

# Responsiveness without Representation: Evidence from Minimum Wage Laws in U.S. States

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**Abstract:** *How well does public policy represent mass preferences in U.S. states? Current approaches provide an incomplete account of statehouse democracy because they fail to compare preferences and policies on meaningful scales. Here, we overcome this problem by generating estimates of Americans' preferences on the minimum wage and compare them to observed policies both within and across states. Because we measure both preferences and policies on the same scale (U.S. dollars), we can quantify both the association of policy outcomes with preferences across states (responsiveness) and their deviation within states (bias). We demonstrate that while minimum wages respond to corresponding preferences across states, policy outcomes are more conservative than preferences in each state, with the average policy bias amounting to about two dollars. We also show that policy bias is substantially smaller in states with access to direct democratic institutions.*

**Replication Materials:** The data, code, and any additional materials required to replicate all analyses in this article are available on the *American Journal of Political Science* Dataverse within the Harvard Dataverse Network, at: <https://doi.org/10.7910/DVN/PB8X8P>.

How well does public policy represent mass preferences in U.S. states? Political scientists approach this question with strong theoretical expectations. Classic accounts of political competition predict that electoral incentives force lawmakers to enact relatively centrist policies that are close to the preferences of their states' median or average voter (Downs 1957; Erikson 2015). In the context of federalist systems, this means that variation in policy outcomes across subnational units is expected to reflect the geographically heterogeneous preferences of voters. The U.S. federalist system is thus presumed to lead to welfare gains because like-minded voters are sorted into subnational constituencies that enact policies reflecting their preferences (Oates 1999; Tiebout 1956).

However, evaluating whether these expectations hold is surprisingly difficult using standard empirical approaches to the study of representation. The findings from

this work can largely be summarized by two stylized facts. First, many studies have demonstrated that policies across the United States are *responsive* to public opinion in the sense that more liberal states tend to adopt more liberal policies (Erikson, Wright, and McIver 1993). Despite this empirical regularity, a more recent body of work suggests that state policies are nevertheless often *incongruent* with public opinion in that they fail to align with majority preferences (Lax and Phillips 2012; Matsusaka 2010).

As valuable as these findings are, studies employing either responsiveness or congruence as evaluative criteria cannot test central claims about the quality of representation in the U.S. federal system. In particular, because they do not compare preferences and individual policies on a scale that corresponds to the standard spatial account of politics, they fail to provide substantively meaningful estimates of policy *bias*—the ideological distance between average opinion and policy within states. Moreover, for

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the same reason, they are also unable to quantify the degree of policy responsiveness: that is, whether the variation in policy outcomes is large or small compared to the corresponding variation in preferences across states.

This article contributes to the empirical literature on the opinion–policy relationship by providing estimates of policy bias in the context of minimum wage laws enacted in U.S. states. Our empirical analysis relies on measures of state-specific preferences based on a nationally representative survey in which we elicited individual preferences about the minimum wage using an open-ended question. Employing multilevel modeling with poststratification (MrP; Park, Gelman, and Bafumi 2006), we use these data to generate estimates of the average preferences in each state so that we can compare them to policy outcomes on a meaningful cardinal scale (i.e., dollars).

Comparing preferences and policy outcomes in this way yields three main empirical findings. First, while there is a strong correlation between preferences and policies across states, policy outcomes are underresponsive to public opinion: A one-dollar difference in average preferences translates to only about \$0.60 in terms of policy outcomes. Second, this responsiveness coexists with a substantively large conservative policy bias; on average, state minimum wages are set at a level approximately two dollars per hour lower than the wage state residents would prefer, corresponding to about twice the standard deviation of average state preferences. Finally, we find that minimum wage laws are substantially closer to average preferences in states with access to direct democracy.

## Conceptual Overview

Empirical studies of representation are grounded in a populist account of democracy (Achen and Bartels 2016; Dahl 1973) that evaluates policy outcomes based on how closely they reflect constituent preferences (Achen 1978). The existing literature has grappled with a formidable challenge when making empirical inferences about the opinion–policy relationship: a lack of data on policy and preferences that are measured on the same scale (Erikson, Wright, and McIver 1993, 92–94).

Researchers have responded to this problem with two distinct approaches. In one strand of the literature, studies exemplified by Erikson, Wright, and McIver (1993) have explored policy *responsiveness*: the relationship between public opinion and policy outcomes *across* states. The key idea behind this approach is that even if preferences and policy outcomes are measured on different scales, responsiveness is informative about whether more

liberal states end up with more liberal policies. Studies of responsiveness using a variety of approaches to measuring both policies and preferences have found exactly this pattern.<sup>1</sup>

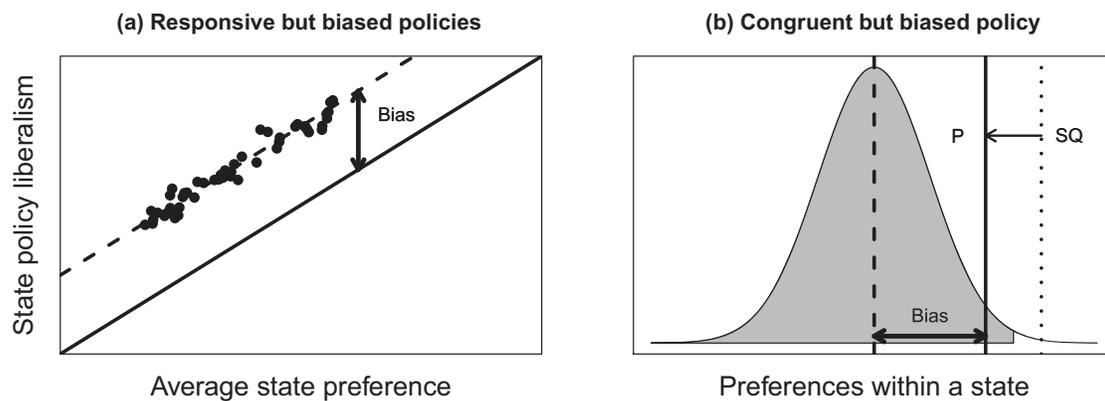
A related set of studies focusing on individual policy outcomes (Lax and Phillips 2012; Matsusaka 2010) have explored *congruence*: whether or not individual policies in a jurisdiction are supported by the majority. These studies have led to much less optimistic conclusions about state-house democracy—they find that states often fail to enact policies supported by even large opinion majorities, and congruence is barely greater than would be expected by chance (Lax and Phillips 2012, 149). Thus, a key issue in the study of the opinion–policy relationship is an apparent tension between the results of these two approaches (Erikson 2015).

One way to reconcile these seemingly contradictory findings is to realize that both approaches test necessary rather than sufficient conditions for the closeness of policy to average opinion. As we illustrate in the left panel of Figure 1, responsiveness can coexist with bias, resulting in policies that are far from mass preferences. In the example depicted in the figure, policy is highly responsive to average preferences across states ( $r = 0.98$ ), but policies are nevertheless very far from preferences within states; policy bias is equivalent to two-thirds of the range of average preferences.

The right panel of Figure 1 illustrates a similar inferential challenge arising from the use of congruence. The figure shows the distribution of preferences within a single state and depicts two policy alternatives: the status quo (dotted line) and a proposed policy (solid line). Because the solid line is closer to the ideal point of the average voter, the proposal would garner majority support in the state. In fact, under standard assumptions, we would expect that all voters to the left of the cutpoint between the two policies would prefer the proposal to the status quo. Note, however, that the proposed policy is still extremely conservative compared to the preferences of the state.<sup>2</sup> Thus, it would be misleading to conclude that enacting the proposal over the status quo would lead to a policy that is *close* (as opposed to just closer) to average preferences. To summarize, neither the association of preferences and policies across states nor the congruence

<sup>1</sup>These studies include but are not limited to Erikson, Wright, and McIver (1993), Gerber (1996), Norrander (2000), Lupia et al. (2010), and Caughey and Warshaw (2017).

<sup>2</sup>To anticipate our empirical application, consider the example of the minimum wage. The fact that a majority of Americans would prefer raising the federal minimum wage to \$10.10 compared to the status quo of \$7.25 does not imply that an average American would prefer the minimum wage to be set at \$10.10.

**FIGURE 1 Inferential Challenges to the Study of Representation**

*Note:* Panel A depicts the hypothetical relationship between average preferences and policies across a set of states, measured on different scales. The dashed line indicates the best-fitting line (observed by the researcher), and the solid line depicts the unbiased mapping (i.e., the 45-degree line) between the two variables, which remains unobserved by the researcher. Policy is highly responsive to public opinion but deeply biased. Panel B depicts the distribution of ideal points in a hypothetical state as well as the ideological position of two alternative policies: an enacted policy  $P$  (solid line) and the status quo (dotted line). A large share of the electorate (shaded gray) prefers  $P$  to the status quo, and thus it is congruent with majority opinion. But the policy is biased: It is far from the preferences of the median voter (dashed line).

of a particular policy with majority opinion implies that policies are close to average preferences.

Our approach to addressing these issues is based on the introduction of an alternative measure of representation that directly captures the ideological distance between individual preferences and policies. The main assumption behind our approach is that there exists an ideological space in which citizens' preferences and policies can be directly compared. To formalize this idea, denote policies enacted in a set of jurisdictions (i.e., states) by  $W_s \in \mathbb{R}^+$  and denote the average preference of an individual residing in jurisdiction  $s$  by  $\Theta_s$ . In this framework, we define *policy bias* within a state as  $B_s = \Theta_s - W_s$ , or the signed deviation between average preferences and the policy outcome.<sup>3</sup>

As Figure 1 makes clear, the appeal of such a distance-based approach to representation is that it directly measures how well a particular policy outcome reflects preferences. Another advantage is that one can directly compare the quality of representation across states. For instance, several studies have attempted to test the proposition that policies in states that allow ballot initiatives better reflect citizens' preferences by comparing policy responsiveness (Lascher, Hagen, and Rochlin 1996) or congruence (Matsusaka 2010) across states with and without access to direct democracy. As we have shown that responsiveness

<sup>3</sup>Given that both policies and preferences on the minimum wage are in dollar amounts, larger values of  $W_s$  and  $\Theta_s$  imply more liberal outcomes, and positive values of  $B_s$  imply a *conservative* policy bias.

and congruence offer only indirect measures of representation, however, comparing these measures across groups of states does not afford a direct test of differential representation.<sup>4</sup> In contrast, our approach offers a straightforward test of the initiative hypothesis simply by comparing average policy bias across states.

Such a distance-based notion of representation has been proposed as early as Achen (1978), who used data from the pioneering study of Miller and Stokes (1963) to provide measures of ideological distance between legislators and their constituents.<sup>5</sup> More recently, researchers have used novel statistical methods as well as online probability surveys with unparalleled sample sizes to provide more precise assessments of the ideological deviation between citizens and their representatives (Bafumi and Herron 2010; Jesse 2009). However, due to the difficulty of

<sup>4</sup>For instance, as demonstrated by Matsusaka (2001), policy could be more responsive to preferences across states without access to popular initiatives but could fall further from preferences within states.

<sup>5</sup>We note here that Achen (1978) also uses the term *bias* to describe the intercept of the regression equation predicting legislator ideology with district average ideology. Our notion of policy bias at the level of states is closely related to Achen's *centrism*, which he defines as the squared ideological distance between a legislator and the average voter in her jurisdiction,  $C_s = (W_s - \Theta_s)^2$ . We use bias instead of centrism to evaluate representation for two reasons. First, assessing the squared rather than signed deviation between average preferences and policies permits the assessment of the *magnitude* but not the *direction* of policy bias. Second, using signed rather than squared distances keeps our measure of representation on an intuitive scale (U.S. dollars, in the context of minimum wage laws).

obtaining comparable measures of mass preferences and policy outcomes, this approach has not been extended to the study of the opinion–policy relationship.

## Research Design

### Minimum Wage Laws

Our empirical analysis compares citizens' preferences about the minimum wage to corresponding state laws. This focus comes with both advantages and some limitations. First, the minimum wage as a policy issue is salient and “easy” enough to expect most individuals to have developed meaningful opinions about it (Carmines and Stimson 1980).<sup>6</sup> At the same time, given the complexity of the mechanisms through which the minimum wage operates, one could argue that these opinions are uninformed or simply do not reflect their holders' best interests. The economic impact of minimum wages has been hotly debated among experts (Card and Krueger 1994; Dube, Lester, and Reich 2010; Dube, Naidu, and Reich 2007; Neumark, Salas, and Wascher 2014; Sabia, Burkhauser, and Hansen 2012), indicating the difficulty of the inferential challenge. Yet even if citizens do not understand how minimum wages work, they can still evaluate how they impact their own financial situations and those of others (Fiorina 1981) and thus form preferences over future policy changes based on personal experience.

Second, minimum wage laws lend themselves well to our research design because we can map the universe of possible policies onto a meaningful scale (hourly wages in dollars). This property of minimum wage legislation has been used in the past to test theories of legislative behavior (Krehbiel and Rivers 1988) as well as in models of lawmaking (Clinton 2012). Of course, minimum wage laws are complex—they can specify different rates for different groups (e.g., tipped workers) and can include provisions that require the indexation of the minimum wage to inflation. Throughout the article, we maintain the assumption that both preferences and policies can be characterized by the highest minimum wage in a state, so that we can make meaningful comparisons between the two.<sup>7</sup>

<sup>6</sup>The issue of raising the federal minimum wage was a cornerstone of the platforms of the Democratic presidential candidates in 2016, and local movements seeking to raise state minimum wages also received significant media coverage that year.

<sup>7</sup>An additional complication is that variation in costs of living makes it difficult to compare policy bias across states. Thus, when interpreting such comparisons, it should be noted that a dollar difference between preferred and actual minimum wages amounts to a larger bias in a cheaper locality.

Finally, it is important to note that because minimum wages are defined nominally, their purchasing power shrinks with inflation.<sup>8</sup> Given that only a handful of states set minimum wages that are indexed to consumer prices, a conservative policy bias will naturally emerge as the real value of minimum wages shrinks over time—even if they initially reflect the preferences of the median voter. In our analysis, we define minimum wages according to their 2016 value, disregarding indexation or promised future increases. As such, our results capture bias at the particular point in time when we measured mass preferences.<sup>9</sup>

## Data and Methods

We fielded a national survey to 3,500 respondents from YouGov's panel in the winter of 2016.<sup>10</sup> The key innovation of the survey was that we measured preferences about the minimum wage using the following open-ended question: “The [respondent's state] minimum wage is \$X an hour. How much (in dollars) do you think your state's minimum wage should be (0 meaning there should be none)?” While one might be concerned that people might be unable to express meaningful preferences on a numerical scale, the distribution of responses (summarized in Appendix A in the supporting information [SI]) suggests that most survey takers understood the question and provided genuine responses.<sup>11</sup>

The survey was programmed so that each respondent was provided with the actual minimum wage in his or her state in order to reduce measurement error (Ansolabehere, Meredith, and Snowberg 2012). In principle, such anchors could lead to the overestimation of responsiveness (if respondents answer based on the anchor) and could also affect our inferences about bias. To

<sup>8</sup>For instance, the federal minimum wage that was changed to its current level in 2009 had the buying power of \$8.51 in 2018 prices.

<sup>9</sup>Focusing on a snapshot in time also avoids having to make assumptions about changes in people's preferences as a result of gradually lowering real minimum wage levels. Complex dynamic interactions between policy, preferences, and policy feedback (via economic growth, for example) are also conceivable.

<sup>10</sup>In order to approximate a representative sample of the adult population, YouGov employs matched sampling that involves taking a stratified random sample of the target population and then matching available Internet respondents to the target sample. Such samples are shown to closely resemble the correlational structure of random samples using telephone numbers and residential addresses (Ansolabehere and Schaffner 2014).

<sup>11</sup>We top-coded responses at \$25.00 because for a handful of responses (e.g., “1133” or “810”), it seemed likely that they reflected typing mistakes rather than genuine preferences. This decision does not affect our results because it affects less than 0.5% of our data.

assess this possibility, we repeated our analyses using the responses to a preceding question about the federal minimum wage (for which the anchor was identical across states), yielding very similar results (see Figure B3 in SI Appendix B).

The key challenge is to estimate state-specific average opinion from individual data even though our survey is not representative at the level of states and contains only a handful of interviews in some of the smallest states. Following recent literature (Ghitza and Gelman 2013; Lax and Phillips 2009), we employ multilevel regression and poststratification (MrP), an approach that has been shown to produce more accurate estimates of state-level opinion than traditional techniques.

MrP proceeds in three main steps. First, we model the preferred level of the state minimum wage expressed by each survey taker using demographic variables and geographic predictors. The demographics variables are race/ethnicity,<sup>12</sup> gender, four age groups, five levels of education, and 12 income groups. The state-specific random intercepts are modeled as a function of presidential election results and cost of living.<sup>13</sup> The model we fit takes the form below:

$$\begin{aligned}
 y_i &\sim \mathcal{N}(\alpha_{j[i]}^{\text{race}} + \alpha_{k[i]}^{\text{gender}} + \alpha_{l[i]}^{\text{edu}} + \alpha_{m[i]}^{\text{age}} + \alpha_{n[i]}^{\text{income}} \\
 &\quad + \alpha_{o[i]}^{\text{state}}, \sigma_y^2), \\
 \alpha_j^{\text{race}} &\sim \mathcal{N}(0, \sigma_{\text{race}}^2), \text{ for } j = 1, \dots, 3, \\
 \alpha_k^{\text{gender}} &\sim \mathcal{N}(0, \sigma_{\text{gender}}^2), \text{ for } k = 1, 2, \\
 \alpha_l^{\text{edu}} &\sim \mathcal{N}(0, \sigma_{\text{edu}}^2), l = 1, \dots, 5, \\
 \alpha_m^{\text{age}} &\sim \mathcal{N}(0, \sigma_{\text{age}}^2), m = 1, \dots, 4, \\
 \alpha_n^{\text{income}} &\sim \mathcal{N}(0, \sigma_{\text{income}}^2), n = 1, \dots, 12, \\
 \alpha_o^{\text{state}} &\sim \mathcal{N}(\beta^0 + \beta^{\text{Demvote}} \times \text{Demvote}_o + \beta^{\text{COL}} \\
 &\quad \times \text{COL}_o, \sigma_{\text{state}}^2), o = 1, \dots, 51.
 \end{aligned}$$

Second, the estimated parameters from the model are used to predict individual-level responses (i.e., minimum wage preferences) for each of the possible 73,440 combinations of demographic and geographic characteristics. Note that our survey does not include members of most of these groups. Estimating average preferences for each group is still feasible because the model pools the information from the entire data set to estimate each cell average.

<sup>12</sup>The groups we use are African American, Hispanic, and white. Following most MrP applications, we code respondents of other racial groups as whites.

<sup>13</sup>We use Obama's share of the two-party vote in the 2012 election. Cost of living data is from Glasmeier (2016).

Finally, predictions for each demographic cell within a state are averaged together in a weighted mean according to the cells' proportion of the overall population of each state to obtain state-specific average preferences.<sup>14</sup> We use the same model to estimate preferences about the federal minimum wage as well. In SI Appendix B, we show that our results are similar no matter which estimates we employ and that our results also hold if we use simple disaggregation to estimate state-specific preferences (see SI Figures B3–B5).

## Results

### Policy Bias in the States

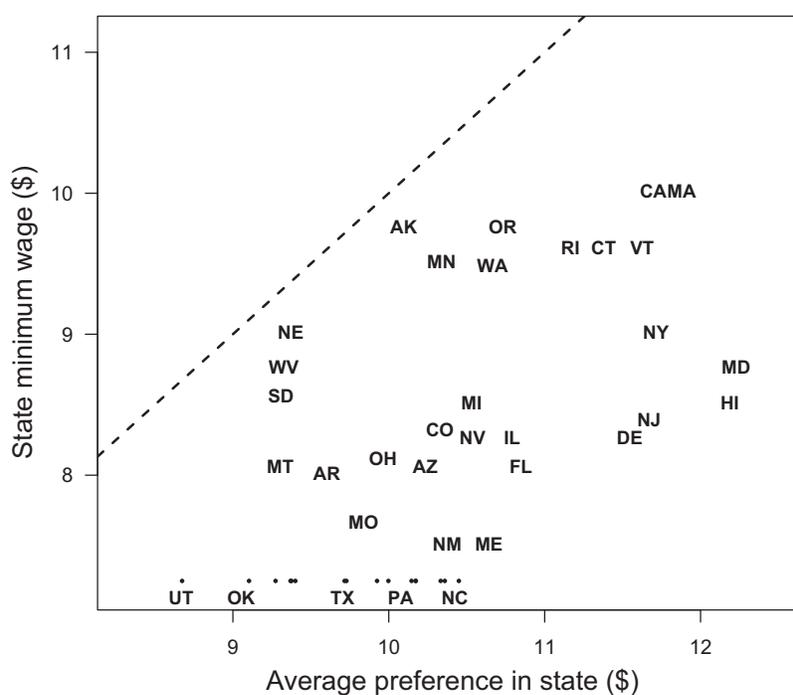
Figure 2 plots the estimated average preferences against the actual state minimum wages that were in place at the time of the survey. A striking feature of the relationship between preferences and policy across the American states is that in each of the 50 states, the minimum wage was less than what the average voter would have preferred. On average (weighted by state population), state minimum wages were \$2.26 lower than average preferences, and policy bias exceeded \$2 in more than half of the states.<sup>15</sup>

These results illustrate how standard approaches to studying the opinion–policy relationship provide an incomplete picture of representation in the states. Even though our results reveal a profound mismatch between average preferences and policies *within* states, the conventional approach would result in misleading conclusions based on a strong association between preferences and policies *across* states. Note that we reach these opposing normative conclusions based on responsiveness and bias even though the federal minimum wage causes state policies to be both less responsive *and* less biased. Assuming that some states would enact minimum wages below \$7.25 in the absence of federal law, abolishing it would increase responsiveness and exacerbate bias at the same time.

Although the goal of this article is descriptive and we do not have a credible research design to identify the causal determinants of policy bias, these patterns are consistent with some of the recent literature on representation in the United States. Most importantly, the finding that the minimum wage is lower in all states than what their voters prefer on average is consistent with recent

<sup>14</sup>We obtain population counts and proportions for each state/demographic cell from the Census's 2015 American Community Survey 1-year file.

<sup>15</sup>Average state preferences ranged from \$8.67 (Utah) to \$15.38 (District of Columbia). We report estimates for each state in Table A1 of SI Appendix A.

**FIGURE 2 Responsiveness and Bias in State Policies**

Note: The figure plots minimum wage laws in U.S. states (y-axis) against estimated average preferences (x-axis). The dashed line indicates the ideal relationship (i.e., policy corresponding exactly to average preferences) so that observations below the line exhibit a conservative bias. Abbreviations for 16 of the 21 states with \$7.25 minimum wages are omitted for better readability.

accounts of asymmetric influence (Bartels 2016; Gilens 2012). Given that higher minimum wages are more popular among lower-income Americans (see SI Figure A2), the uniform conservative bias results in policies that better represent the preferences of the rich than the poor.<sup>16</sup>

Of course, the conservative bias could be driven by other mechanisms. First, it could be driven by a systematic underestimation of mass support for liberal policies on the part of legislators even if they *did* mean to enact centrist policies (Broockman and Skovron 2018).<sup>17</sup> Second, conservative bias is plausibly exacerbated by the influence of special interest groups (e.g., fast-food restaurants that pay the minimum wage to most of their

employees), through campaign finance or direct lobbying (Gilens and Page 2014). Finally, variation in the degree of policy bias could be partly explained by party control of the state legislature either because Republican elites prefer more conservative policy outcomes or because they are more responsive to their constituents (Caughy, Xu, and Warshaw 2017).

For a more cautious interpretation of our findings, it is worth noting that policy bias in this case is clearly driven by inertia. In 24 states, the minimum wage did not change at all between 2010 and 2018, and it is likely that the current policy bias in these states is greater than it was when those policies were first enacted. Moreover, states that enact minimum wage hikes often rely on gradual increases or utilize indexation to consumer price changes. Assuming that average preferences remain the same until these future increases are implemented, policy bias will shrink in these states or even result in minimum wages that are too high. Our results (discussed in detail in SI Appendix B) show that currently scheduled automatic increases will reduce conservative bias (averaged across all states) from \$2.25 in 2016 to \$1.31 in 2020.<sup>18</sup>

<sup>16</sup>Our sample size does not allow for the precise estimation of average preferences of income groups in each state. However, unless minimum wage preferences *increase* with income in some states, policies better represent the preferences of the affluent.

<sup>17</sup>An important caveat is that our state-level estimates capture the preferences of people in general rather than registered voters or those who turn out to vote in specific elections. We would expect voters' preferences to be better represented than those of nonvoters (Griffin and Newman 2005). We lack validated turnout measures to be able to examine this empirically but also note that the local referendum data capture only the preferences of voters.

<sup>18</sup>We thank an anonymous reviewer for this suggestion.

**TABLE 1 Direct Democratic Institutions Are Associated with Less Policy Bias**

	Dependent Variable		
	State Minimum Wage (1)	Bias (2)	Absolute Bias in 2020 (3)
Average Preference	0.698*** (0.082)		
Citizen Initiative	0.056 (1.724)	-0.900*** (0.215)	-0.698*** (0.239)
Average Preference × Citizen Initiative	0.064 (0.169)		
Constant	0.647 (0.921)	2.562 (0.149)	2.189 (0.175)
Observations	51	51	51
R <sup>2</sup>	0.549	0.261	0.144
Residual Standard Error	0.719	0.769	0.863

Note: OLS regressions with HC2 robust standard errors.  
 p < .1, p < .05, p < .01.

### Enhancing Representation through Direct Democracy

In light of the observed deviation between average preferences and policy outcomes, it is important to explore whether specific democratic institutions are more likely to improve representation. Given that bias may be driven by frictions between preferences and policies, the particular institutional arrangement we consider here is direct democracy. American states began to adopt direct democratic institutions in the Progressive Era in response to concerns about corruption in legislatures, especially in western and midwestern states reliant on extractive industry.<sup>19</sup>

Theoretically, citizen initiatives can align policy outcomes with average preferences either by voters enacting their preferred policy directly or by using initiatives as a credible threat against legislatures considering policy change (Lupia and Matsusaka 2004). These mechanisms, however, are subject to empirical and normative debate, with some arguing that direct democracy—whether via initiatives or referenda, which effectively veto a piece of passed legislation—can actually work to further entrench established interests with the knowledge and resources to manipulate the agenda via signature collection and independent expenditures.

A rich empirical literature on the effect of direct democracy has to date yielded mixed evidence. For instance, while some research has found that public poli-

cies in jurisdictions with direct democracy better reflect constituent preferences (Gerber 1996; Leemann and Wasserfallen 2016; Matsusaka 2010), others, including Monogan, Gray, and Lowery (2009), Lascher, Hagen, and Rochlin (1996), and Lax and Phillips (2009), fail to find such differences. Access to direct democracy could fail to improve representation for substantive reasons: There could be obstacles to write, qualify, and finance potentially successful ballot measures, or voter confusion could lead to the defeat of potentially popular proposals. On the other hand, the inferential challenges we describe in the context of evaluating representation also apply to comparing representation across jurisdictions with and without direct democratic institutions. Studies that measure opinion and policies on different scales cannot precisely assess the impact of direct democracy (Matsusaka 2001). Moreover, approaches focusing on individual policies yield mixed results perhaps due to the heterogeneous impact of direct democracy across policy issues.<sup>20</sup> Our research design offers a useful test case for studying the impact of popular initiatives by simply comparing policy bias across states with and without citizen initiatives.

We report the results of these analyses in Table 1. To make our findings comparable with the existing

<sup>19</sup>South Dakota modeled its 1898 adoption of the referendum process on that used in Switzerland.

<sup>20</sup>In the United States, Matsusaka (2010) finds increased congruence across 10 high-profile dichotomous issues in states with citizen initiative processes, whereas in Switzerland, Leemann and Wasserfallen (2016) reveal an association between canton-level direct democracy and congruence. By contrast, Lascher, Hagen, and Rochlin (1996), Lax and Phillips (2012), and Lax and Phillips (2009) find negligible effects of initiative processes on both responsiveness and congruence.

literature, we begin by reporting the responsiveness of minimum wage laws in states with and without citizen initiatives (column 1). Using this standard approach (Gerber 1996), we fail to reject the null that policy is more responsive in states with direct democracy: The interaction term between direct democracy and preferences is \$0.06 and not distinguishable from zero at conventional levels ( $p = .770$ ). When we instead compare *policy bias* between states with and without access to direct democracy (column 2), we find that minimum wages are substantially closer to average preferences in initiative states.<sup>21</sup> The magnitude of the conservative bias is \$0.90 less in states with access to direct democracy, compared to a baseline of \$2.56 in the rest of the states ( $p < .001$ ).<sup>22</sup>

One possible concern with our approach is that a static comparison of bias across states with and without popular initiatives may mask the impact of aggressive future increases. For instance, in Washington State, the minimum wage is scheduled to be set at \$13.50 by 2020, well above the estimated average preference for 2016. To explore this issue, we compared the average absolute difference between preferences and policies we expect to take place by 2020 across states with and without referenda (column 3). In particular, we use the absolute value of bias in this analysis because if the expected increases take place, minimum wages will be higher than current preferences in a handful of states by 2020. We find that by 2020, states with direct democracy are expected to have policies that are \$0.70 closer to current average preferences than those without access to referenda ( $p < .01$ ).

It is worth noting that many of the successful ballot initiatives raising the minimum wage have taken place at the local level rather than in the states. For instance, while as of 2018, the statewide minimum wage in Washington was \$12, large businesses in Seattle were required to pay their employees at least \$15 per hour. In effect, local minimum wages—often brought about by popular initiatives—have the potential to match the distinct preferences of those living in large and expensive cities without introducing liberal policy bias in other parts of

a state. At the same time, laws that preempt cities from passing their own local minimum wage laws have been enacted in over 25 states (National Employment Law Project 2017), perpetuating conservative policy bias in liberal cities within more conservative states (Goldstein and You 2017).

## Discussion

What do our findings tell us about the quality of democratic government in the states? Based on results from this particular policy domain, two patterns stand out. Even though statehouse democracy “works” in the sense that policy outcomes are tightly related to mass opinion across states, the same policies are fairly far removed from citizens’ measured preferences. These conclusions arise from a novel approach that enables us to contrast preferences and enacted policies on a meaningful scale. Beyond providing researchers with an easily interpretable measure of policy bias, this strategy allows us for the first time to *quantify* the relationship between the liberalism of state public opinion and a particular policy outcome, thereby attaining a longtime goal in the literature (Erikson, Wright, and McIver 1993). In particular, our findings imply that in the context of the minimum wage, policies are responsive but not responsive *enough* to state-level variation in policy preferences. This responsiveness gap produces a policy bias of \$2.26, equivalent to the difference between the average preferences of individuals in Tennessee and New York.

Our analyses comparing policy bias across states with and without access to citizen initiatives reveal that policy is substantially closer to average preferences in states with direct democratic institutions. While this evidence is inherently correlational, it is consistent with the notion that the observed democratic deficit could be ameliorated by giving citizens more direct control over policy outcomes. Of course, we acknowledge that even if direct democracy can help to align policies with voter preferences, it can result in outcomes that harm these same voters (Achen and Bartels 2016; Sances 2018). Thus, the normative appeal of direct democracy surely depends on whether policies reflecting mass preferences are normatively desirable in the first place.

In closing, we note two limitations of our approach and point to some possible avenues for future research. First, similar to many studies in the existing literature (Gerber 1996; Lax and Phillips 2009; Lupia et al. 2010), our empirical analysis focuses on a single policy. As a consequence, our results do not necessarily generalize

<sup>21</sup> Following Lax and Phillips (2012), we define direct democracy as an indicator for states that allow either constitutional or statutory citizen initiatives.

<sup>22</sup> As in the existing literature, our design does not recover the causal impact of direct democracy; referenda states could be different in a number of unobserved ways that themselves might impact policy bias. Setting aside the issue that direct democratic institutions are persistent and clearly not randomly assigned, a more subtle issue concerns its direct and indirect impact. As Lax and Phillips note (2012, 163), term limits—often brought about via citizen initiatives—appear to significantly boost responsiveness and congruence. But given the high collinearity between these institutional factors, it seems hopeless to estimate the causal impact of either.

to the opinion–policy relationship across all issues. It is possible, for instance, that in the case of other issues, policies are closer to the average preferences of citizens. In addition, average policy bias on other issues might be in the liberal rather than conservative direction. However, the existing research provides limited clues about both the magnitude and direction of policy bias for single issues, let alone their variation across issues.

Second, we again emphasize the lack of dynamics and causality in our approach. The cross-sectional association between average preferences and policies should not be taken as evidence that policy change is driven by changes in mass preferences (Caughey and Warshaw 2017). Indeed, since the last federal minimum wage hike took effect in 2009, 23 states have not chosen to adjust their own policies, suggesting a *prima facie* lack of dynamic responsiveness. Our static approach also limits our ability to explore how bias changes over time. However, the fact that a majority of Americans have consistently supported increasing the federal minimum wage since polling began on the issue (Roper Center for Public Opinion Research 2015) suggests that minimum wages have always been lower than the public would prefer.

We hope that our approach inspires future research on the determinants and consequences of policy bias, both in the United States and in other countries. Most immediately, our work can be extended in several ways. As we have noted, whether the patterns of responsiveness and bias we find generalize to other issues is an empirical question. Our open-ended approach can be adapted to other policy domains—both economic and social—that map onto continuous scales. Possibilities include marginal tax rates, lengths of criminal sentences, and amount of paid family leave (in weeks or months). How changes in preferences might impact future policy can also be tracked with panel surveys incorporating questions of this kind. Finally, our approach could unlock a host of questions about how intensely held preferences (e.g., among issue publics) interact with biases in policy outcomes.

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## Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

**Appendix A:** Survey data and state-level estimates

**Appendix B:** Validation and robustness