

Stories, Science, and Public Opinion about the Estate Tax

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Abstract

How much does factual information affect political attitudes? I address that question through a case study of attitudes toward the estate tax. Drawing on two original survey experiments, I demonstrate that correct information about who actually pays the estate tax does increase support for the estate tax. Preferences shifts caused by this information were approximately as large as those caused by pro-tax arguments that emphasized normative values such as equality. The effects of this information were concentrated among lower-income conservatives and Republicans. These findings contrast with previous research on estate tax attitudes and have broader implications for the study of political information and information-processing.

Many facts about public policy elude citizens. Policies can be difficult to understand, politicians have little incentive to educate, and citizens have little incentive to learn. This much is well-understood. Less well-understood are the consequences of learning facts. Scholars debate whether citizens are open to new facts and willing to change their minds accordingly, whether citizens appreciate new facts only when those facts confirm existing opinions, or whether citizens even need factual information to make good decisions.

Our knowledge of the consequences of facts is limited with respect to three key questions. First, do correct facts truly affect public opinion? Politically relevant facts are not learned at random, making it difficult to assess their impact. Experimental designs that randomly assign exposure to facts are relatively rare. Second, can facts compete with other types of arguments? Isolating the consequences of learning new facts fails to capture political debates about public policies, which mix facts with other kinds of appeals, often ones that ignore or even misrepresent facts. Third, whose attitudes shift in response to correct factual information? Scholars debate the degree of bias in information-processing. Certainly some people reject factual information that contradicts their preexisting views, but for others, countervailing information may prove persuasive. The challenge is locating those who are more willing to learn.

To address these limitations, I focus on one policy area—the estate tax—that has attracted political and scholarly controversy. The scholarly controversy revolves around an apparent puzzle: Why does a majority of the public want to repeal a tax that few of them pay? Answers to this question have centered on political information, and in particular the possibility that some opposition to the estate tax arises because many Americans overestimate the number of people about who actually pay the tax.

However, extant studies have not fully addressed the limitations noted above. These studies do not estimate the causal effect of information about who pays the estate tax, relying instead on

observational measures of general political knowledge or knowledge about the estate tax, which could themselves be endogenous to opinion. A central contribution of this study is to estimate a causal effect via experiments embedded in surveys, thereby helping to answer a crucial question: Would more people support the estate tax if they knew that only a few rich people have to pay it?

Similarly, there has been little attempt to compare the effects of correct information about who pays the estate tax with the effects of other kinds of appeals. This is all the more important because some scholars have argued that rhetorical arguments about the estate tax matter more than facts—that “stories trump science” (Graetz and Shapiro 2005). I test this claim by including treatments that present arguments both for and against the estate tax and also that combine such arguments with correct information about who pays the tax.

Finally, scholars have disagreed over whether the effects of factual information about the estate tax are contingent on predispositions. The answer to this question speaks to not only theories of information-processing but also the politics of the estate tax. If factual information polarizes Americans along partisan or ideological lines, then debate about the estate tax is likely to grow more intense and compromise more difficult. But if correct information leads people to positions counter to their ostensible predispositions, then a bipartisan consensus could result.

My findings constitute a significant departure from previous literature. Correct information about who pays the estate tax does reduce opposition to the tax. In fact, this correct information is as powerful as rhetorical arguments. Stories do not appear to trump science. I also find that this correct information affects conservative and Republican respondents more than liberals and Democrats, suggesting that it not only enlarges support for the tax but makes that support more bipartisan. These findings speak to debates about why the estate tax is so unpopular and also enhance our understanding of how values, information, and rhetoric affect policy attitudes.

The Debate over Political Information and Its Consequences

In studies of political information, scholars have disagreed about how informed the public is and whether providing correct factual information would change attitudes about policies. These broader disagreements are also evident in the scholarly literature on public opinion and the estate tax. I review these debates to develop expectations to be tested in the empirical analysis.

Just how many people do not know certain facts about politics and policy? Low levels of knowledge about politics are a familiar finding (see, e.g., Neuman 1986; Delli Carpini and Keeter 1996), but recent perspectives continue to debate the true level of political knowledge (e.g., Gibson and Caldeira 2009, Luskin and Bullock 2011; Prior and Lupia 2008). In a similar fashion, scholars debate the public's level of knowledge about tax policy and the estate tax in particular. Bartels (2005: 21) argues that "most ordinary citizens are remarkably ignorant and uncertain about the workings of the tax system and the policy options under consideration, or actually adopted." For example, in Delli Carpini and Keeter's (1996: 80-81) list of 112 knowledge items related to domestic policy, an average of only 27% answered the 10 items about tax policy correctly, compared to 42% for the other items. The estate tax appears to be no exception. Slemrod (2006) finds that a majority of people either believe that the estate tax affects "most" families (49%) or do not know how many families it affects (20%).

But other scholars argue that the public knows more than these studies would suggest. Krupnikov et al. (2006) asked respondents a multiple-choice question about the fraction that pays the estate tax and found that just over one-third (36%) of respondents answered correctly, saying "less than 5% of all Americans" when the other possible responses were 95%, 70%, 50%, and 25%. Moreover, this fraction increased to 47% in an experiment where subjects were offered \$1 for a correct answer (see also Prior and Lupia 2008). Traditional political knowledge questions on surveys may thus underestimate knowledge about tax policy and the estate tax (but see Bartels 2007; Luskin

and Bullock 2011). For my purposes, it is not important to characterize the public's level of information about the estate tax in an absolute sense, simply to note that enough people do not know who pays the estate tax that providing this information could affect aggregate opinion.

Does factual information affect public opinion? The evidence is mixed. The simulated aggregate opinions of a "fully informed" public are different than actual aggregate opinions, although by varying amounts depending on the issue area (Althaus 2006; Bartels 1996). In studies that provided factual information specific to a policy area, this information sometimes, but not always, changed opinions. Gilens (2001) finds that people were less willing to cut foreign aid once they learned that only a small fraction of the budget is spent on foreign aid, and less willing to spend money on prisons once they learned that the crime rate has been decreasing. Howell, Peterson, and West (2000) find that correct information about spending on public education and average teacher salaries reduced the fraction of people who favored increasing spending on education and teacher salaries. By contrast, Berinsky (2007) finds that correct information about the number of American military casualties in the Iraq War did not alter opinions about the war. Kuklinski et al (2000) find that correct information about welfare policy had little impact on attitudes toward welfare.

This combination of significant and null results is also evident in studies of public opinion about the estate tax. For example, Slemrod (2006) estimates that a person who believed that most families pay the estate tax was 10 points more likely to oppose the tax, compared to someone who believed that few families pay the estate tax. Although cautious about claiming that misconceptions caused policy preferences, he nevertheless concludes that "better-informed voters would be much less likely to support these tax reforms" (72). Others, however, are skeptical. Bartels finds that general knowledge of politics, as measured by interviewers' assessments, did not affect attitudes toward the estate tax (Bartels 2005). Speaking of the misperception that most people have to pay the estate tax, he writes: "Would correcting this misperception produce widespread public support for

the estate tax? That is much less clear. Americans have always found the juxtaposition of death and taxes peculiarly unsettling” (Bartels 2006: 411). Krupnikov et al. agree, despite their different views about the level of knowledge about the estate tax: “Many supporters of progressive taxation and liberal intellectuals believe that if only citizens know more about the operation of the estate tax, the masses would come to support the same forms of taxation that they do...such beliefs constitute wishful thinking” (435). Graetz and Shapiro also argue that correct knowledge would not increase support for the estate tax: “...the opponents of estate tax repeal failed to grasp that in politics, science is never enough” (226).

Why might correct information have little impact on attitudes? One is that people approach political issues as “motivated reasoners” (Lodge and Taber 2000), filtering information through their preexisting attitudes and discounting contrary or inconvenient facts. Public opinion about the estate tax does have features that may lead to Americans to reason about it in “motivated” ways. Bartels (2008) suggests that public suspicion of the estate tax is longstanding, dating back even to the Great Depression. The juxtaposition of death and taxes may simply give the estate tax a negative “affective charge.” If so, telling estate tax opponents that they are unlikely ever to pay the tax would not change their minds.

Moreover, opinions about the tax are strongly tied to political predispositions, such as party identification (Bartels 2006; Krupnikov et al. 2006; Slemrod 2006), but not to economic interests: poor people are no more likely than rich people to favor the estate tax. If predispositions anchor opinions, then they may condition any effects of factual information just as they affect how people process political information generally (e.g., Bartels 2002; Campbell et al. 1960). Thus, when partisan leaders disagree—as they do about the estate tax—acquiring information may only (further) polarize people along partisan lines (see Zaller 1992). This appears to be true with regard to the estate tax. Knowledge of who pays the estate tax makes all partisans more likely to support it, although the

effects are about twice as large among Democrats—the party more disposed to support taxation generally and the estate tax in particular—as among Republicans (Krupnikov et al. 2006). Thus, information about the estate tax may affect only those for whom the information is congenial.

A second reason why correct information may not affect public opinion is that citizens are more persuaded by appeals to emotions or values than by appeals with factual information, given that political reasoning often depends on emotions (Marcus, Neuman, and MacKuen 2000) and moral considerations (Stoker 1992). Graetz and Shapiro (2005) argue that estate tax opponents succeeded by emphasizing that it is unfair to tax people after death and interfere with a family's right to pass on accumulated wealth to its children, both of which are concerns that citizens have about the estate tax (Hochschild 1980). Graetz and Shapiro criticize estate tax supporters for believing that Americans would respond more to facts (such as who actually has to pay the estate tax) than values: “the groups working against repeal...assumed that if people could only be enlightened about scientific realities, their hearts and minds would follow” (227).

Expectations

Taken together, these perspectives generate several testable propositions. First, opinions about the estate tax should derive more from predispositions such as party identification and ideology than from economic interests, as captured by income. This expectation dovetails with the finding that political attitudes depend more on values than on self-interest (Citrin and Green 1990).

A second set of propositions concerns the effect of information on attitudes. On the one hand, Slemrod's findings suggest that correct information about the estate tax lowers opposition to it. On the other hand, other studies of the estate tax suggest that learning this information would not affect preferences, especially because opposition to the estate tax is anchored in political values. The empirical analysis will adjudicate between these competing expectations.

The third set of propositions concerns the impact of values-based arguments on attitudes toward the tax. Graetz and Shapiro suggest that these arguments, and especially anti-tax arguments centering on concerns about the fairness of the estate tax, are more effective than information about who pays the estate tax. When this information and values-based arguments against the estate tax are presented by themselves, attitudes should therefore respond more to invocations of values than to the information. Presumably, the greater impact of values-based arguments would also be evident when this information and these arguments are presented together. Both findings would confirm that “stories trump science.”

Finally, there are two expectations about the conditional effects of information. One concerns economic interests: although they often fail to influence opinion, they can do so when the benefits and costs of a policy are clear (Citrin and Green 1990). Thus, poorer respondents should become more supportive of the estate tax once they learn that only a few wealthy people have to pay it. The second expectation concerns the conditioning effect of partisanship: information about who pays the estate tax should increase support for the tax more among Democrats than Republicans, thereby polarizing citizens along partisan lines (Krupnikov et al. 2006).

Data

To evaluate these expectations, I draw on original data from the 2007 and 2008 Cooperative Congressional Election Surveys (CCES). These were two-wave panel surveys of voting-age Americans conducted in the fall of each year (see Appendix 1 for further details). The first wave of the 2007 CCES (N=1000) and the second wave of the 2008 CCES (N=829) included separate experiments that provided respondents with different information or arguments before ascertaining their attitudes toward the estate tax. In 2007, attitudes were measured using this American National Election Study item: “There has been a lot of talk recently about doing away with the tax on large

inheritances, the so-called ‘estate tax’. Do you favor or oppose doing away with the estate tax?’¹

Below I discuss the information that preceded this question in the experimental conditions.

In 2008, respondents were asked about their knowledge of the estate tax before being asked their opinion: “In the United States, there is a tax on large inheritances that is sometimes called the “estate tax.” What percent of Americans do you think have a large enough estate to be subject to this tax? If you don’t know, just give your best guess.” The prompt for a “best guess” mirrors the prompt in Prior and Lupia (2008). Respondents gave their estimate as a percentage from 0-100. This question is different from knowledge measures on previous surveys about the estate tax, which have employed less specific quantitative terminology—e.g., whether “most” or “a few” families have to pay (Slemrod 2006)—or have provided specific percentages in a multiple-choice framework (Krupnikov et al. 2006). The CCES item more precisely measures respondents’ knowledge. Respondents were then asked for their opinion of the tax: “There has been a lot of talk recently about doing away with the estate tax. Do you favor or oppose doing away with the estate tax?”² Again, there was prefatory text provided in the experimental conditions, which are discussed below.

¹ I did not incorporate the term “death tax” into the survey item because previous literature suggests that it makes little difference in the distribution of opinion (see Bartels 2008: 199; Graetz and Shapiro 2005: 124; Schaffner and Atkinson 2009).

² The 2008 survey also included an open-ended follow-up question: “Please tell us more about why you [favor|oppose] doing away with the estate tax.” Respondents typed an answer into a text box. Approximately 2% of respondents (19 of 881) indicated that they opposed estate tax repeal but then gave an open-ended response indicating that they actually opposed the estate tax itself. I considered their open-ended response to indicate their true attitude and recoded their closed-ended response accordingly. For reasons of space, I do not analyze these open-ended responses here.

Knowledge about the Estate Tax, and Its Consequences

The literature on attitudes toward the estate tax concurs that a majority of Americans do not know that few, and only very wealthy, people have to pay the estate tax. Data from the 2008 CCES buttress this point. Of the 829 respondents interviewed in the post-election wave, 813 (98%) provided an estimate of the fraction of Americans subject to the estate tax. Panel A of Figure 1 presents a histogram of these estimates; each bar captures a five percentage-point interval.

[insert Figure 1 about here]

Although the distribution of responses is appropriately skewed toward lower estimates (mean=21%; median=10%), only a minority of respondents provided the correct answer. If “correct” is defined strictly, as 1% or 2%, then about 20% of respondents answered correctly. If a correct answer is defined as 1-5%—which roughly corresponds to the “correct” answer in Krupnikov et al. (“less than 5% of all Americans”)—then 36% answered correctly (the same fraction as in Krupnikov et al.). But many other respondents were not accurate: approximately one in five believed that 40% or more of Americans are subject to the estate tax. These figures reflect higher apparent levels of knowledge than those reported in Slemrod (2006), who finds that 49% believed that most families have to pay the tax and 20% did not know. Nevertheless, they confirm that accurate knowledge about the estate tax is the exception rather than the rule.

Does knowledge affect opinions? To replicate extant studies, I first sought to determine whether knowledge about the estate tax predicted attitudes, as in Slemrod’s study, and then whether the effect of knowledge was conditional on partisanship, as in Krupnikov et al. I regressed attitudes toward the estate tax—coded 1 for those who supported the tax (i.e., opposed repeal) and 0 for those who opposed the tax—on knowledge, controlling for personal income and either party

identification or self-reported ideology on the liberal-conservative scale.³ Panel B shows the relationship between knowledge of who pays the estate tax and the predicted probability of supporting it. (The full results are available in Table A-1.) As Slemrod finds, there is a statistically and substantively significant relationship. A respondent who believes that 40% of Americans pay the estate tax is 14 percentage points less likely to support the estate tax than a respondent who believes (correctly) that 1% of Americans pay this tax. Party identification, but not income, is also associated with attitudes. Similar findings emerge if ideology is substituted for party identification (Table A-1).

To test for the conditional effects of knowledge, I estimated additional models that interact knowledge with party identification or ideology (see again Table A-1). The marginal effect of knowledge is statistically significant only among respondents who are Democrats, pure independents, or independents who lean Republican (Panel C) and only among liberal and moderate respondents (Panel D). These results confirm Krupnikov et al. (2006), who find that the apparent effects of knowledge is confined to the left and center of the political spectrum.

An Experimental Test

These observational data suggest that knowledge about who pays the estate tax matters, at least for certain groups. But questions about causality lurk. Apparent knowledge about the estate tax

³ Party identification is measured with the traditional seven-point scale, and ideology with a five-point scale. Higher values correspond to identification as Republican or conservative. The correlation between the two is approximately $r=0.70$ in both the 2007 and 2008 surveys. Thus, in the spirit of Achen (2002), I use them in separate models. Although older respondents are in theory “closer” to a potential estate tax obligation, age had no statistically significant effect when included in these models.

could be endogenous to preferences: those who favor the tax may then decide that it affects few people, and those who oppose the tax may decide that it affects many people. Perceptions of facts are then rationalizations, rather than sources, of preferences. A better way to measure the causal effect of information is via experimental manipulation that randomizes whether respondents receive correct information about who pays the tax as well as whether they receive arguments for and against the tax. Table 1 summarizes the experimental designs in the 2007 and 2008 CCES.⁴

[insert Table 1 about here]

In the 2007 CCES, respondents were randomized into 5 different groups. The control group was simply asked whether they supported or opposed repealing the estate tax. The second group was first given correct information about how many and who pay the tax, based on analysis by the Center on Budget and Policy Priorities: “This is a tax that affects those who inherit estates of more than \$2 million. The vast majority of Americans, about 99%, do not have an estate large enough to be taxed.”⁵ I refer to this experimental condition with the shorthand “Who pays.”

To capture the effects of this information when combined with rhetorical arguments, the third group (“Who pays + Aristocracy”) was provided the same factual information about who pays the tax alongside an argument for the estate tax: “Supporters of the tax say that without it, we will have an aristocracy of wealth, where financial resources depend on heredity rather than merit.” This paraphrases a statement by Warren Buffet (quoted in Johnston 2001), one of a number of wealthy

⁴ To ensure that the randomization was successful, I pooled the two surveys and estimated models of education, income, party identification, and ideology, including dummy variables for each treatment and for the year the survey was conducted. In each model, I could not reject the null that the coefficients for the treatment variables were jointly equal to 0.

⁵ See <http://www.cbpp.org/research/index.cfm?fa=topic&id=63>.

Americans who publicly opposed estate tax repeal (see Graetz and Shapiro 2005, ch. 16). The fourth group (“Who pays + Punishes success”) was provided the information alongside an argument against the estate tax: “Opponents of the tax say that it punishes financial success and discourages people from saving and investing.” This is a frequent assertion of estate tax opponents (see Janjigian 2008). The fifth group was provided the correct information and both the pro and con arguments.

The experiment in the 2008 CCES elaborates the 2007 design in two ways. First, the design is a 2×4 factorial. The 8 experimental conditions randomize the provision of information about who pays the tax, as well as the provision of a pro-tax argument, an anti-tax argument, neither argument, or both arguments. Unlike in the 2007 experiment, there are experimental conditions for those who did not receive the information about “who pays” but received only a pro-tax argument, an anti-tax argument, or both arguments. Second, the 2008 experiment included a different anti-tax argument: “Opponents of the tax say that it infringes on the right of families to pass along inheritance to their children.” This argument (“Family rights”) portrays the estate tax not as penalizing prosperity but as violating a fairness norm—i.e., that parents can fairly provide for their children via inherited wealth. This norm is invoked by some Americans who oppose the estate tax (Hochschild 1980) and has been central to the repeal movement’s strategy (see Graetz and Shapiro 2005).⁶ Otherwise, the 2008 experiment mimics the 2007 experiment in the inclusion and wording of the “Who pays” and

⁶ In Hochschild’s interviews, one person described the estate tax as “awful” because “a family has a perfect right to hand it down to their children if they want to” (see others quoted in Bartels 2006: 412). Similarly, Rep. Sanford Bishop (D-GA) said on the House floor: “The ‘death tax’ represents all that is unfair and unjust about the tax structure in America because it undermines the life work and life savings of Americans who want only to pass along the fruits of their labors and the realization of the American dream” (quoted in Graetz and Shapiro 2005: 69).

“Aristocracy” arguments. Both experiments examine the effects of information alone and of information combined with pro- and/or anti-tax arguments. Both experiments include a control group that received neither the correct information nor any of the arguments.

These experiments have several advantages. Most importantly, respondents are randomly assigned to receive correct information about who pays the estate tax: I can thus evaluate its effects without concerns about endogeneity.⁷ Of course, survey experiments have their well-known liabilities (see Gaines, Kuklinski, and Quirk 2007). For one, experimental treatments in surveys are often more powerful than their real-world analogues (Barabas and Jerit 2010). But the advantages of experimentation in this case arguably outweigh the costs, especially because prior literature on public opinion about the estate tax has relied on observational data.

A second advantage is that I can compare the effects of factual information to those of rhetorical arguments commonly used by estate tax proponents and opponents to determine whether factual information matters less than other appeals. By including conditions that combine both factual information and these arguments, I am better approximating the broader discourse about the estate tax, which includes factual claims as well as other rhetoric. Naturally, estate tax proponents and opponents make multiple arguments, not merely the few included in these experiments. But

⁷ Although no extant study provides an experimental test of the effects of correct information, two findings are worthy of note. First, Schaffner and Atkinson (2009) find that some estate tax opponents changed their position when they learned that (as of 2003) only estates worth at least \$1 million were subject to the tax. Second, Graetz and Shapiro (2005: 124), citing Greenberg, Quinlan, and Rosner (2002), state that support for repeal dropped after respondents received information about who pays the tax. However, this study actually exposed respondents to a variety of arguments about the estate tax before measuring their attitudes. Thus, it is not a pure test of information effects.

even if including two such arguments is a weak approximation of, say, congressional debate (see Mucciaroni and Quirk 2006), it is a better than ignoring these arguments and assuming that factual information is provided (or not) in a political vacuum.

The Effects of Stories and Science

To show the effects of these experimental treatments, I first present the level of support for the estate tax across the conditions within each experiment (Figure 2). In the control condition of the 2007 experiment, 40% of respondents said that they supported the tax. Respondents who were given correct information about who pays the estate tax were more supportive (51%). Pairing this information with the pro-tax argument about a potential “aristocracy of wealth” increased support further, to 56%. The anti-tax argument—how the tax punishes financial success—had little impact when paired with the correct information. The level of support among respondents in this condition was virtually the same (53%) as when the correct information was presented alone. Finally, the combination of the correct information with both arguments produced the most lopsided distribution of opinion, with 62% favoring the tax. The anti-tax argument actually appeared to “backfire” (see Chong and Druckman 2007), leading respondents to be more supportive of the tax than even those exposed only to the correct information and the pro-tax argument.

[insert Figure 2 about here]

In the 2008 sample, fewer respondents in the control group (28%) supported the estate tax (see the righthand panel of Figure 2). The correct information again increased support for the tax (to 40%) and by about the same amount as in the 2007 experiment. The pro-tax “aristocracy” argument had a similar effect, increasing support to 39%. By contrast, the anti-tax argument about family rights did not affect opinion relative to the control group. Neither did it neutralize the pro-tax argument: combining them produced essentially the same level of support (38%) as did the pro-tax

argument by itself (39%). Other combinations also suggest the power of correct information and the aristocracy argument, relative to the family rights argument. As in 2007, combining the correct information and the aristocracy argument increased support for the tax more than did the correct information alone (to 47%). Combining the family rights argument with the correct information had little effect relative to receiving only the correct information (37% vs. 40%). Combining the anti-tax argument with both the correct information and the aristocracy argument produced a lower level of support (38%) than combining only the information and the aristocracy argument (47%), but a higher level of support than in the control group (28%).

These descriptive results suggest that both this correct information and other arguments affected opinion toward the estate tax. A multivariate model of support for the estate tax allows for formal tests of the treatment effects as well as tests comparing the magnitudes of these effects. I take advantage of the commonalities across the 2007 and 2008 CCES and pool the two experiments to maximize sample size. The dependent variable is coded 1 for supporting the tax and 0 for opposing it. The logit model includes a set of dummy variables for the experimental conditions (the control group is the excluded category), party identification, income, and a dummy variable for the year of the survey.⁸ The coefficients are presented in the first column of Table 2. To convey the substantive meaning of the various treatments, I present their marginal effects and 95% confidence intervals in Figure 3.

⁸ To test the validity of pooling the surveys, I estimated a model that included an interaction between the year of the survey and each variable that appears in both surveys: the “who pays” and “who pays +aristocracy” treatments as well as party identification and income. The joint effect of these interaction terms was not statistically significant ($p=0.18$). In addition, the results reported in Table 2 are robust to the substitution of self-reported ideology for party identification.

[insert Table 2 and Figure 3 about here]

Many experimental treatments produced a statistically and substantively significant increase in respondents' support for the estate tax. Most importantly, correct information about who pays the tax increased support for the tax (a marginal effect of 0.16, s.e.=0.05). And this information was not necessarily less effective than values-based arguments against the estate tax. The effect of the “aristocracy” argument—which Graetz and Shapiro argue was ineffectual when wielded by Warren Buffet and other corporate titans—was 0.14 (s.e.=0.05), which is not statistically distinguishable from that of the correct information. (A test of the difference in their respective logit coefficients generates a χ^2 statistic of 0.08; $p=0.77$.) Moreover, the “family rights” argument—which was identified by Graetz and Shapiro as the most potent weapon employed by the anti-tax movement—did not have a statistically significant effect on opinion. Neither did this argument neutralize the effect of the correct information. The coefficient for the “who pays” treatment is not statistically different than the coefficient for the treatment combining the correct information and the family rights argument ($\chi^2=0.65$; $p=0.42$).

Perhaps most striking in these results is that almost every treatment involving a potential argument for the estate tax—either the correct information about who pays, the pro-tax “aristocracy” argument, or combinations of these with each other or with the anti-tax arguments—increased support for the estate tax. For example, the effect of the combination of the correct information and the pro-tax aristocracy argument was 0.21 (s.e.=0.05), and the effect of information, the pro-tax argument, and the anti-tax “punishes success” argument was 0.27 (s.e.=0.06). Indeed, the effects of the 7 treatments including a potential pro-tax argument are not statistically distinguishable from each other ($\chi^2=7.24$; $p=0.40$). Rather than “stories” trumping “science,” treatments containing factual information about who pays the estate tax and/or other arguments for the tax increased support for the estate tax.

The Conditional Effects of Factual Information

If correct information about who pays the estate tax does affect opinion, then the next question is: who is affected? Previous literature suggests that this information would have larger effects on poorer respondents, liberals, and Democrats. To test these hypotheses, I estimated models of estate tax preferences, similar in specification to the first model in Table 2, but including an interaction between the information treatment and each of party identification, ideology, and income. The results of these models are also presented in Table 2. Figure 4 depicts the interactions between the information treatment and these variables (see Brambor, Clark, and Golder 2006). The graphs plot each variable's effect on the probability of supporting the tax, with separate lines and confidence intervals for respondents who received the correct information (the solid line) and for respondents in the control group (the dashed line).

[insert Figure 4 about here]

Factual information did exacerbate the effect of income (see the lower left-hand panel of Figure 4). In the control group, the poorest respondents were essentially as likely as the richest respondents to support the estate tax. But once told who pays this tax, this difference increased to 26 points. Among those making less than \$10,000 annually, the probability of supporting the tax increased 31 points, but it remained essentially constant (a 5-point increase) among those making \$150,000 or more. Information about who pays the estate tax pushes lower-income respondents toward an opinion arguably more in line with their economic self-interest.

By contrast, the conditioning effects of party identification and ideology were precisely the opposite of those found in previous literature. Providing this factual information increased support for the estate tax among **Republican** and **conservative** respondents, not Democratic and liberal respondents. For example, among strong Republicans this information increased support for the

estate tax by 21 points. Among strong conservatives, it increased support by 16 points. This finding contradicts those based on observational measures of information about the estate tax (Krupnikov et al. 2006). Correct information rendered opposing partisans in these samples more similar, not more polarized.

Why were conservative and Republican respondents more affected by correct information about who pays the estate tax? Perhaps Republicans and conservatives were less informed to begin with, and thus the correct information had “more to correct” in these groups. As it turns out, Republican and conservative respondents were less knowledgeable about the estate tax. Among Republicans interviewed in the 2008 CCES, the median estimate of the percentage that must pay the estate tax was 15%, compared to 10% among Democrats. Among conservatives, the median was 20%, compared to 5% among liberals.⁹ The interactions between the information treatment and party identification and ideology could therefore be spurious. The truly important interaction could involve the information treatment and knowledge about the estate tax.

Drawing on the 2008 CCES, which included the knowledge measure, I estimated models identical to Models 2 and 3 in Table 2, and then those same models including knowledge about the estate tax as well as an interaction between knowledge and the information treatment (see Table A-3 in the appendix). Including an interaction between the information treatment and knowledge barely affected the interactions between the information treatment and either measure of political predispositions, which remained substantively and statistically significant.

⁹ These findings are confirmed by the models presented in Table A-2 of the appendix. Controlling for income and education, a strong Republican would be expected to have an estimate 7 points higher than that of a strong Democrat (s.e.=2.3). A strong conservative would be expected to have an estimate 12 points higher than that of a strong liberal (s.e.=3.6).

Moreover, the interaction between the information treatment and knowledge, albeit in the expected direction, was not statistically significant (see Table A-3 and Figure A-1). This seems counterintuitive: why would information about how few pay the estate tax not matter more for those who believe that a large fraction must pay this tax? One possible answer involves the information treatment's mention of not only how many pay the estate tax (about 1%) but also **who** pays the tax ("those who inherit estates of more than \$2 million"). If the "who" was more consequential to respondents than the "how many," then the information treatment's effect should not have depended on respondents' estimates of how many. This also has an important implication for estate tax politics: supporters of the tax could draw on "science" to persuade Americans, provided that their message emphasized facts about the wealth, and not simply the small number, of estate taxpayers.

A second possibility is that correct information made salient the "cross-pressures" that some Republicans and conservatives feel, while having more muted effects on cross-pressured Democrats and liberals. Cross-pressures arise when a person's political predispositions and identities conflict with each other and make him or her more susceptible to persuasive information (see, e.g., Hillygus and Shields 2007). In the case of the estate tax, cross-pressures could derive from conflicts between economic interests and political values. The conflict is likely to be particularly acute for lower-income Republicans and conservatives, once informed that only a few very wealthy people pay the estate tax. Lower-income Republicans and conservatives have an ostensible economic interest in keeping the estate tax—or at least no economic interest in opposing it—but their political values push them toward opposing it. Once informed that the tax is paid by a few wealthy people, interests may take precedence over values, leading poorer Republicans and conservatives to support the tax. By contrast, wealthy Democrats, who would also appear cross-pressured, will not have the same reaction to this correct information. Because the treatment states that 99% of Americans do not

have to pay this tax, even most wealthy Democrats would not be affected. Thus, the information treatment should strengthen the relationship between income and attitudes among Republicans and conservatives—by increasing support for the tax among poorer members of these groups—but not the relationship between income and attitudes among Democrats and liberals.

A test of this hypothesis elaborates the models presented in Table 2 by including three-way interactions between the factual information treatment, income, and party identification or ideology, as well as the constituent variables and two-way interactions.¹⁰ The results are presented in Table A-4 and illustrated graphically in Figure 5 using the Clarify program (King, Tomz, and Wittenberg 2000). Panel A shows that, among Democratic and independent respondents, income had almost no effect on attitudes in either the control group or the group provided the correct information. By contrast, among Republican respondents in the “who pays” group, support for the estate tax increased among those in the lower and middle income groups, thereby strengthening the relationship between income and attitudes. Panel B demonstrates a similar finding: the “who pays” treatment increased support for the estate tax among lower-income respondents who are moderate or conservative, but had negligible effects among liberals.¹¹ Correct information appeared to

¹⁰ Because the interaction of the raw 14-category income measure with either party identification or ideology would produce many underpopulated cells, I collapsed income into rough terciles (\$0-40,000, \$40-80,000, and \$80-150,000 or above), party identification into a dummy variable (0-Democrat or pure independent and 1-Republican), and ideology into 3 categories (liberal, moderate, and conservative). The number of pure independents was so small (9.6% of the pooled sample) that I did not analyze them as a separate category.

¹¹ In Panel B, the confidence intervals for the control and “who pays” groups overlap for each level of income, but this does not indicate whether the **difference** between the sets of probabilities is

intensify cross-pressures among Republicans and conservatives whose economic interests and political values may have been at odds.

[insert Figure 5 about here]

Conclusion

It is important to note this study's limited coverage of estate tax policy and politics. I do not consider, for example, how estate tax attitudes may change when tradeoffs (e.g., taxes vs. spending or deficits) are made clear (see Birney, Graetz, and Shapiro 2006; Hacker and Pierson 2005) and when the option of reforming but not repealing the tax is presented (see Birney, Graetz, and Shapiro 2006). Moreover, the study focuses only on the federal estate tax, not state estate taxes, and provides information based on federal rates and exemptions only as of 2007-2008. As of 2011, the exemption was larger than when these experiments were conducted (\$5 million vs. \$2 million) and the top tax rate was lower (35% vs. 45%). Of course, even if the exemptions were smaller and the rates higher, as they have been in the past, those subject to the tax would still be relatively few in number and relatively wealthy, leaving the central message of the "who pays" treatment unchanged. But with regard to the other treatments, a valid objection is that they did not capture some arguments made by estate tax supporters and opponents, such as that estate taxes may hurt family businesses.

statistically significant. In fact, there is evidence that the "who pays" treatment did lead to significantly greater support for the estate tax among moderates and conservatives. Using 1,000 simulations generated by Clarify, I calculated the percentage of the time that the predicted probability for the "who pays" group exceeded that of the control group. For low-income moderates, this was true 91% of the time. Similar results obtain for low- and middle-income conservatives (88% and 90%, respectively).

Despite their limitations, these experiments nevertheless engendered novel findings about attitudes toward the estate tax and about the effects of information on political attitudes. Its findings regarding estate tax attitudes are at odds with existing studies. First, information about who pays the tax does affect attitudes: telling respondents that only a few wealthy Americans are subject to the tax increased support for it—a finding that confirms Slemrod’s (2006) observational data. This fact alone did not persuade the vast majority of opponents to support the tax, perhaps confirming some scholars’ skepticism of the role of factual information in this policy domain (Bartels 2006; Graetz and Shapiro 2005; Krupnikov et al. 2006). However, its effect could still prove politically meaningful and provide ammunition to pro-tax forces.

Second, information about who pays the estate tax—the “science” in Graetz and Shapiro’s formulation—was not less effective than “stories,” or value-laden arguments about fairness, equality, wealth, and so forth. Values-based arguments did not cause larger shifts in preferences than correct information about who pays the tax. Anti-tax arguments did not neutralize the effects this factual information. In fact, nearly every treatment or combination of treatments was associated with **support** for the tax. Simply providing respondents more considerations about this tax—regardless of the considerations—made them more favorable to the estate tax, on average.

Third, although extant research finds that the effect of knowledge about who pays the estate tax is larger among Democrats (Krupnikov et al. 2006)—a finding I confirmed using an observational measure of knowledge—the experimental manipulation demonstrated the opposite: Republican and conservative respondents, and in particular those who have lower incomes, were most affected. Thus, a pro-tax campaign could potentially attract bipartisan support, much as the anti-tax campaign has traditionally done (see Graetz and Shapiro 2005).

This study also contributes to our understanding of political information and its effects. First, it demonstrates that factual information can have a causal impact on attitudes. Studies that isolate

the causal effects of information are as yet relatively few and have shown mixed effects. Second, it demonstrates that factual information can matter, even when paired with complementary or competing arguments based on values or rhetorical claims. Examining the causal effects of factual information in isolation is revealing but limited, as political debates mix facts with other arguments. Thus, my findings speak to recent scholarship on framing, which has emphasized the need to evaluate the “strength,” or persuasiveness, of frames (Chong and Druckman 2007; Jerit 2009). My experiments were not intended to address this literature directly, as I did not attempt to measure the strength of different arguments **a priori**. But scholarly accounts like Graetz and Shapiro’s offer hypotheses about persuasiveness that are not born out here, suggesting that scholars should reconsider which frames about the estate tax and taxation generally are likely to be persuasive.

Third, this study helps to illuminate how citizens process information. A simple motivated reasoning story, in which citizens resist new information when it contradicts their preexisting opinions, is only part of the story. It is also imperative to consider whether preexisting opinions themselves contradict each other. Here, correct information about who pays the tax appeared to heighten the contradiction between economics interests and political values. It is not just the pressures created by preexisting opinions, but the cross-pressures induced by conflicting opinions, that may condition the effects of information.

A central but unresolved question is when factual information can affect attitudes. As noted earlier, extant studies have come to different conclusions, and certainly this study does not resolve those mixed findings. Although it is beyond the scope of one case study to produce a full-fledged theory of information effects, my findings, combined with others, suggest one component of such a theory: the value of typologizing the attitudes that information is expected to change. Perhaps not coincidentally, several studies that have found significant information effects, including this one, have all focused on attitudes about taxes and government spending (Gilens 2001; Howell, Peterson,

and West 2010). One reason is that these sorts of attitudes are more labile in general (see Wlezien 1995). Meanwhile, attitudes that are more intensely held should prove more resistant to change. For example, Berinsky (2007) examined Iraq War attitudes during a partisan conflict over the war that was arguably more visible and vituperative than partisan conflict over the estate tax or, to use an example from Gilens, partisan conflict over spending on foreign aid. This may have rendered attitudes impervious to information about casualties. Similarly, Kuklinki et al.'s (2000) study involves a policy area, welfare, that is directly connected to racial attitudes (Gilens 1999), which themselves impart structure and stability to policy preferences (Converse 1964). Further thinking about not only the nature of attitudes but also the content of the information and the means by which it is delivered will produce a more systematic account of when and how much “the facts” shape public opinion.

Table 1. Structure of Experiments in the 2007 and 2008 CCES

Experimental Condition	2007 N	2008 N	Pooled N
Control	211	98	309
“Who Pays”	185	114	299
“Aristocracy” (pro-tax)	-	111	111
“Family rights” (anti-tax)	-	89	89
Aristocracy + Family rights	-	98	98
Who pays + Aristocracy	211	113	324
Who pays + “Punishes success” (anti-tax)	202	-	202
Who pays + Family rights	-	108	108
Who pays + Aristocracy + Punishes success	191	-	191
Who pays + Aristocracy + Family rights	-	98	98
Total N	1000	829	1829

The wording of the experimental treatments (and the years in which each treatment appeared):

“Who pays”: “This is a tax that affects those who inherit estates of more than \$2 million. The vast majority of Americans, about 99%, do not have an estate large enough to be taxed.” (2007, 2008)

“Aristocracy”: “Supporters of the tax say that without it, we will have an aristocracy of wealth, where financial resources depend on heredity rather than merit.” (2007, 2008)

“Punishes success”: “Opponents of the tax say that it punishes financial success and discourages people from saving and investing.” (2007)

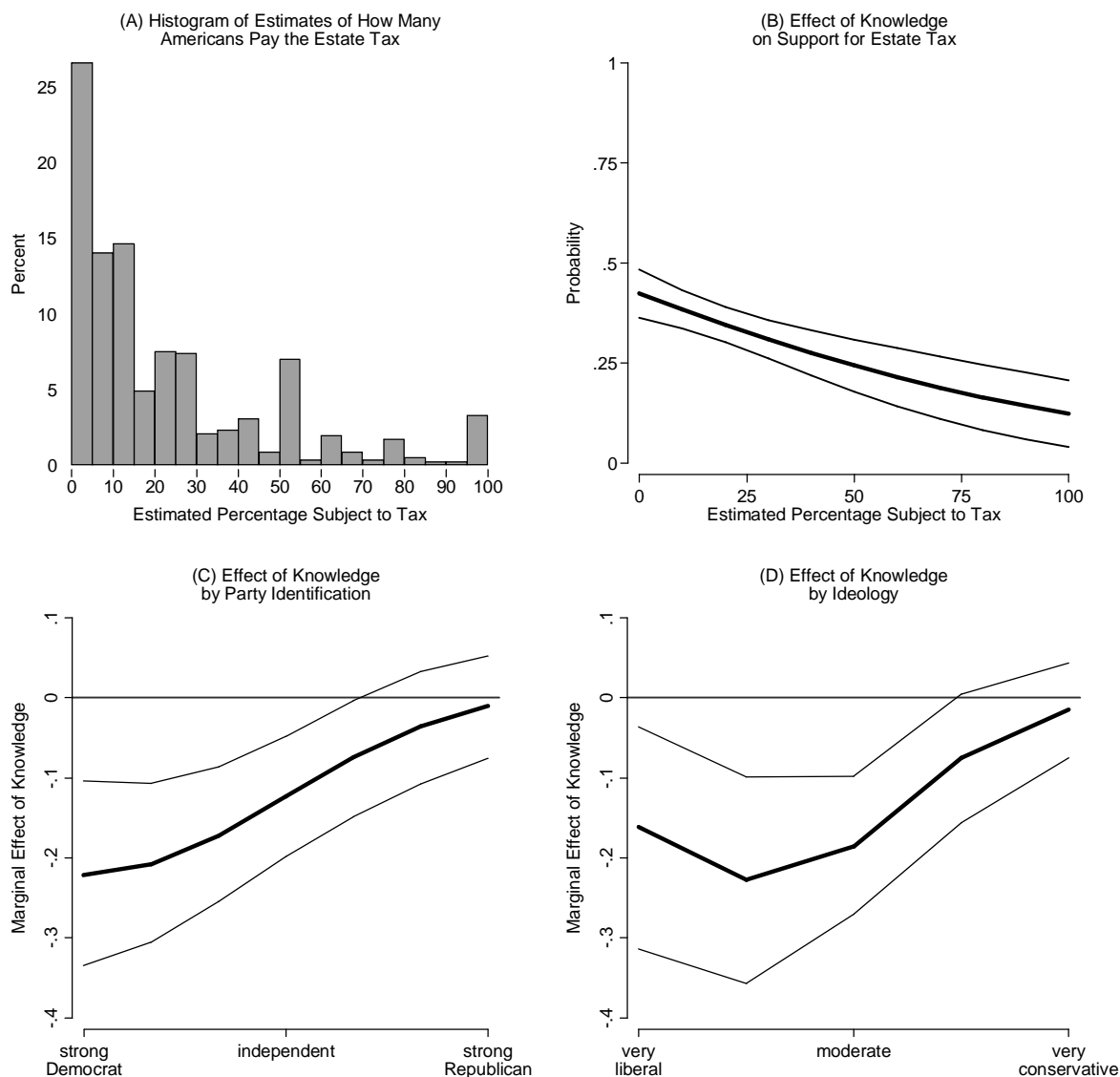
“Family rights”: “Opponents of the tax say that it infringes on the right of families to pass along inheritance to their children.” (2008)

Table 2. Models of Attitudes toward Estate Tax, Including Treatment Effects and Interaction Terms with Information Treatment

	Model 1	Model 2	Model 3	Model 4
Who Pays	0.65*	0.08	-0.36	1.33*
	(0.22)	(0.30)	(0.41)	(0.45)
Who Pays x Party Identification		1.14*		
		(0.44)		
Who Pays x Conservatism			1.57*	
			(0.65)	
Who Pays x Income				-1.15
				(0.67)
Aristocracy	0.56	0.54	0.47	0.57
	(0.32)	(0.33)	(0.33)	(0.32)
Family Rights	-0.07	-0.1	-0.38	-0.07
	(0.37)	(0.37)	(0.37)	(0.37)
Aristocracy + Family Rights	0.48	0.46	0.27	0.48
	(0.32)	(0.32)	(0.33)	(0.32)
Who Pays + Aristocracy	0.85*	0.87*	0.76*	0.85*
	(0.21)	(0.22)	(0.21)	(0.21)
Who Pays + Punishes Success	0.56*	0.60*	0.56*	0.56*
	(0.24)	(0.25)	(0.24)	(0.25)
Who Pays + Family Rights	0.39	0.36	0.29	0.39
	(0.32)	(0.32)	(0.32)	(0.32)
Who Pays + Aristocracy + Punishes Success	1.09*	1.15*	1.05*	1.09*
	(0.26)	(0.26)	(0.25)	(0.26)
Who Pays + Aristocracy + Family Rights	0.80*	0.81*	0.63	0.80*
	(0.34)	(0.34)	(0.35)	(0.34)
Party identification (high=Republican)	-2.56*	-2.78*		-2.57*
	(0.18)	(0.20)		(0.18)
Conservatism			-4.15*	
			(0.31)	
Income	-0.18	-0.17	-0.36	0.01
	(0.24)	(0.25)	(0.24)	(0.27)
Year 2008	-0.65*	-0.63*	-0.48*	-0.66*
	(0.18)	(0.18)	(0.18)	(0.18)
Constant	0.95*	1.02*	2.07*	0.85*
	(0.23)	(0.23)	(0.27)	(0.24)
N	1324	1324	1349	1324

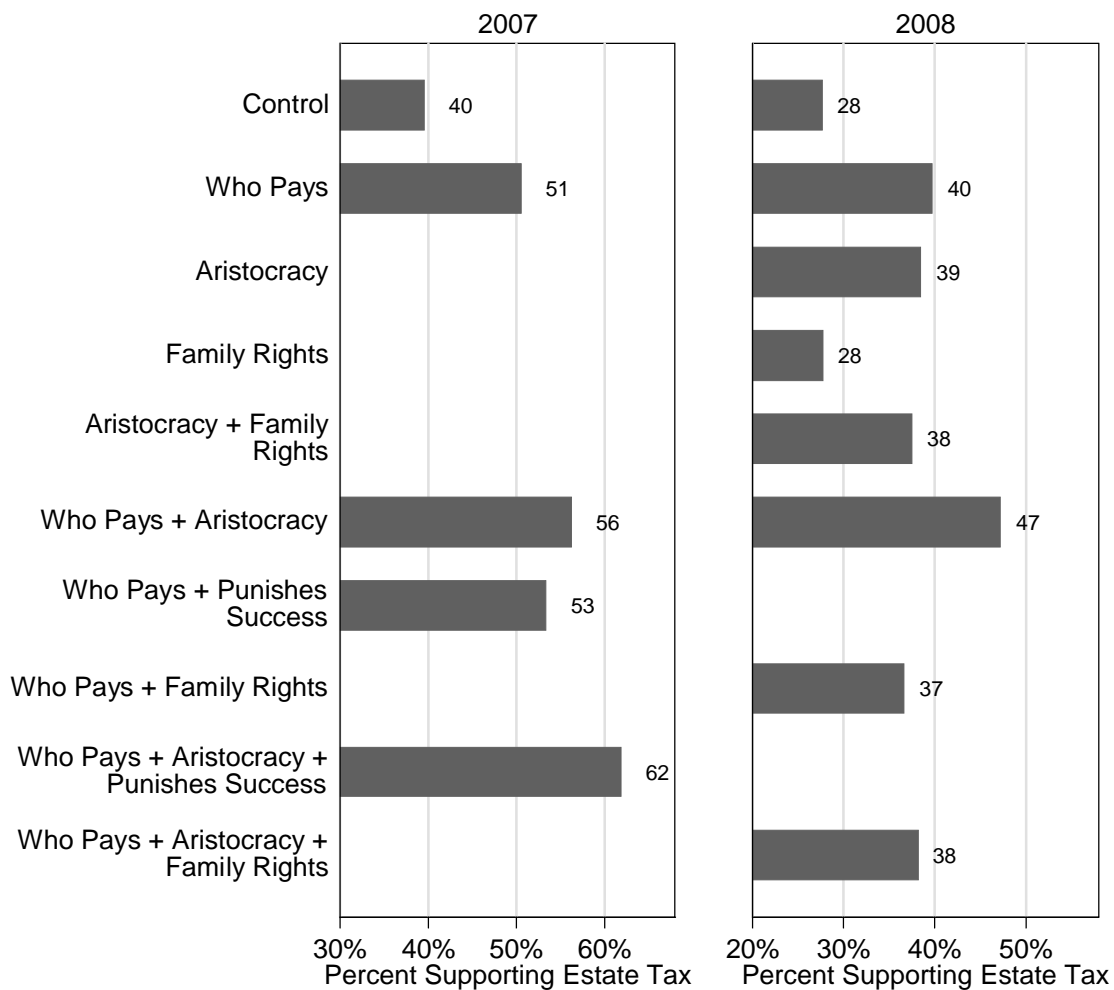
Table entries are logit coefficients with standard errors in parentheses. The dependent variable is coded 0-oppose estate tax and 1-support estate tax. *p<.05. Source: 2007-2008 CCES.

Figure 1. The Contours and Consequences of Knowledge about the Estate Tax



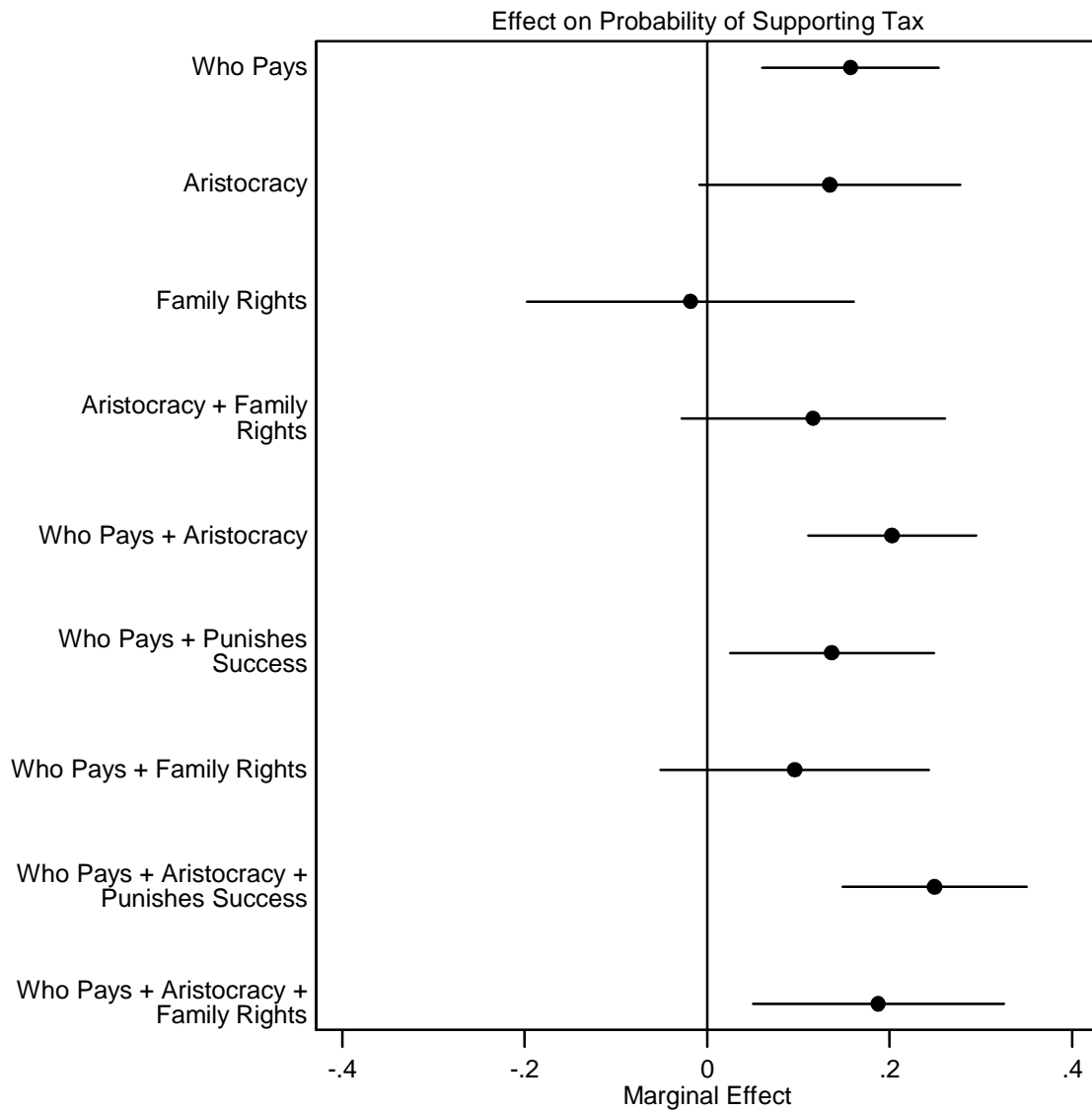
Panel (A) reports a histogram of estimates of estimates of how many Americans are subject to the estate tax. Panel (B) reports the change in the predicted probability of supporting the estate tax associated with a shift in knowledge (with a 95% confidence interval). Panels C and D report the marginal effect and 95% confidence interval of a shift in knowledge from 1% to 40% for each level of party identification or ideology, respectively (see Models 3 and 4, Table A-1). Data source: 2008 CCES.

Figure 2. Support for the Estate Tax, by Experimental Condition



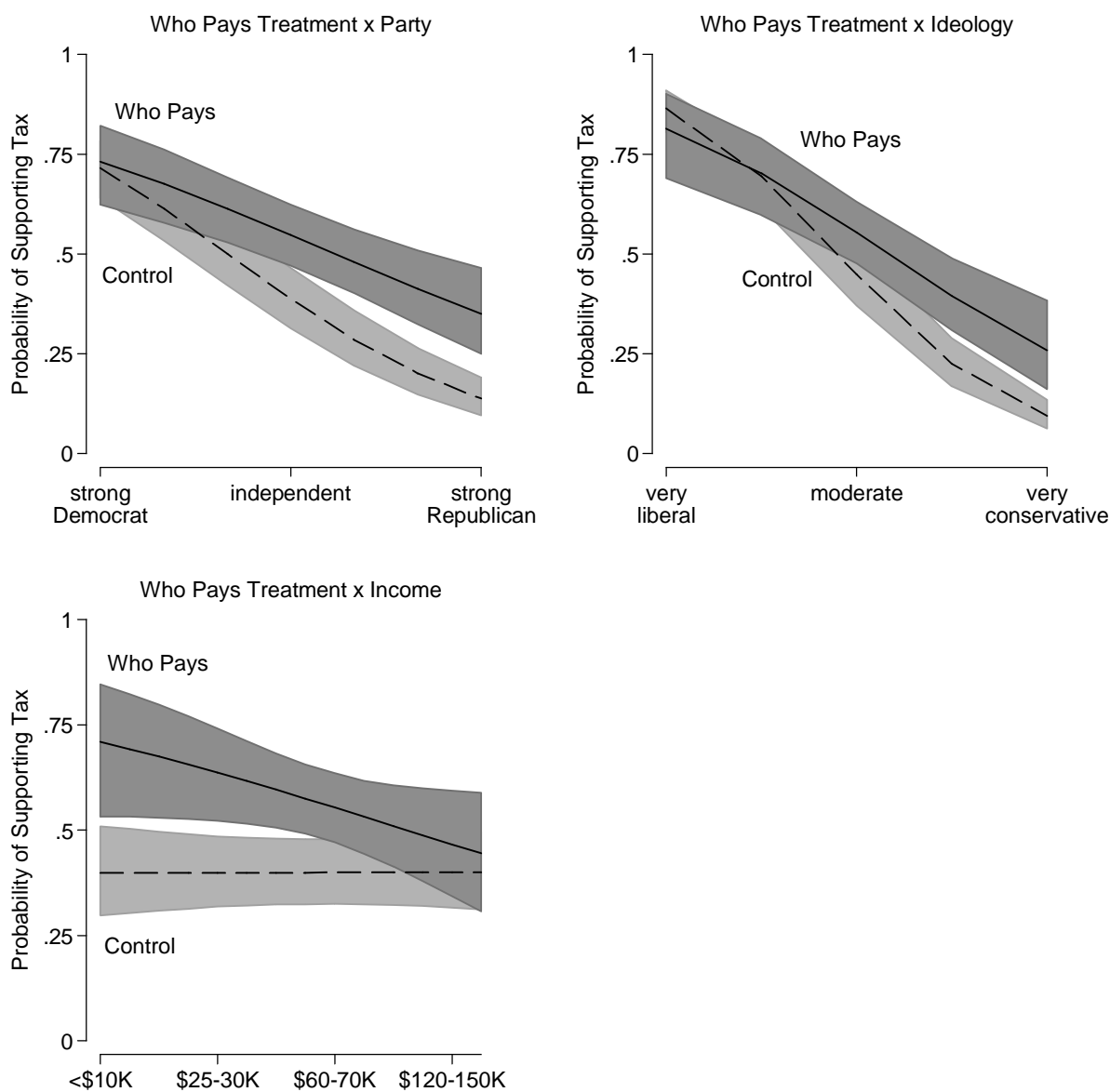
This figure presents the percent who support the estate tax in each experimental condition of the 2007 and 2008 CCES.

Figure 3. Marginal Effects of the Experimental Treatments and Covariates



The graphs represent the marginal effects of the experimental treatments and covariates, with 95% confidence intervals. These are derived from Model 1 of Table 2. Marginal effects are calculated with the treatment variables set at 0, with the year variable set at 2007, and party identification and income set at their means. Source: 2007-2008 CCES.

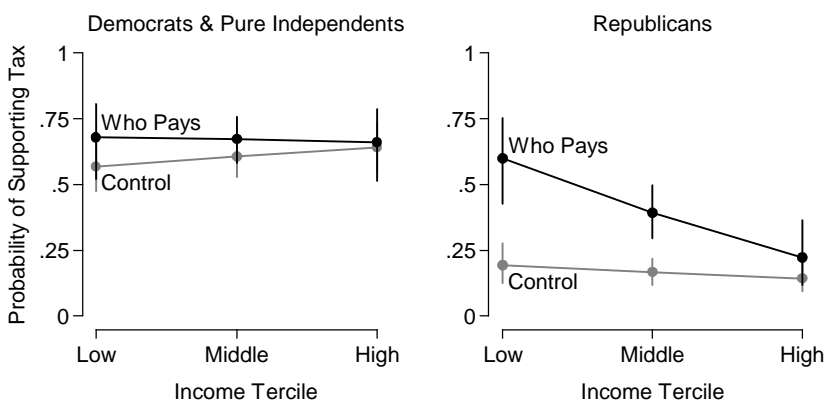
Figure 4. Conditional Effects of the Factual Information Treatment, by Party Identification, Ideology, and Income



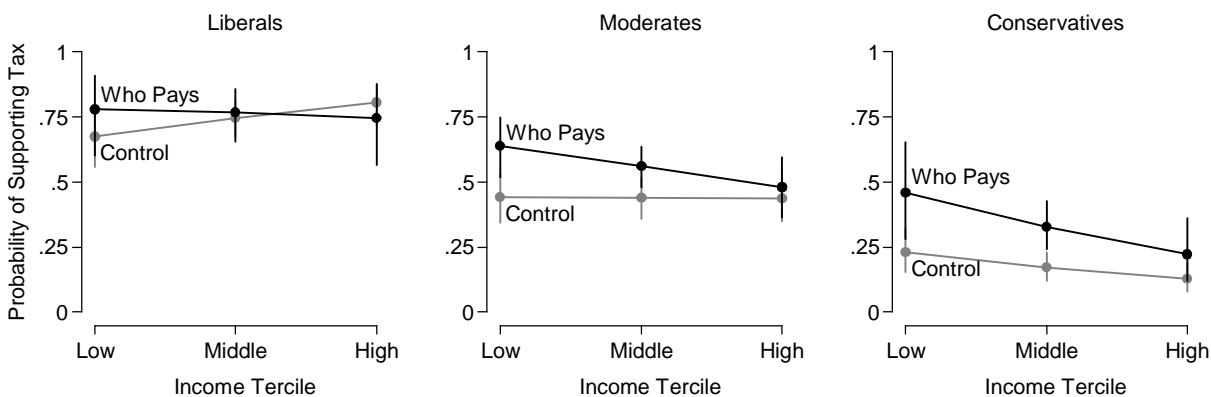
The graphs represent the estimated effects of each covariate on the probability of supporting the estate tax, with shaded 95% confidence intervals. The dashed line represents the control group and the solid line represents those who received the “who pays” treatment. These effects are derived from Models 2-4 of Table 2 and are calculated with the other treatment variables set at 0, the year variable set at 2007, and income set at its mean. Source: 2007-2008 CCES.

Figure 5. Conditional Effects of the Factual Information Treatment, by Income within Levels of Party Identification and Ideology

Panel A. Party Identification



Panel B. Ideology



The graphs represent the estimated effects of income on the predicted probability of supporting the estate tax, with 95% confidence intervals. The gray points represent the control group and the black points represent those who received the “who pays” treatment. These effects are derived from the models in Table A-4 and are calculated with the other treatment variables set at 0 and the year variable set at 2007. Source: 2007-2008 CCES.

Bibliography

- Achen, Christopher. 2002. "Toward a New Political Methodology: Microfoundations and ART." **Annual Review of Political Science** 5: 423–450.
- Althaus, Scott L. 2003. **Collective Preferences in Democratic Politics**. New York: Cambridge University Press.
- Barabas, Jason, and Jennifer Jerit. 2010. "Are Survey Experiments Externally Valid?" **American Political Science Review** 104(2): 226-242.
- Bartels, Larry M. 1996. "Uninformed Votes: Information Effects in Presidential Elections." **American Journal of Political Science** 40:194–230.
- 2002. "Beyond the Running Tally: Partisan Bias in Political Perceptions." **Political Behavior** 24: 117-150.
- 2005. "Homer Gets a Tax Cut: Inequality and Public Policy in the American Mind." **Perspectives on Politics** 3(1): 15-32.
- 2006. "A Tale of Two Tax Cuts, a Wage Squeeze, and a Tax Credit." **National Tax Journal** 59(3): 403-423.
- 2007. "Homer Gets a Warm Hug: A Note on Ignorance and Extenuation." **Perspectives on Politics** 5(4): 785-790.
- 2008. **Unequal Democracy: The Political Economy of the New Gilded Age**. Princeton: Princeton University Press.
- Berinsky, Adam. 2007. "Assuming the Costs of War: Events, Elites, and American Public Support for Military Conflict." **Journal of Politics** 69(4): 975-997.
- Birney, Mayling, Michael J. Graetz, and Ian Shapiro. 2006. "Public Opinion and the Push to Repeal the Estate Tax." **National Tax Journal** 59(3): 439-461.
- Brambor, Thomas, William Roberts Clark, and Matt Golder. 2006. "Understanding Interaction

- Models: Improving Empirical Analysis.” **Political Analysis** 14(1): 63-82.
- Campbell, Angus, Philip E. Converse, Warren E. Miller, and Donald Stokes. 1960. **The American Voter**. New York: Wiley.
- Chong, Dennis, and James N. Druckman. 2007. “Framing Public Opinion in Competitive Democracies.” **American Political Science Review** 101(4): 637-655.
- Citrin, Jack, and Donald Green. 1990. “The Self-Interest Motive in American Public Opinion.” **Research in Micropolitics** 3: 1-28.
- Converse, Phillip E. 1964. “The Nature of Belief Systems in Mass Publics.” In David E. Apter (ed.), **Ideology and Discontent**. New York: Free Press.
- Delli Carpini, Michael X., and Scott Keeter. 1996. **What Americans Know About Politics and Why It Matters**. New Haven: Yale University Press.
- Gaines, Brian J., James H. Kuklinski, and Paul J. Quirk. 2007. “The Logic of the Survey Experiment Reexamined.” **Political Analysis** 15 (1): 1-20.
- Gibson, James L., and Gregory A. Caldeira. 2009. “Knowing the Supreme Court? A Reconsideration of Public Ignorance of the High Court.” **Journal of Politics** 71: 429-41.
- Gilens, Martin. 1999. **Why Americans Hate Welfare: Race, Media, and the Politics of Antipoverty Policy**. Chicago: University of Chicago Press.
- . 2001. “Political Ignorance and Collective Policy Preferences.” **American Political Science Review** 95 (2): 379-396.
- Graetz, Michael J., and Ian Shapiro. 2005. **Death by a Thousand Cuts: The Fight over Taxing Inherited Wealth**. Princeton: Princeton University Press.
- Greenberg, Quinlan, and Rosner. 2002. “Most Americans Support Estate Tax Reform, Not Repeal.” <http://www.greenbergresearch.com/index.php?ID=1232>. Accessed 30 June 2009.
- Hacker, Jacob, and Paul Pierson. 2005. “Abandoning the Middle: The Bush Tax Cuts and the Limits

- of Democratic Control.” **Perspectives on Politics** 3(1): 33-54.
- Hillygus, D. Sunshine, and Todd Shields. 2008. **The Persuadable Voter**. Princeton: Princeton University Press.
- Hochschild, Jennifer. 1980. **What's Fair? American Beliefs about Distributive Justice**. Cambridge, MA: Harvard University Press.
- Howell, William, Paul Peterson, and Martin West. 2010. “Meeting of the Minds, Results from the Fourth Annual **Education Next**-PEPG Survey.” **Education Next**. 11(1): 20-31.
- Janjigian, Vahan. 2008. “Warren Buffet’s Tax Fetish.” **Forbes**. http://www.forbes.com/2008/05/01/buffett-vahan-janjigian-pf-ii-in_ty_0430soapbox_inl.html. Accessed 27 March 2009.
- Jerit, Jennifer. 2009. “How Predictive Appeals Affect Policy Opinions.” **American Journal of Political Science** 53(2): 411-426.
- Johnston, David Cay. 2001. “Dozens of Rich Americans Join in Fight to Retain the Estate Tax.” **New York Times**. 14 February.
- King, Gary, Michael Tomz, and Jason Wittenberg. “Making the Most of Statistical Analyses: Improving Interpretation and Presentation.” **American Journal of Political Science** 44(2): 341-355
- Krupnikov, Yanna, Adam Seth Levine, Arthur Lupia, and Markus Prior. 2006. “Public Ignorance and Estate Tax Repeal: The Effect of Partisan Differences and Survey Incentives.” **National Tax Journal** 59(3): 425-437.
- Kuklinski, James H., Paul J. Quirk, Jennifer Jerit, David Schwieder, and Robert Rich. 2000. “Misinformation and the Currency of Citizenship.” **Journal of Politics** 62: 791-816.
- Lodge, Milton, and Charles Taber. 2000. “Three Steps toward a Theory of Motivated Reasoning.” In Arthur Lupia, Mathew D. McCubbins, and Samuel L. Popkin (eds.), **Elements of Reason: Cognition, Choice, and the Bounds of Rationality**. New York: Cambridge University Press. pp. 183-213.
- Lupia, Arthur, Adam Seth Levine, Jesse O. Menning, and Gisela Sin. 2007. “Were Bush Tax Cut

- Supporters ‘Simply Ignorant?’ A Second Look at Conservatives and Liberals in ‘Homer Gets a Tax Cut’” **Perspectives on Politics** 5(4): 773-784.
- Luskin, Robert C., and John G. Bullock. 2011. “‘Don’t Know’ Means ‘Don’t Know’: DK Responses and the Public’s Level of Political Knowledge.” **Journal of Politics** 73(2): 547-557.
- Marcus, George E., W. Russell Neuman, and Michael MacKuen. 2000. **Affective Intelligence and Political Judgment**. Chicago: University of Chicago Press.
- Mucciaroni, Gary, and Paul J. Quirk. 2006. **Deliberative Choices: Debating Public Policy in Congress**. Chicago: Chicago University Press.
- Neuman, W. Russell. 1986. **The Paradox of Mass Politics: Knowledge and Opinion in the American Electorate**. Cambridge, MA: Harvard University Press.
- Penn, Schoen & Berland Associates, Inc. 2005. “Recent Estate Tax National Polling Findings.” <http://www.coalition4americaspriorities.com/pdfs/pollfindings.pdf>. Accessed 27 March 2009.
- Prior, Markus, and Arthur Lupia. 2008. “Money, Time, and Political Knowledge: Distinguishing Quick Recall and Political Learning.” **American Journal of Political Science** 52(1): 169-83.
- Schaffner, Brian F. and Mary Layton Atkinson. 2009. “Taxing Death or Estates? When Frames Influence Citizens’ Issue Beliefs.” In Brian F. Schaffner and Patrick J. Sellers (eds.), **Winning with Words: The Origins and Impact of Political Framing** New York: Routledge Press.
- Slemrod, Joel. 2006. “The Role of Misconceptions in Support for Regressive Tax Reform.” **National Tax Journal** 59(1): 57-75.
- Stoker, Laura. 1992. “Interests and Ethics in Politics.” **American Political Science Review** 86(2): 369-380.
- Wlezien, Christopher 1995. “The Public as Thermostat: Dynamics of Preferences for Spending.” **American Journal of Political Science** 39 (4): 981-1000.
- Zaller, John. 1992. **The Nature and Origins of Mass Opinion**. Cambridge: Cambridge University Press.

Appendix 1. Information about the Cooperative Congressional Election Studies

The 2007 and 2008 Cooperative Congressional Election Studies were conducted on-line by YouGov/Polimetrix. YouGov selects respondents from its PollingPoint panel—a large group of people who have agreed to take periodic surveys—by first drawing a random sample from the Census Bureau’s American Community Survey (ACS).¹² They then match each individual from the ACS to his or her most similar counterpart in the PollingPoint panel. This matching procedure, combined with traditional post-stratification weights, produces a sample that is nationally representative in terms of age, sex, race, and education.

Two investigations of non-probability Internet-based samples (Malhotra and Krosnick 2007; Sanders et al. 2007) find that their results may differ from traditional probability samples in both the mean levels of particular attributes and in the relationship among different attributes, although the Sanders et al. paper reaches a more sanguine conclusion about the substantive importance of such differences than does Malhotra and Krosnick.¹³ A study comparing a Polimetrix/YouGov on-line sample to samples gathered via other modes (phone and mail) found relatively few mean differences in the attributes of these samples (Ansolabehere and Schaffner 2011).¹⁴ These initial studies suggest that more work needs to be done to assess the representativeness of different kinds of on-line samples. In the interim, the American Association of Public Opinion Research (Baker et al. 2010)

¹² The response rate for the entire 2008 CCES, encompassing the interviews done for all participating universities, was 47% (using the AAPOR RR1 formula).

¹³ Malhotra, Neil, and Jon A. Krosnick. 2007. “The Effect of Survey Mode and Sampling on Inferences about Political Attitudes and Behavior: Comparing the 2000 and 2004 ANES to Internet Surveys with Nonprobability Samples.” *Political Analysis* 15(3): 286-323. Sanders, David, Harold D. Clarke, Marianne C. Stewart, and Paul Whiteley. 2007. “Does Mode Matter for Modeling Political Choice? Evidence from the 2005 British Election Study.” *Political Analysis* 15(3): 257-285.

¹⁴ Ansolabehere, Stephen, and Brian F. Schaffner. 2011. “Re-examining the Validity of Different Modes for Measuring Public Opinion in the U.S.: Findings from a 2010 Multi-Mode Comparison.” Working Paper. Downloaded May 24, 2011 from http://projects.iq.harvard.edu/cces/files/ansolabehere_schaffner_mode.pdf.

has concluded that researchers should not use on-line panels to estimate population values.¹⁵ These concerns are less salient for this study, which focuses on randomized experiments within these surveys.¹⁶ I have no reason to suspect that the CCES sample affects the generalizability of the experiment's effects, especially compared to the convenience samples (e.g., of college students) often employed in experiments. That said, because the American Association of Public Opinion Research recommends that researchers avoid using nonprobability on-line panels to make inferences about population values, I describe the results of these experiments in terms of these particular "samples" and "respondents" and avoid terminology ("Americans," "public opinion") that would suggest broader inferences.

¹⁵ Baker, Reg, et al. 2010. "AAPOR Report on Online Panels." *Public Opinion Quarterly* 74(4): 711-781.

¹⁶ It is also worth noting that the components of my analysis that rely on observational data from the CCES—e.g., the relationship between knowledge of who pays the estate tax and support for the tax (see Figure 1)—confirm prior studies using traditional surveys (Krupnikov et al. 2006; Slemrod 2006).

Table A-1. Relationship between Knowledge of Who Pays Estate Tax and Support for Tax

	Model 1	Model 2	Model 3	Model 4
Estimate of how many pay	-0.02*	-0.02*	-0.03*	-0.03*
	[0.005]	[0.005]	[0.01]	[0.01]
Estimate × Party identification			0.02*	
			[0.01]	
Estimate × Conservatism				0.03
				[0.02]
Party identification (high=Republican)	-2.76*		-3.21*	
	[0.27]		[0.36]	
Conservatism		-4.65*		-5.12*
		[0.46]		[0.62]
Income	0.06	0.09	0.02	0.1
	[0.37]	[0.39]	[0.38]	[0.39]
Constant	1.02*	2.27*	1.22*	2.50*
	[0.28]	[0.35]	[0.30]	[0.41]
N	615	599	615	599

Table entries are logit coefficients with standard errors in parentheses. The dependent variable is coded 0-oppose estate tax and 1-support estate tax. * $p < .05$. Source: 2008 CCES.

Table A-1 presents the relationship between the estimated percentage of Americans subject to the estate tax and support for the tax. Panels B, C, and D of Figure 1 are based on Models 1, 3, and 4, respectively.

Table A-2. Correlates of Knowledge about the Estate Tax

	(1)	(2)
Party identification (high=Republican)	6.71** [2.31]	
Conservatism		11.66** [3.45]
Education	-1.36* [0.69]	-1.04 [0.70]
Income	-11.67** [3.74]	-12.24** [3.83]
Constant	28.63** [2.73]	24.35** [3.30]
R-squared	0.04	0.05
N	731	694

Table entries are OLS regression coefficients with standard errors in parentheses. The dependent variable is coded so that higher values indicate larger estimates of the percentage of people who must pay the estate tax. Source: 2008 CCES.

Table A-2 presents models of the relationships between party identification and ideology and knowledge of who pays the estate tax. The results show that the average estimates of Republicans and conservatives are higher than those of Democrats and liberals, respectively.

Table A-3. The Conditional Effects of the Factual Information Treatment, Including Interactions with Knowledge

	Model 1	Model 2	Model 3	Model 4
Who Pays x Party Identification	1.92*	1.83*		
	[0.68]	[0.68]		
Who Pays x Conservatism			3.02*	2.88*
			[1.09]	[1.11]
Who Pays x Knowledge		1.13		1.42
		[1.07]		[1.16]
Who Pays	-0.04	-0.21	-1.28	-1.47*
	[0.47]	[0.52]	[0.66]	[0.70]
Party identification	-3.29*	-3.20*		
	[0.31]	[0.32]		
Conservatism			-5.49*	-5.30*
			[0.54]	[0.55]
Knowledge of Who Pays Estate Tax		-1.84*		-2.27*
		[0.54]		[0.59]
[other covariates not displayed]				
Constant	0.18	0.66	1.95*	2.49*
	[0.36]	[0.39]	[0.44]	[0.47]
N	615	615	599	599

Table entries are logit coefficients with standard errors in parentheses. The dependent variable is coded 0-oppose estate tax and 1-support estate tax. *p<.05. Source: 2008 CCES.

Models 3-4 of Table 2 show how the correct factual information presented in the “who pays” treatment has larger effects on Republicans and conservatives, relative to Democrats and liberals. Table A-2 shows that Republicans and conservatives also have higher, and more inaccurate, estimates of the percent that pays the estate tax. Table A-3 displays the results of models that include an interaction between the “who pays” treatment and knowledge of the estate tax. The question is whether this interaction weakens the interactions between this treatment and party identification and ideology. The results provide no evidence for this.

Further examination of the predicted probabilities (Brambor, Clark, and Golder 2006) also finds that the marginal effect of the “who pays” treatment is characterized by significant uncertainty

at all levels of estate tax knowledge. Figure A-1 presents these probabilities for Model 2 of Table A-3. Taken together, these results fail to establish that the effects of the “who pays” treatment vary with respondents’ preexisting knowledge of how many pay the estate tax, or that such variation weakens the conditional relationship between this treatment and party identification or ideology.

Figure A-1. Effect of “Who Pays” Treatment by Estimates of How Many Pay the Estate Tax

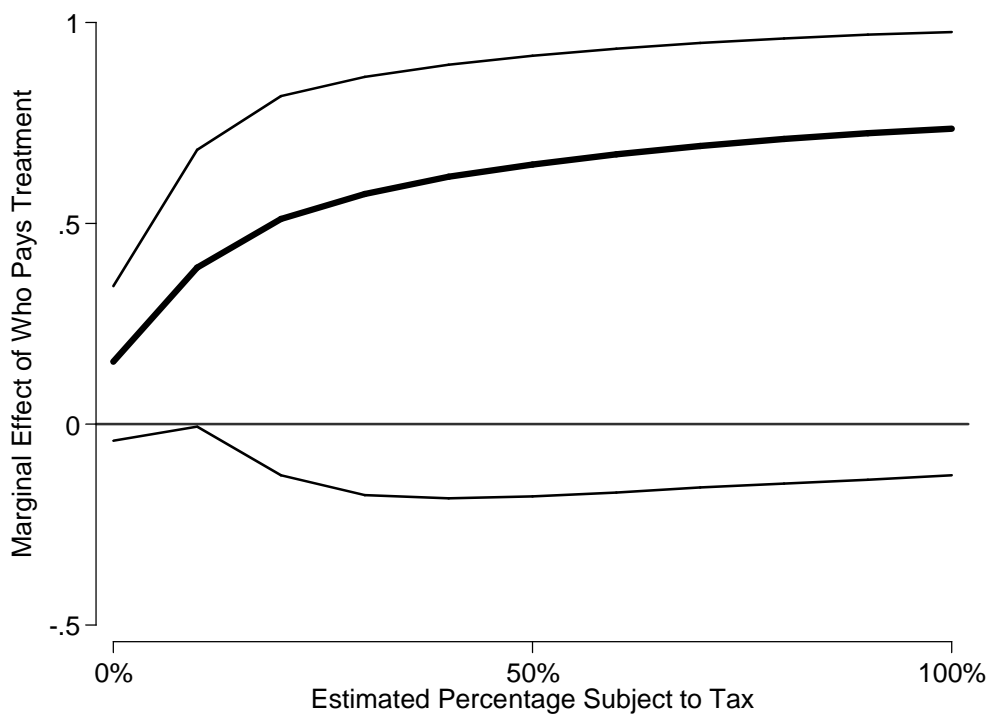


Table A-4. Three-Way Interactions among “Who Pays Treatment,” Political Predispositions, and Income

	Model 1 Predisposition= Republican dummy	Model 2 Predisposition= Ideology
Who Pays × Predisposition × Income	-0.45 [0.43]	0.26 [0.59]
Who Pays × Predisposition	1.32* [0.55]	0.45 [0.75]
Who Pays × Income	-0.21 [0.28]	-0.46 [0.39]
Predisposition × Income	-0.34 [0.19]	-0.71* [0.25]
Income	0.15 [0.11]	0.35* [0.16]
Predisposition	-1.72* [0.25]	-1.96* [0.31]
Who Pays	0.52 [0.39]	0.60 [0.52]
[other covariates not displayed]		
Constant	0.27 [0.20]	0.74* [0.25]
N	1324	1349

Table entries are logit coefficients with standard errors in parentheses. The dependent variable is coded 0-oppose estate tax and 1-support estate tax. In these models, party identification is collapsed into a dummy variable (0-Democrat/pure independent and 1-Republican), ideology is collapsed into 3 categories (liberal, moderate, and conservative), and income is collapsed into three categories (\$0-40,000, \$40-80,000, and \$80-150,000 or above). *p<.05. Source: 2007-2008 CCES.

The results in Figure 5 are based on the coefficients presented in Table A-4.