Promotes Democracy*. Oxford: Oxford University Press.
- Lowin, Aaron. 1967. "Approach and Avoidance: Alternate Modes of Selective Exposure to Information." *Journal of Personality and Social Psychology* 6(1): 1-9.
- Makse, Todd, and Craig Volden. 2011. "The Role of Policy Attributes in the Diffusion of Innovations." *Journal of Politics* 73(1): 108-124.
- Martin, Christian W. 2009. "Interdependence and Ideological Position: The Conditional Diffusion of Cigarette Taxation in the United States 1971-2006." *Politische Vierteljahresschrift* 50(2): 253-277.



- Meseguer, Covadonga. 2006. "Rational Learning and Bounded Learning in the Diffusion of Policy Innovations." *Rationality and Society* 18(1): 35-66.
- Meseguer, Covadonga, and Fabrizio Gilardi. 2009. "What Is New in the Study of Policy Diffusion?" *Review of International Political Economy* 16(3): 527-543.
- Meyer, Wulf-Uwe, Rainer Reisenzein, and Achim Schützwohl. 1997. "Toward a Process Analysis of Emotions: The Case of Surprise." *Motivation and Emotion* 21(3): 251-274.
- Mintrom, Michael. 1997. "Policy Entrepreneurs and the Diffusion of Innovation." *American Journal of Political Science* 41(3): 738-70.
- Mooney, Christopher Z. 2001. "Modeling Regional Effects on State Policy Diffusion." *Political Research Quarterly* 54(1): 103-124.
- Mooney, Christopher Z., and Mei-Hsien Lee. 1995. "Legislative Morality in the American States: The Case of Pre-Roe Abortion Regulation Reform." *American Journal of Political Science* 39(3): 599-627.
- Rogers, Everett M. 2003. *Diffusion of Innovations, Fifth Edition*. New York: Free Press.
- Schützwohl, Achim, and Kirsten Borgstedt. 2005. "The Processing of Affectively Valenced Stimuli: The Role of Surprise." *Cognition and Emotion* 19:583-600.
- Shipan, Charles R., and Craig Volden. 2008. "The Mechanisms of Policy Diffusion." *American Journal of Political Science* 52(4): 840-857.
- Shor, Boris, and Nolan McCarty. 2011. "The Ideological Mapping of American Legislatures." *American Political Science Review* 105(3): 530-551.
- Simmons, Beth A., Frank Dobbin, and Geoffrey Garrett. 2006. "Introduction: The International Diffusion of Liberalism." *International Organization* 60(4): 781-810.
- Simmons, Beth A., and Zachary Elkins. 2004. "The Globalization of Liberalization: Policy Diffusion in the International Political Economy." *American Political Science Review* 98(1): 171-189.
- Stone, Diane. 1999. "Learning Lessons and Transferring Policy across Time, Space and Disciplines." *Politics* 19(1): 51-59.
- Taber, Charles S., and Milton Lodge. 2006. "Motivated Skepticism in the Evaluation of Political Beliefs." *American Journal of Political Science* 50(3): 755-769.
- Toshkov, Dimitar. 2013. "Policy-Making Beyond Political Ideology: The Adoption of Smoking Bans in Europe." *Public Administration* 91(2): 448-468.

- Volden, Craig. 2006. "States as Policy Laboratories: Emulating Success in the Children's Health Insurance Program." *American Journal of Political Science* 50(2): 294-312.
- Volden, Craig, Michael M. Ting, and Daniel P. Carpenter. 2008. "A Formal Model of Learning and Policy Diffusion." *American Political Science Review* 102(3): 319-332.
- Walker, Jack L. 1969. "The Diffusion of Innovations among the American States." *American Political Science Review* 63: 880-899.
- Weyland, Kurt. 2007. *Bounded Rationality and Policy Diffusion: Social Sector Reform in Latin America*. Princeton, NJ: Princeton University Press.

## Appendix A: Details of the Survey

The survey experiments reported here were administered online in July and August of 2012 to a subsample of participants in the 2012 American Municipal Officials Survey (AMOS). The sample of city officials for the survey was constructed by first obtaining a list of 26,566 municipalities from the U.S. Census Bureau.<sup>29</sup> We defined municipalities as general-purpose local governments using the following categorizations from the Census Bureau: Incorporated Places (in most states, they are called cities, towns, boroughs, and villages); Consolidated Cities (these are a “unit of government for which the functions of an Incorporated Place and its county or Minor Civil Divisions have merged”<sup>30</sup>); and Minor Civil Divisions (MCDs) in CT, ME, MA, MI, MN, NH, NJ, NY, PA, RI, VT, and WI (in these states, they are usually called townships or towns). We included Minor Civil Divisions from these states based on the Census Bureau’s assessment that “Most of the MCDs in [these] twelve states ... serve as general-purpose local governments that can perform the same governmental functions as incorporated places.”<sup>31</sup>

Student research assistants then searched for the website of each municipality on this list in random order. If the research assistants were able to identify the city website, they then collected the name and email address of the elected executive (i.e., mayor) and elected members of the governing legislative body (e.g., city councilors). The survey itself was created using the web-based program Qualtrics and was administered to municipal officials by emailing them a link to the survey. Each official received three email invitations, sent 2 to 3 weeks apart.

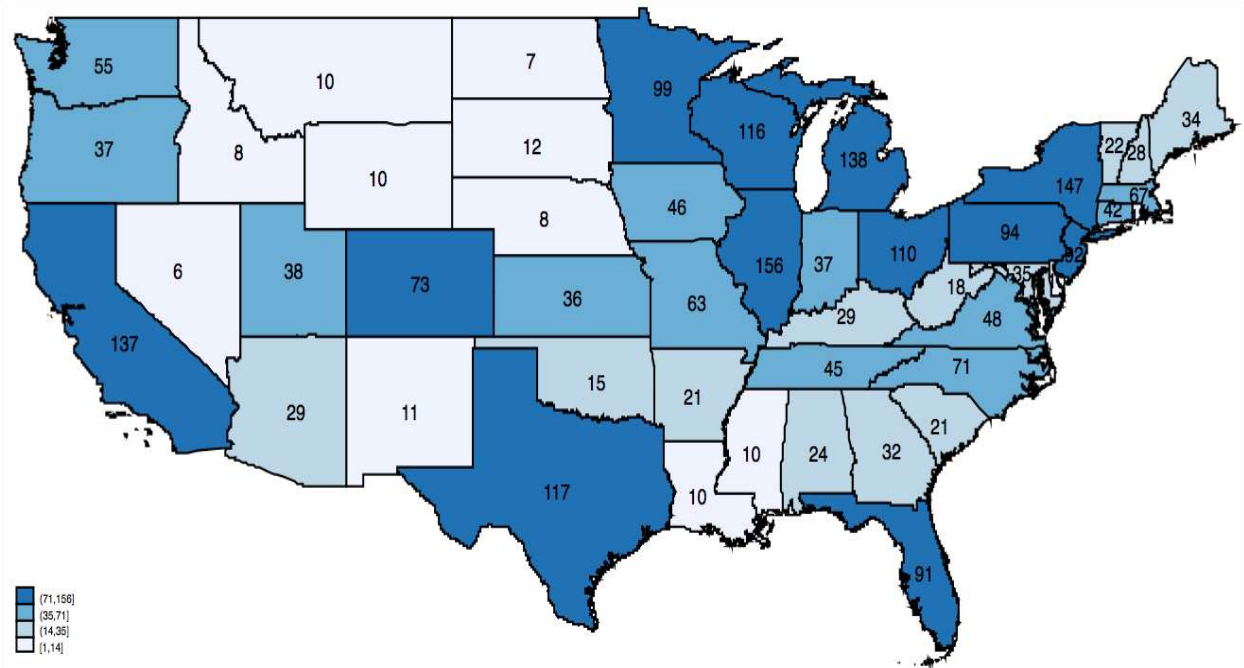
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<sup>29</sup> Specifically, the 2012 AMOS relied on the Census Bureau’s “Subcounty Resident Population Estimates: April 1, 2000 to July 1, 2009,” which was released on September 2010.

<sup>30</sup> U.S. Census Bureau. 2012. “Geographic Terms and Concepts – County Subdivision” [http://www.census.gov/geo/reference/gtc/gtc\\_cousub.html](http://www.census.gov/geo/reference/gtc/gtc_cousub.html) (January 9, 2014).

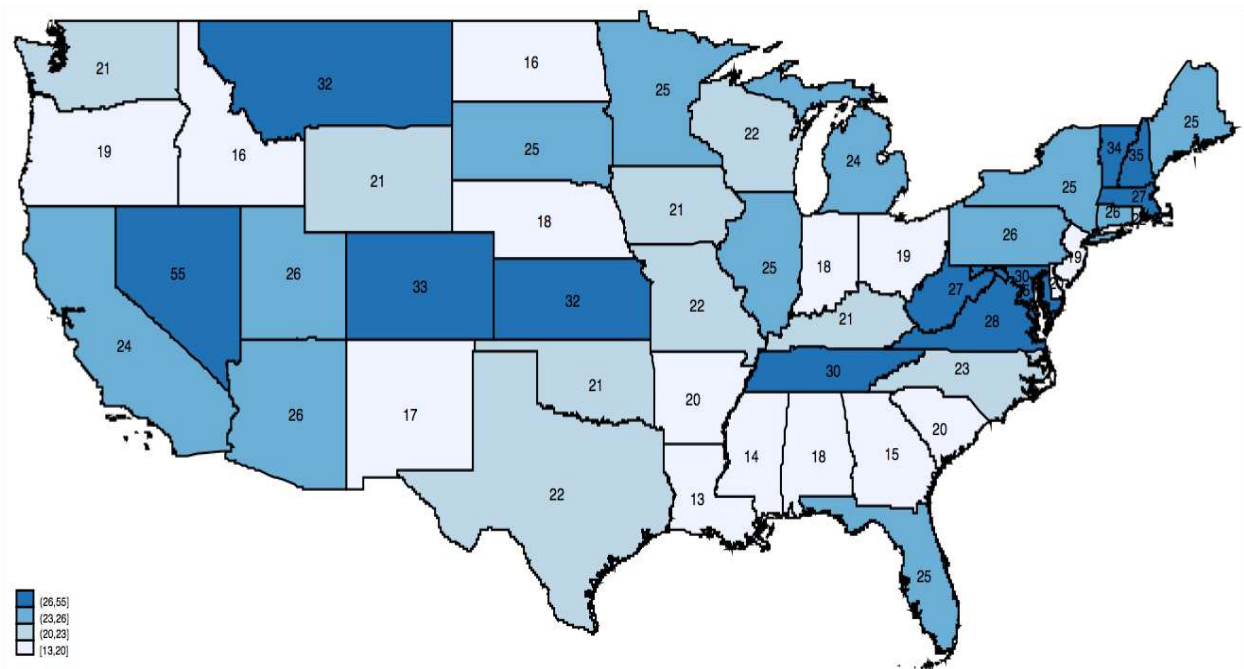
<sup>31</sup> Ibid.

**Number of Municipal Officials (from each State)  
Participating in either Experiment 1 or 2**



*Notes:* Darker colors indicate greater participation in the survey.

**Response Rates (by State) of Municipal Officials  
Invited to Participate in either Experiment 1 or 2**



*Notes:* Darker colors indicate greater participation in the survey.

The response rate for the two survey experiments (which were administered to separate subsamples of officials) was around 23%, on par with recent expert surveys of this nature (e.g., Fisher and Herrick 2013, Harden 2013). As illustrated in the figures below, participants in the survey experiments provide broad geographic coverage across the United States.

The municipalities fall under one of three categories: (1) those where none of the email addresses of the city's elected officials was found; (2) those where emails were found but none of the officials took the survey; and (3) those where at least one of the officials from that city answered a question in the survey. The mean population of cities in this first category (3,127) is much smaller than those in the second (17,635) or third (36,304), which indicates that larger cities were more likely to have websites with emails and their elected officials were more likely to respond. This relationship between population size and having emails online and/or responding to the survey is illustrated in the density plot below. That officials from larger cities were more likely to take the survey also means that respondents are from cities that are more representative of the types of cities in which most Americans live. If all of the cities in our original list of 26,566 cities were ordered from smallest to largest, the median citizen is found in a city with a population of 57,000.

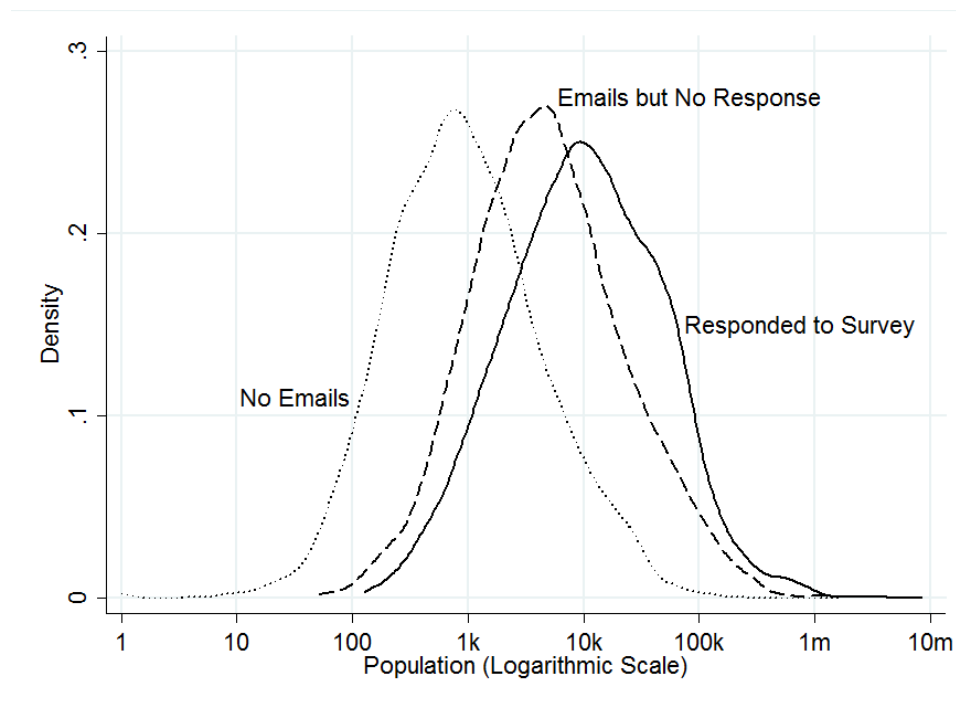
Another potentially important characteristic is the form of government employed by the cities in our sample, as this likely influences the types of individuals selected as policymakers as well as their behavior in office. The Census Bureau<sup>32</sup> tracks four forms of government: 1)

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<sup>32</sup> The data on the form of government used by each city comes from the U.S. Census Bureau's "Census of Governments," which is a survey of municipalities conducted every five years. The most recent publicly available Census of Governments that asked municipalities to identify their form of government was conducted in 1992. Given the stability in the form of government employed by cities, this is not likely to be problematic for our analysis. Not all municipalities

Mayor-Council, in which the executive (mayor) is elected separately from the elected governing legislature (city council); 2) Manager-Council, in which the executive (city manager) is appointed by the elected city council; 3) Selectmen/Supervisors, common in the Northeast, in which the elected city council is responsible for day-to-day administration; and 4) Commission, in which each member of the elected city council is responsible for one or more departments in the city administration.

### Density Plot of Cities' Population by Email Availability and Response



Cities with at least one respondent were somewhat less likely to be of the Mayor-Council form (52%) compared to cities without respondents (58%) or emails (61%). They were also much less likely to use the Selectmen/Supervisors model (14% compared to 18% and 27%, respectively). On the other hand, cities with respondents were more likely to use the Manager-

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respond to the survey request; thus, we were only able to match 90% of the cities and respondents in our sample to the Census of Governments survey.

Council form (33% compared to 23% and 10%). Such differences largely reflect the differences in city sizes across municipalities with respondents, no respondents, and no published emails. There were few differences across these three categories in terms of racial composition, educational attainment, employment, or unpaid mortgages. Moreover, as noted in the body of the article, inclusion or exclusion of controls for population and for government type do not affect the findings for tests of the main hypotheses.

## Appendix B: Issue Position Questions

The table below lists the set of 53 questions used to estimate the ideological issue preferences of the policymakers. Policymakers were asked a randomly chosen subset of 28 of these questions. For each question we asked the policymaker to answer yes or no. The table also indicates the percent of “Yes” responses to each issue stance question as well as the discrimination parameter and intercept for each question, used to construct the ideological ideal points used throughout the paper.

### Issue Position Questions

Question wording	% Answering Yes	Discrimi- nation parameter	Intercept
Do you support eliminating public funding for abortions and public funding of organizations that advocate or perform abortions?	45%	1.27	0.27
Do you support federal funding to create lines of stem cells from new embryos?	65%	-0.84	-0.49
Do you support prohibiting the late-term abortion procedure known as partial-birth abortion?	59%	0.59	-0.25
Should abortions always be legally available?	63%	-0.78	-0.45
Do you support including sexual orientation in your state's anti-discrimination laws?	71%	-0.82	-0.75
Do you support requiring that crimes based on sexual orientation be prosecuted as federal hate crimes?	54%	-0.57	-0.11
Should your state recognize civil unions between same-sex couples?	64%	-1.03	-0.58
Do you support affirmative action in state college and university admissions?	43%	-0.82	0.22
Should the federal government consider race and gender in government contracting decisions?	22%	-0.84	1.16
Do you support opening a select portion of the Arctic National Wildlife Refuge for oil exploration?	60%	1.36	-0.39
Do you support requiring the federal government to reimburse citizens when environmental regulations limit use of privately owned lands?	55%	0.39	-0.14
Do you support the U.S. re-entering the Kyoto treaty process to limit global warming?	52%	-1.77	-0.22
Should state environmental regulations be stricter than federal law?	44%	-0.59	0.19
Do you favor allowing citizens to carry concealed firearms?	61%	0.91	-0.37
Do you support banning the sale or transfer of all forms of semi-automatic weapons?	49%	-0.75	0.02



Do you support increasing restrictions on the purchase and possession of firearms?	50%	-1.12	-0.02
Do you support amnesty for certain illegal immigrants who already reside in the U.S.?	62%	-0.86	-0.43
Do you support establishing English as the official and recognized language of the U.S.?	72%	1.02	-0.84
Do you support prohibiting states from passing laws that deny human services (medical care education) to illegal immigrants or their children?	43%	-0.11	0.18
Do you support the enforcement of federal immigration laws by state and local police?	70%	0.94	-0.723
Do you support using military tribunals to try suspected terrorists when ordinary civilian courts are deemed inappropriate or impractical?	80%	0.57	-1.01
Should law enforcement agencies have greater discretion to monitor domestic communications, to prevent future terrorist attacks?	46%	0.31	0.11
Should the U.S. contribute more funding and troops to United Nations peacekeeping missions?	31%	-0.62	0.60
Should the U.S. support the creation of a Palestinian state?	52%	-0.66	-0.09
Do you support decriminalizing the possession of small amounts of marijuana?	62%	-0.54	-0.37
Do you support imposing truth in sentencing for violent criminals so they serve full sentences with no chance of parole?	74%	0.51	-0.73
Do you support limiting the number of appeals allowed to inmates on death row?	68%	0.59	-0.55
Do you support the death penalty in your state?	61%	0.88	-0.37
Do you support increasing the minimum wage?	56%	-0.91	-0.23
Do you support providing direct financial assistance to homeowners facing foreclosure?	36%	-0.58	0.39
Do you support reducing government regulations on the private sector in order to encourage investment and economic expansion?	69%	1.23	-0.75
Do you support the right of workers to unionize?	80%	-0.59	-1.02
Do you support a merit pay system for teachers?	83%	0.31	-0.98
Do you support abstinence-only sexual education programs?	24%	0.72	0.89
Do you support increasing state funds for hiring additional teachers?	65%	-0.66	-0.46
Do you support providing parents with vouchers to send their children to any participating school: public, private, or religious?	50%	0.75	0.02
Is the tenure process for public school teachers producing effective teachers?	15%	-0.42	1.13
Do you support allowing doctors to prescribe marijuana to their patients for medicinal purposes?	71%	-0.52	-0.65
Do you support implementing a universal health care program to guarantee coverage to all Americans regardless of income?	54%	-2.26	-0.40

Do you support monetary limits on damages that can be collected in malpractice lawsuits?	77%	0.47	-0.82
Do you support requiring individuals to purchase health care insurance?	43%	-1.30	0.26
Do you support implementing a government-financed single-payer national health care system similar to that of Canada?	41%	-1.50	0.38
Do you support making President Bush's tax cuts permanent?	52%	1.46	-0.03
Do you support replacing the U.S. income tax structure with a flat income tax?	61%	0.64	-0.36
Do you support the permanent repeal of the federal estate tax?	58%	0.87	-0.28
Do you support increasing federal taxes on gasoline and diesel fuels to promote conservation and alternative fuel development?	40%	-0.99	0.37
Do you support increasing employment and job training programs for welfare recipients?	90%	-0.47	-1.42
Do you support limiting the benefits given to single women if they have additional children while receiving welfare benefits?	69%	0.56	-0.58
Do you support programs that provide job training and placement services for at-risk youth?	95%	-0.55	-1.92
Do you support providing child care for welfare recipients who work?	81%	-0.52	-1.00
Do you support redirecting welfare funding to faith-based and community-based private organizations?	39%	0.64	0.33
Do you support cutting taxes, even if it means deep cuts in government programs?	51%	1.32	0.00
Do you support efforts to consolidate 911 services with neighboring areas as a way to save municipal funds?	86%	-0.03	-1.08

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## Appendix C: Summary Statistics and Variable Descriptions

### Summary Statistics for Variables in Table 1

Variable	Mean	Std. Dev.	Min.	Max.
Interest in Learning	0.65	0.48	0	1
Treatment: Policy Successful	0.50	0.50	0	1
Conservatism × Treatment: Success	0.02	0.70	-2.47	2.19
Conservatism	0.04	1.00	-2.67	2.47
Considered Issue Before	0.75	0.44	0	1
Democrat	0.29	0.46	0	1
Republican	0.41	0.49	0	1
Partisan Election	0.27	0.44	0	1
Logged Population	9.5	1.6	5.6	15.9
Percent Black	0.08	0.12	0	0.83
Percent Latino	0.10	0.14	0	0.80
Percent with Some College	0.22	0.12	0	0.63
Unemployment Rate	0.08	0.05	0	0.52
Percent: Unpaid 1st Mortgage	0.69	0.11	0.24	1
Percent: Unpaid 2nd Mortgage	0.04	0.04	0	0.66

### Summary Statistics for Variables in Table 2

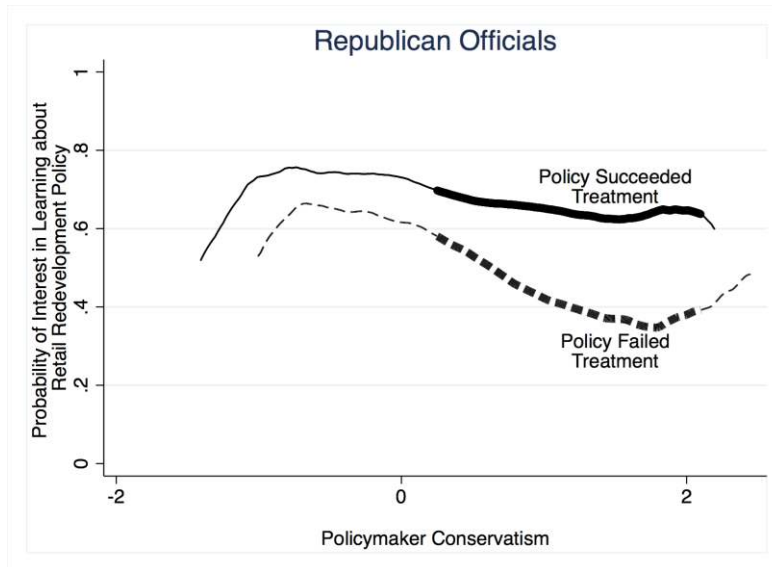
Variable	Mean	Std. Dev.	Min.	Max.
Interest in Learning	0.54	0.50	0	1
Conservatism	-0.03	1.05	-2.7	2.44
Conservatism × Same Party	-0.03	0.75	-2.7	2.29
Treatment: Same Party	0.51	0.50	0	1
Extremism × Same Party	0.39	0.64	-0.97	2.66
Ideological Extremism	0.77	0.70	-2.43	2.66
Considered Issue Before	0.47	0.50	0	1
Democrat	0.46	0.50	0	1
Partisan Election	0.33	0.47	0	1
Logged Population	9.6	1.6	4.8	15.9
Percent Black	0.09	0.13	0	0.83
Percent Latino	0.10	0.14	0	0.92
Percent with Some College	0.22	0.12	0	0.63
Unemployment Rate	0.08	0.05	0	0.50
Percent: Unpaid 1st Mortgage	0.68	0.10	0.28	1
Percent: Unpaid 2nd Mortgage	0.04	0.03	0	0.14

## Description of Variables in Analysis

Variable	Description	Source
<b>Dependent Variable</b>		
Interest in Learning	Indicator variable. Equals 1 if respondent answered “Yes” to the question of whether they would like to learn more about the program described in the vignette. Equals 0 if respondent answered “No” to the question.	Survey experiment in 2012 AMOS
<b>Independent Variables</b>		
Treatment: Policy Successful	Indicator variable. Equals 1 if respondent assigned to read the story about a successful policy. Equals 0 if respondent assigned to read the story about an unsuccessful policy.	Survey experiment in 2012 AMOS
Conservatism	Ideal point estimate of respondents’ preferences over a range of political issues using issue position questions from the “political courage test” that Project Vote Smart administers to state and federal candidates. Lower values indicate that the policymaker has more liberal preferences, and higher values indicate more conservative preferences.	2012 AMOS
Treatment: Same Party	Indicator variable. Equals 1 if respondent self-identifies with the same party as that of the officials in the vignette; 0 otherwise. Only respondents who identified as either a Republican or Democrat are included in this measure.	Survey experiment and 2012 AMOS
Ideological Extremism	Equals the policymaker’s <i>Conservatism</i> if the respondent is Republican. For Democratic policymakers, <i>Extremism</i> is (-1) multiplied by their <i>Conservatism</i> .	2012 AMOS
Considered Issue Before	Indicator variable. Equals 1 if respondent in earlier question indicated that she had ever considered the policy presented in the vignette. Equals 0 if respondent indicated that she had not.	2012 AMOS
Democrat	Indicator variable. Equals 1 if respondent self-identifies as a Democrat; 0 otherwise.	2012 AMOS
Republican	Indicator variable. Equals 1 if respondent self-identifies as a Republican; 0 otherwise.	2012 AMOS
Partisan Election	Indicator variable. Equals 1 if respondent was elected in a partisan election, meaning that the respondent’s party was indicated on the ballot.	2012 AMOS
Logged Population	Natural log of 2009 population of the respondent’s city.	U.S. Census Bureau
Percent Black	Proportion of the population in the respondent’s city that is black.	U.S. Census Bureau
Percent Latino	Proportion of the population in the respondent’s city that is Latino.	U.S. Census Bureau
Percent with Some College	Proportion of the population in the respondent’s city that has more than a high school education.	U.S. Census Bureau
Unemployment Rate	Proportion of the population in the respondent’s city that is unemployed	U.S. Census Bureau
Percent: Unpaid 1st Mortgage	Proportion of the population in the respondent’s city that has an unpaid mortgage.	U.S. Census Bureau
Percent: Unpaid 2nd Mortgage	Proportion of the population in the respondent’s city that has an unpaid second mortgage.	U.S. Census Bureau

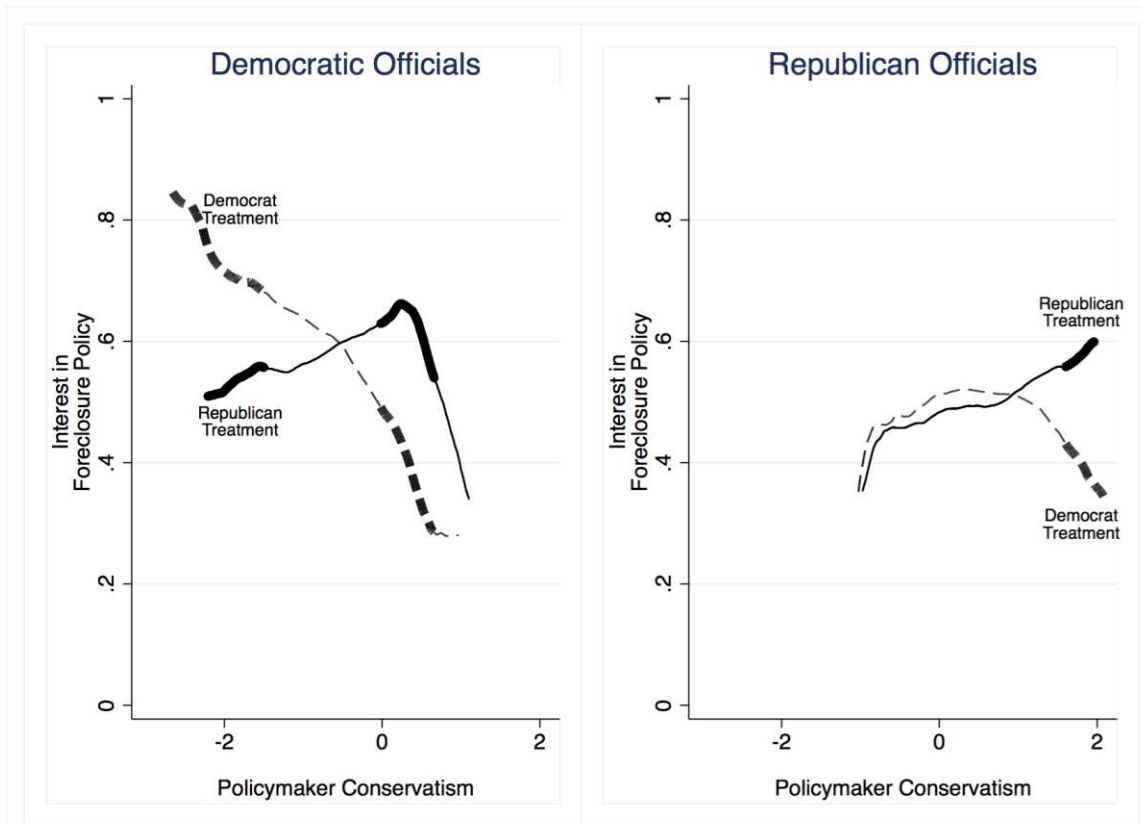
## Appendix D: Interest in Learning, By Party and Treatment

This appendix provides results that explore the effects shown in Figures 3 and 5 and in Table 2, broken down by officials' self-identified partisanship. The first figure shows that the statistically significant effect of Success is confined to conservatives within the Republican Party. There was no statistically significant effect of the treatment for Democrats (not shown here due to space considerations).



*Note:* Local mean smoothing is used to calculate the average of the probability for *Interest in Learning* in Experiment #1, here only for Republican officials. The solid line represents the “policy succeeded” treatment and the dashed line represents the “policy failed” treatment. The thick, bold sections of the lines show where the difference between the treatments is significant at the 95 percent confidence level ( $p < 0.05$ ).

The next pair of figures shows the effects of the Same Party and Other Party Treatments, separately for Democrats and Republicans, illustrating that the effect on liberals emerges within the Democratic Party and the effect on conservatives emerges within the Republican Party, as might be expected.



Notes: Local mean smoothing is used to calculate the average of the probability for *Interest in Learning* in Experiment #2, here within each party. The solid line represents the Republican Party treatment and the dashed line represents the Democratic Party treatment. The thick, bold sections of the lines show where the difference between the treatments is significant at the 95 percent confidence level ( $p < 0.05$ ).

**Ideological Extremism and Partisan Learning, by Respondents' Party**

	Republicans		Democrats	
	(A1)	(A2)	(A3)	(A4)
Respondent's Conservatism	-0.24 (0.28)	-0.26 (0.31)		
Conservatism × Same Party	0.66 (0.37)	0.69 (0.40)		
Respondent's Liberalism			-0.19 (0.23)	-0.11 (0.26)
Liberalism × Same Party			0.98** (0.35)	1.20** (0.41)
Treatment: Same Party	-0.34 (0.34)	-0.45 (0.38)	-0.68 (0.38)	-0.69 (0.45)
Considered Issue Before		1.13** (0.26)		0.90** (0.32)
Partisan Election		0.20 (0.29)		0.42 (0.33)
Logged Population		-0.09 (0.10)		0.28** (0.10)
Percent Black		2.38 (1.42)		1.42 (1.12)
Percent Latino		1.08 (1.16)		-0.97 (0.99)
Percent with Some College		-2.69* (1.32)		-2.99* (1.52)
Unemployment Rate		-6.34 (3.65)		1.23 (4.28)
Percent: Unpaid 1st Mortgage		1.83 (1.52)		-4.68* (1.87)
Percent: Unpaid 2nd Mortgage		-5.24 (5.32)		1.64 (7.43)
Constant	0.11 (0.25)	0.26 (1.20)	0.45 (0.27)	0.74 (1.40)
N	314	300	261	251
$\chi^2$	4.0	38.4**	11.8*	61.4**

*Notes:* Logit analysis of the dichotomous *Interest in Learning* dependent variable from Experiment #2. Standard errors in parentheses. \*\*  $p < 0.01$ , \*  $p < 0.05$ , two-tailed. Models A1 and A2 present the results for Republicans, and Models A3 and A4 present the results for Democrats. The results of the analysis confirm the patterns shown in the figures above.

## **Supplemental Appendices (to be made available online)**

This Supplemental Appendix contains three main sections. First, we report exploratory analyses of survey respondents who answered the survey immediately after our initial two requests vs. those who responded only after all three requests, in order to gain some insights into possible non-response biases. Second, we report the results of generalized additive models, replicating our main findings upon accounting for further nonlinearities in the ideology variables and their interactions with the treatments across the two experiments. Third, we present replications of the figures from the paper, now also including confidence intervals.

### **Treatment Effects by Timing of Survey**

Although the response rates for our two experiments were comparable with those of similar surveys of this nature, one may be concerned about whether the effects uncovered in this research are generalizable to those who did not respond. In particular, those interested in taking the survey may have more time and be more open to learning new things, including learning about new policies. While it is impossible to fully characterize the results of those who did not take the survey, in this part of the Supplemental Appendix we take advantage of our research design to present partial analyses that may be informative.

Specifically, non-respondents are likely to be more similar to those who only took the survey upon a multiple invitations than to those who took the survey upon the initial invitation. Therefore, differences between these two samples may indicate differences that would be perhaps even more pronounced between respondents and non-respondents. Table S1 shows that a somewhat smaller (although not statistically significant) percentage of late respondents were interested in learning about the described policies than were early respondents.



**Table S1: Interest in Learning by Timing of Response**

Interest in Learning among...	<i>Experiment #1</i>	<i>Experiment 2</i>
Early Respondents	67.0%	51.5%
Late Respondents	66.0%	44.2%
Difference (Std. Error)	1.0 (3.8)	7.3 (4.0)

Table S2 reports the results of the full models from Tables 1 and 2, now including interactions for late respondents. As can be seen in the **bolded** interactions, the main findings from the earlier analyses continue to hold, indicating that the ideological biases against learning are significantly overcome with the Success and Same Party treatments.

The *italicized* interactions are intended to show whether these effects are smaller or larger for late respondents. Neither of those three-way interactions is statistically significant, thus somewhat limiting the concerns one might have about any nonresponse bias. Nevertheless, the direction and size of the coefficients may be suggestive. The negative coefficient in Model S2.1 indicates less of a Success Treatment effect for late respondents than early respondents, whereas the positive coefficient in Model S2.2 indicates a greater Same Party Treatment effect for late respondents.

Together, these results suggest that our results may be overstating the effect of the Success Treatment in overcoming ideological biases and understating the effect of Same Party Treatment. This pair of findings would be consistent with non-respondents being stronger partisans who would be less open to persuasion from success.

**Table S2: Effect by Timing of Survey Response**

	(S2.1)	(S2.2)
Responded after Final Reminder (Late)	0.41 (0.36)	-0.58 (0.52)
Respondent's Conservatism	-0.57* (0.19)	
Treatment: Successful Policy	0.57* (0.23)	
Conservatism × Late	0.27 (0.40)	
Late × Success	-1.14* (0.49)	
<b>Conservatism × Success</b>	<b>0.52*</b> <b>(0.24)</b>	
<i>Conservatism × Late × Success</i>	-0.52 (0.54)	
Ideological Extremism		-0.18 (0.22)
Treatment: Same Party		-0.39 (0.31)
Extremism × Late		-0.07 (0.49)
Late × Same Party		-0.75 (0.74)
<b>Extremism × Same Party</b>		<b>0.73*</b> <b>(0.30)</b>
<i>Extremism × Late × Same Party</i>		0.90 (0.72)
Full Controls in Model?	Yes	Yes
N	514	551
$\chi^2$	78.2*	96.2*

*Notes:* Logit analyses of the dichotomous *Interest in Learning* dependent variable from Experiments #1 and #2. Standard errors in parentheses. \*  $p < 0.05$ , two-tailed. The control variables from Models 3 and 7 of Tables 1 and 2 were included in the regression models but are not presented here due to space considerations.

## Analyses from Generalized Additive Models

**Table S3. Generalized Additive Models, Smoothing Ideology Variables**

	(S3.1)	(S3.2)		
Respondent's Conservatism	See below			
Conservatism × Success	See below			
Treatment: Success	0.28 (0.22)			
Ideological Extremism		See below		
Extremism × Same Party		See below		
Treatment: Same Party		-0.54 (0.28)		
Considered Issue Before	1.26 (0.23)	1.03 (0.19)		
Democrat	0.00 (0.32)	0.25 (0.19)		
Republican	-0.04 (0.25)			
Partisan Election	-0.13 (0.24)	0.29 (0.21)		
Logged Population	0.08 (0.07)	0.12 (0.06)		
Percent Black	1.22 (1.06)	1.66 (0.84)		
Percent Latino	-0.04 (0.81)	-0.24 (0.73)		
Percent with Some College	-0.85 (0.92)	-2.75 (0.95)		
Unemployment Rate	-2.32 (2.07)	-2.84 (2.60)		
Percent: Unpaid 1st Mortgage	-1.68 (1.11)	-0.80 (1.12)		
Percent: Unpaid 2nd Mortgage	2.20 (2.73)	-2.80 (4.16)		
Constant	0.24 (0.91)	0.23 (0.88)		
N	541	541		
R <sup>2</sup> – adjusted	0.112	0.123		
Approximate significance of smooth terms				
<u>Model A</u>	<u>EDf</u>	<u>Ref. DF</u>	<u>χ<sup>2</sup></u>	<u>p-value</u>
Respondent's Conservatism	1.00	1.00	9.2	0.002
Conservatism × Success	1.30	1.54	5.2	0.048
<u>Model B</u>	<u>EDf</u>	<u>Ref. DF</u>	<u>χ<sup>2</sup></u>	<u>p-value</u>
Ideological Extremism	1.00	1.00	1.0	0.311
Extremism × Same Party	2.34	2.98	12.2	0.007

Table S3 shows the results of replication of Models 3 and 7 from Tables 1 and 2, using generalized additive modeling (GAM) to account for further nonlinearities across the key ideology variables (*Conservatism* and *Extremism*). We used the R-package “gam,” written by Trevor Hastie, which controls for the same independent variables as before but also allows for the ideology variables and their interactions with the treatment variables to be smoothed (Hastie 1992, Hastie and Tibshirani 1990).<sup>33</sup> The key results for hypothesis testing are shown at the bottom of the table. Consistent with our earlier findings, both interactions are statistically significant with  $p < 0.05$ . Thus, accounting for additional nonlinearities in the impact of ideology on learning across treatments, we continue to find support for the Success Overcoming Ideology Hypothesis and the Partisanship Overcoming Ideology Hypothesis.

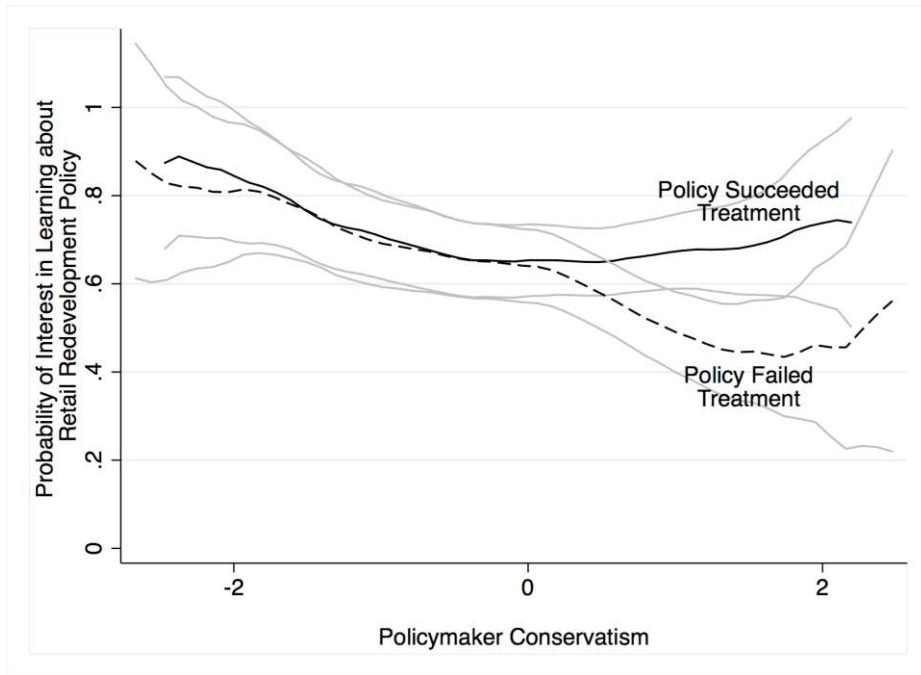
### **Figures with Confidence Intervals**

For ease of interpretation and visualization, some of the important figures throughout the paper were included without confidence intervals shown. For readers who prefer to also see the confidence intervals, those figures are here shown with 95% confidence intervals.

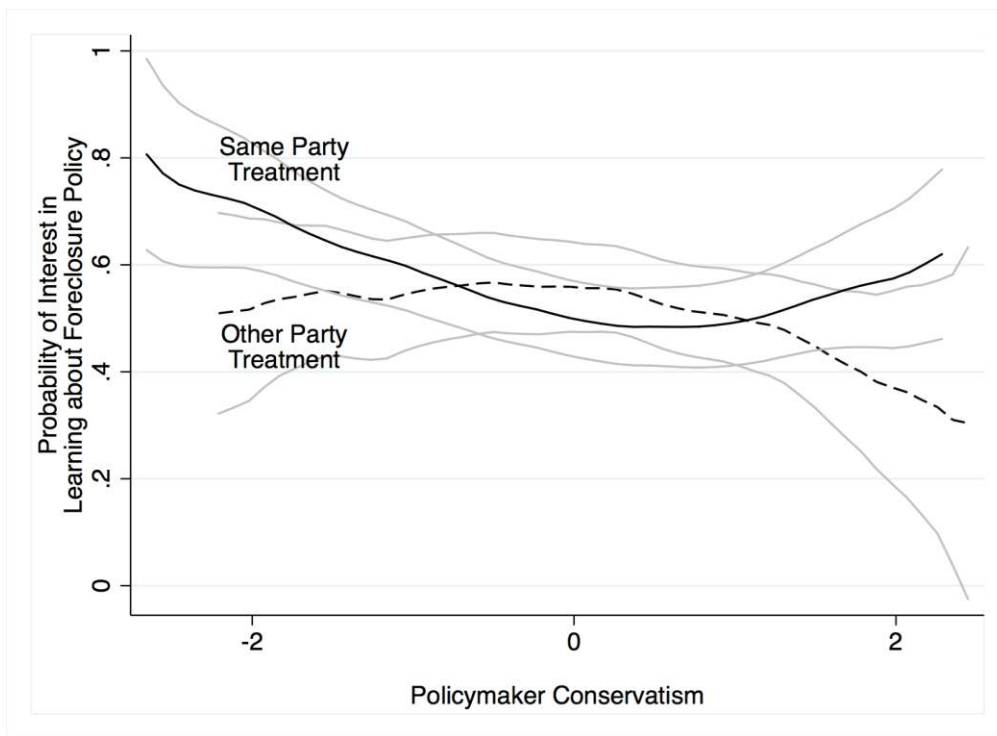
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<sup>33</sup> Interested readers should consult: Hastie, Trevor J. 1992. “Generalized Additive Models,” Chapter 7 of *Statistical Models in S*, eds. J. M. Chambers and T. J. Hastie, Wadsworth & Brooks/Cole; and Hastie, Trevor J., and Robert Tibshirani. 1990. *Generalized Additive Models*. London: Chapman and Hall.

Replicating Figure 3, this figure shows a significant gap between the Success and Failure Treatments in Experiment #1 among conservatives.



The next figure replicates Figure 5, showing a gap between the Same Party and Other Party Treatments in Experiment #2.



The following figures replicate those from Appendix D, showing the significant treatment effects within the subset of respondents from each political party.

