# Bicameralism and Policy Responsiveness to Public Opinion • •

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Abstract: Does the organization of the assembly affect whether governments deliver policy that reflects the public's changing preferences? Cross-national analyses of public opinion and policy outputs for policies concerning welfare and immigration show that governments respond to shifts in public opinion in systems with a dominant chamber but not where bicameralism is strong. Our theory's emphasis on the distribution of power between chambers further explains differences within bicameral systems: constraints on policy change mean that responsiveness is weaker where power is equally distributed between chambers but more robust where power is concentrated in the lower house. Evidence from institutional change in Belgium, where the fourth state reform shifted power away from the senate and disproportionately toward the lower house, provides corroborating evidence that policy becomes more responsive when constitutions concentrate legislative power. This study's findings have implications for our understanding of how bicameralism matters for government responsiveness to public opinion.

**Verification Materials:** The data and materials required to verify the computational reproducibility of the results, procedures and 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/C7A5TN.

hortly after forming a new government in 2014, Italian Prime Minister Matteo Renzi embarked on a series of ambitious reforms. Unlike his predecessors, Renzi was keen to implement several constitutional reforms, the chief among them to abolish Italy's "perfect" form of bicameralism, which grants commensurate powers to both houses of parliament in favor of a system that would shift power toward the Chamber of Deputies and away from the Senate. Supporters argued the reform would streamline Italy's sclerotic legislative process and enable the government to respond more

quickly to social and economic challenges. In December 2016, the proposal to amend the constitution was put to voters. The referendum was unsuccessful, and Renzi resigned the premiership soon thereafter.

Was the public's distaste for reform justified? On the one hand, perhaps they were keen to limit representatives' power by dividing it more or less equally across two houses. The division of the legislature as an antidote for the concentration of power can be traced back to Madison's assertion in Federalist No. 62 that a second legislative chamber is essential to provide a salutary check on

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<sup>1</sup>It also could be argued that the referendum was less a vote against reform and more a tool for punishing the government. However, public opinion surveys suggest this was not the case: more than 60% of voters said they decided based on the content of the reform compared with less than 15% who used their vote to reward or punish Renzi's government (ITANES 2016). The lack of knowledge of legislative structures did not drive voting decisions.

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the government. On the other hand, horizontal diffusion of legislative powers, particularly when divided equally between chambers, may be a drag on legislative action. As such, Italy's perfect bicameralism may be counterproductive in situations requiring substantial reform.<sup>1</sup>

We examine the impact of legislative power-sharing on government responsiveness to the public. Responsiveness is a central feature of liberal democracy (Dahl 1956; Erikson, Mackuen, and Stimson 2002; Hooghe, Dassonneville, and Oser 2019; Soroka and Wlezien 2010). The defining feature of political representation is "acting in the interest of the represented, in a manner responsive to them." (Pitkin 1967, 209). Responsiveness to public opinion, adds Powell (2004, 91), rates as "one of the justifications for democracy itself." To this point, many find that elected representatives and the governments they form are indeed responsive to public preferences (Budge et al. 2012; Canes-Wrone 2006; Kang and Powell 2010; Klüver and Spoon 2016; Soroka and Wlezien 2010; Spoon and Klüver 2014), though others are less sanguine (e.g., Achen and Bartels 2016; Giger, Rosset, and Bernauer 2012; Jacobs and Shapiro 2000).

But while theories of government responsiveness necessarily emphasize the influence of public sentiment, a range of factors contributes to policy outcomes. For instance, studies find economic downturns are associated with a decline in responsiveness (Clements, Nanou, and Real-Dato 2018; Ezrow, Hellwig, and Fenzl 2020) and with a widening gap in issue priorities between the masses and elites (Traber, Giger, and Häusermann 2018). Others report that responsive government is shaped by existing levels of (among others) taxes, interest rates, social spending, and pension reforms (e.g., Budge et al. 2012; Elsässer and Haffert 2021; Häusermann 2010; Kang and Powell 2010). Delving deeper, researchers identify the effects of institutional arrangements, including whether the opinion-policy link varies according to electoral rules, federalism, and multilevel governance (Soroka and Wlezien 2010; Peters 2016; Rasmussen, Reher, and Toshkov 2019).

Yet while political institutions figure prominently in current understandings of how representative democracy works, studies of opinion–policy linkages have paid little attention to the role of the assembly as the law-making apparatus. This omission is puzzling. The organization of assemblies deserves the attention of scholars of representation for several reasons. For one, as the setting where policies are proposed, assemblies are critical for crafting policy. Further, legislatures are the lynchpin connecting the voice of the people, who selected its members, to the government, from which it is formed. And perhaps more

so than other institutional features, the organization of legislatures has attracted the attention of would-be reformers. We are aware of only one study that considers the organization of the legislature and its relationship to public opinion. In an impressive study on the effects of institutions, Rasmussen, Reher, and Toshkov (2019) find that countries with two legislative chambers have a lower likelihood of opinion–policy congruence than countries with only one.

Rasmussen et al. examine congruence, while this article focuses on responsiveness. The distinction is not trivial. *Congruence* assesses factors that influence the "absolute ideological distance between the median citizen and the government" (Golder and Stramski 2010, 90), while *responsiveness* evaluates whether *changes* in citizen preferences are reflected by similar changes in preferences of elites or policy outputs *over time*.<sup>2</sup> The two concepts are not wholly independent: responsive policy tends to translate into congruence more than unresponsive policy. To the extent that policy is uniformly responsive to public opinion, congruence will not be sacrificed. However, arguably, unresponsive policy produces less congruent outcomes more often than not.

Perhaps for this reason, responsiveness of policy makers-agents to their citizens-principals occupies a privileged position for many theorists of democracy. Indeed, while theorists debate the direction and intentionality of voter-representative linkages, there is broad agreement that the linkage involves a temporal element. Dahl (1956) asserts that power is forward-looking, such that the voter exerts control over the representative insomuch as the latter acts in response to the former. Nagel's (1975, 29) view of power as a "causal relation between the preferences of an actor regarding an outcome and the outcome itself" is also consistent with a temporal sequence. Mansbridge (2003) offers a schema for understanding how temporal shifts relate to different forms of representation. These perspectives play out in empirical research. Government policy adjusts to changing preferences in the electorate with a lag (e.g., Kang and Powell 2010), whereas political parties may adjust more rapidly to shifting preferences during elections (e.g., Adams et al. 2004). Accordingly, we conceive of representation as a dynamic process encompassing short- and long-term effects (see also Erikson, Mackuen, and Stimson 2002).

Just as the literature on responsiveness largely neglects the assembly, the range of studies on the implications of bicameralism have yet to turn their attention to

<sup>&</sup>lt;sup>2</sup>Golder and Stramski (2010) introduce several alternative conceptualizations of congruence that also account for the diversity of citizens' ideological preferences and parties' policy positions in parliament.

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elite responsiveness. This is true despite a wide-ranging literature on legislatures. Researchers have examined bicameralism's influence on many important political phenomena, including intraparty bargaining (Bäck, Debus, and Klüver 2016), government formation and duration (Druckman and Thies 2002), budget deficits (Heller 1997), and party organization (VanDusky-Allen and Heller 2014). So, while there are several studies of democratic responsiveness on the one hand and bicameralism on the other, a direct link between them has yet to be made.

Does bicameralism matter for responsiveness, and if so, how? To the extent it enhances the attention paid to diverse groups, two chambers may be better than one. However, a more equitable distribution of power between chambers may constrain policy change compared to a single-chamber legislation process with less friction between citizens and policy makers. In this way, unicameral designs may be preferable for channeling responsive policies. After developing these competing claims, we present three tests of their implications. We first analyze public opinion and policy outcomes in two salient issue areas from 15 developed democracies, encompassing a wide range of cameral diversity. We show that while governments deliver policy in line with shifts in public preferences, responsiveness is weaker where bicameralism is stronger. Second, we examine differences within bicameral designs. We demonstrate that the basis of policy makers' reduced responsiveness under bicameralism is due to the balancing of formal powers across chambers. Other sources of diversity within bicameral systems-including congruence in method of selection, differences in partisan compatibility between chambers, and means by which agreements are reached across chambers—bear no effect. Third, we leverage the case of constitutional reform in Belgium to examine whether an increase in legislative power concentration enhanced policy responsiveness. Indeed, creating a weaker upper house paved the way for government social policies that were more responsive to public opinion. In short, we show that bicameralism diminishes policy responsiveness, that it is further diminished where the two chambers are equal in power, and that institutional change facilitates policy responsiveness.

Study findings are important for theoretical and policy reasons. With respect to theory, we test a heretofore overlooked prediction for how institutions affect the functioning of democracies. To some, bicameral institutions matter because the presence of an upper chamber alters prospects for policy outcomes to diverge from the status quo (Druckman, Martin, and Thies 2005; Tsebelis and Money 1997). For others, the influence of institu-

tions over policy outcomes stems from how authorized control over decision making is organized and allocated (Eppner and Ganghof 2015; Lijphart 2012; Soroka and Wlezien 2010; Thies and Yanai 2014). Extending both perspectives, we show that the number of chambers matters for responsiveness and, furthermore, so too does the power distribution between them.

This study also carries policy implications. While constitutional features generally resist change in more established democracies, there are nevertheless many important postwar examples. Denmark and Sweden eliminated their upper houses in 1953 and 1970, respectively. In Belgium, constitutional reforms during the 1990s reallocated power vertically (by relocating powers to the regions) and horizontally (by shifting power to a more dominant lower chamber and away from the upper house). In Britain, reform of the House of Lords has been a point of discussion for well over a century by MPs and constitutional scholars seeking to modernize British democracy (Russell 2013). And while recent efforts in Italy were unsuccessful, discussions have continued about whether and how to reform the status quo. Furthermore, reforms to legislative institutions are frequently proposed in the service of making politics more inclusive of diverse communities or, alternatively, for more efficiency. Our results inform these discussions by spelling out how the organization of legislatures impacts the relationship between policy and the public will.

# Unicameralism, Bicameralism, and Policy Responsiveness

According to a stylized chain of representation, citizens' interests are transmitted to and articulated by political parties which, after the election and upon the formation of governments, translate public demands into policy outcomes. In practice, however, institutions facilitate or impede the transmission of public preferences into policy outcomes. Opportunities for derailing responsive policy outputs are manifold. The electoral system is one such example. While proportional electoral rules mean that the median legislator will be closer to the median voter (Powell 2000), they also are more apt to produce multiparty governments, which blurs the lines of accountability and delays responsiveness (Hobolt, Tilley, and Banducci 2013). Consistent with this latter view, Ferland (2020) shows that responsiveness is inversely related to the number of parties in the cabinet and that governments tend to be more responsive under majoritarian electoral designs. By awarding outsized influence to plurality winners, majoritarian rules enable governing

parties to focus less on crafting concessions to junior partners and more on delivering for the electorate.

The vertical distribution of power—through federalism, regional autonomy, or supranational governance may constrain the capacity of national governments to respond to policy preferences. Peters (2016) finds federal systems to be more responsive than unitary systems because local political elites are closer to the public and more sensitive to public opinion than are elites at the national level. The horizontal division of power may also matter. Governments may be more responsive to changes in public opinion in "Madisonian" presidential systems than in systems where legislative and executive power are fused (Soroka and Wlezien 2010). The separation of power grants proposer power to the legislature, relegating the president to reactor. In contrast, where the legislature and executive are fused, as in parliamentary systems, cabinet dominance leads to high levels of discretion in policymaking.<sup>3</sup> Building on these arguments, we concur that constitutional choices to concentrate or diffuse power matter for the connection between policy outcomes and public opinion. Our focus, however, is squarely on where policy is proposed: the legislature.

With respect to policy responsiveness, does it make a difference whether legislation requires one chamber or two? One possibility is that by creating more pathways for popular influence on agents, bicameralism facilitates responsiveness. This notion has a long history in liberal thought, from Blackstone's (1979[1785]) argument for a mixed constitution in England to Madison's articulation of the separation of powers in Federalist No. 51 (Hamilton et al. 2017[1788]). Shugart and Carey (1992) argue that presidential systems offer two agents for the electorate, the executive and the legislative, which increases opportunities for responsiveness. While their focus is on the two separate branches of government, the logic carries over to the separation of power within the assembly. As with arguments about the benefits of decentralization in general (Peters 2016), the horizontal division of legislative power increases the opportunities for citizens to register their views with their representatives. Similarly, a second chamber may offer a voice to interests in the population that may have gone underrepresented in the lower chamber. Such is the case for legislatures in Germany, Switzerland, and the United States, where legislators are allocated to the lower houses based on population and to the upper houses based on territory or region. Third, delaying and intercameral

bargaining contribute a level of stability requisite for liberal democracy. Bicameralism limits the negative populist tendencies of majority rule (Riker 1992; cf. Chiou and Rothenberg 2003). If political competition is in two or more dimensions, legislatures operating under majority rule permit out-of-equilibrium policies. Rules of intercameral bargaining, however, reduce disagreements among legislators to "one privileged dimension" (Tsebelis and Money 1997, 4), and responsiveness to the median voter is enhanced when issues are bundled into one dimension (Schofield 1985). Together, these features of bicameralism bring more representatives closer to the national publics' political preferences.

Yet a more straightforward expectation is that bicameralism reduces responsiveness. Bicameralism disperses decision-making authority (Powell 2000), requiring more elaborate rules and staging to pass legislation. While this results in outcomes more proximate to the status quo (or more *stable* outcomes), policy decisions produced through multistage processes are ill suited for efficient and responsive decision making. Of course, if the public prefers stable policy outcomes over changes to the status quo, then dispersed authority may not be viewed as a disadvantage.

The argument that responsiveness is greater in systems with a single chamber follows directly from the original function of second chambers: as a brake on unfettered populist rule. The expansion of the franchise led to fears of reforms against the interests of the aristocracy, and an upper chamber served as a conservative safeguard against such excesses. While this initial function has become largely obsolete, upper chambers still carry a degree of status quo bias. By adding a chamber as an additional veto player within the legislative branch, the set of alternative bills that may beat the status quo shrinks, and with it the prospects for policy change (Tsebelis and Money 1997). Furthermore, a key consequence of reducing the range of plausible policy alternatives is that bicameralism subsequently reduces governments' agenda-setting role (Tsebelis 2017). This constraint weakens governments' capacity to initiate responsive policies compared to less constrained governments in unicameral systems.

The relationship between the design of the legislature and representation further requires a consideration that not all bicameral designs are alike. Upper chambers vary with respect to the selection of their members. In most, members are elected directly, but in others (such as the Dutch Eerste Kamer) selection is indirect, or (in the case of the German Bundesrat) they are appointed. Other points of variation include whether similar or different political parties dominate in each chamber and in the process for which agreements are reached between

<sup>&</sup>lt;sup>3</sup>Possession of dissolution powers in parliament grants prime ministers even more discretion in forming policy (Ecker, Schleiter, and Bäck 2019).

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chambers.<sup>4</sup> This observation raises a second question, the answer to which has important implications for designing constitutions with the twin goals of stability and responsiveness in mind: Do differences among bicameral systems matter for policy responsiveness?

Since bicameral designs vary in the distribution of constitutionally endowed powers, we extend these arguments into theoretical expectations for government responsiveness within bicameral systems. In some cases, power is equally distributed across chambers—what Lijphart (2012) calls "symmetric"—and in others, the lower house holds a preponderance of power ("asymmetric"). If policy is more responsive when legislative authority is concentrated, then responsiveness is weakest where the constitutional powers assigned to the second chamber are on par with the first, that is, where it is symmetric. Likewise, when power is more concentrated in the lower chamber, the upper chamber is less likely to delay or prevent policy movement, and the government has more freedom to move policy in the direction favored by the public.

To summarize, bicameral systems may enhance the coverage of political preferences in the population, but they also disperse authority, which could inhibit responsive decision making. These two competing sets of arguments support the following hypotheses:

Hypothesis 1a (bicameral responsiveness): Policy responsiveness to public opinion is stronger in systems with bicameral legislatures compared to those with unicameral legislatures.

Hypothesis 1b (unicameral responsiveness): Policy responsiveness to public opinion is stronger in systems with unicameral legislatures compared to those with bicameral legislatures.

A similar logic informs expectations about variations within bicameral systems. Power is most diffused when the power of the upper chamber is on par with the lower, and this dispersed authority should matter for responsiveness. This leads to a second pair of expectations:

Hypothesis 2a (power symmetry): Within bicameral systems, policy responsiveness to public opinion is stronger where powers are distributed symmetrically between chambers.

Hypothesis 2b (power asymmetry): Within bicameral systems, policy responsiveness to public opinion is stronger where powers are distributed asymmetrically between chambers.

We evaluate these hypotheses by examining the determinants of government policy in the short and long term. Our primary measure of policy pertains to welfare state generosity. In the Western democracies we analyze, social welfare is the most salient dimension of policy contestation.<sup>5</sup> We supplement these analyses by considering a second—and increasingly salient—divisive issue in the form of immigration policy. For both expectations, we assume that social policy reacts to stimuli with a lag since it, as Kang and Powell (2010, 1017) note, "has a large inertial component, limiting programmatic change in a given year." Furthermore, to the extent short-term effects exist, the aforementioned status quo bias arguments suggest that unicameral systems are more likely to exhibit short-term responsiveness than bicameral systems.

## **Data and Measures**

We measure social policy using the welfare state generosity index developed by Scruggs, Jahn, and Kuitto (2017). The index combines a range of social insurance benefits, including employment insurance, sick pay insurance, and public pensions.<sup>6</sup> Our measure of public opinion gauges the preferences of the median voter. For policy preferences, we rely on the left–right scale from one (left) to 10 (right), using surveys from the Eurobarometer Trend File from 1978 to 2002 (Schmitt et al. 2008), all relevant Eurobarometer Surveys from 2003 to 2010, and the Swiss Household Panel survey (Voorpostel et al. 2018) series to calculate the median positions for each country and year.<sup>7</sup> Previous studies report a

<sup>5</sup>According to expert assessments of issue saliency (Benoit and Laver 2006, 176 and Supplementary Information [SI] Section D, pages 8–9), issues related to the economic left–right (tax spend and deregulation) rank as most salient in 11 of the 15 cases we examine in depth below. In the remaining four, immigration (Denmark and the Netherlands) and the European Union (Portugal and the United Kingdom) ranked just ahead of left–right considerations. Responsiveness is expected to be weaker for less salient issues across political systems (Spoon and Klüver 2014).

<sup>6</sup>The index is the sum of the subindices for unemployment and sick pay insurance and pension generosity. Country–year values are standardized using *z*-scores normalized on the cross-sectional mean and standard deviation in 1980 (Scruggs 2014). Proponents of this measure argue that it is a better measure of government policy than social welfare spending because the latter is influenced by unemployment rates and the population of pensioners, which cause welfare spending to vary even if entitlement policies remain unchanged.

<sup>7</sup>If the distribution of citizen preferences is bimodal, this could have significant implications for the analysis. However, the median voter position and the *mean* voter position are expected to be similar because the distributions of respondents' self-placements are generally unimodal and symmetric (Adams and Somer-Topcu

<sup>&</sup>lt;sup>4</sup>We consider multiple points of variation within bicameral designs in the empirical analyses below.

strong relationship between redistributive attitudes and left–right self-placements, and they report strong estimates of this relationship (Benoit and Laver 2006; Hellwig 2015; Rohrschneider and Whitefield 2012).<sup>8</sup>

To assess the impact of cameral structure on the opinion–policy relationship, we classify national legislatures according to Lijphart's (2012) index of bicameralism. The index considers two criteria: (i) the similarity of the two houses' power over legislative outcomes ("symmetry") and (ii) the similarity in the houses' method of selection ("congruence"). Combining these features yields an index ranging from unicameralism to strong bicameralism (see Table S1, page 2). To assess the robustness of our results, the analyses that follow employ both the index measure and a binary indicator coded 1 for systems that score three or higher on the index and 0 otherwise.

# **Analysis**

We begin by comparing changes in policy outputs. Does the capacity of two-chambered legislatures contribute to greater policy change, or are legislatures with single chambers better able to depart from the status quo? To examine this question in this context, we compare absolute annual changes in welfare state generosity for countries with unicameral and bicameral assemblies. We pool information across all years available in the comparative welfare entitlements dataset (Scruggs, Jahn, and Kuitto 2017).<sup>10</sup>

2009, 682). Ward et al. (2011, fn. 50) report a correlation of 0.97 between estimates of the median and mean. Powell (2021) further shows that when the distribution of citizen self-placements is characterized as normal, there are only slight differences between the use of the interpolated median and the mean.

<sup>8</sup>Annual measures of public preferences for social welfare do not exist cross-nationally in the Eurobarometer or the other survey series. SI Section D (pages 8–9) reports evidence from the European Social Survey evaluating the relationship between preferences on redistribution and left–right positions that these preferences correlate at a relatively high level.

<sup>9</sup>The index yields values of one, two, three, or four. The only exception is the United Kingdom, which Lijphart (2012, 200–201) "demotes" to 2.5 from a score of three. The House of Lords is the product of a predemocratic era, which renders it less influential according to Lijphart, compared to upper houses with stronger democratic underpinnings in other medium strength bicameral systems.

<sup>10</sup> Series run from 1971 to 2010 for Austria, Belgium (1975), Denmark, Finland (1976), France (1976), Germany, Greece (1981), Ireland (1973), Italy (1975), Netherlands (1975), Portugal (1986), Spain (1983), Sweden, Switzerland (1983), the United Kingdom, Australia, Canada, Japan, New Zealand, Norway, South Korea (2008), and the United States. Note that the last six countries on

Figure 1 shows that in unicameral systems, the estimated year-to-year change in welfare state generosity is 0.52, and in bicameral systems the estimated change is 0.40. The difference in means is 0.11 (p = 0.03). Year-to-year changes to welfare state generosity policies are larger in unicameral political systems than in bicameral political systems. This finding is consistent with the unicameral hypothesis and, more generally, with claims of bicameralism's status quo bias. However, from these estimates we cannot infer that the larger policy changes reflect government responsiveness to changes in public opinion. On this basis we proceed.

To capture responsiveness as a dynamic process, we test research hypotheses using dynamic models. We model the responsiveness of policy outputs to public opinion as a general error correction model. The model is of the form  $\Delta Y_{it} = \alpha_0 + \alpha_1 Y_{it-1} + \beta_0 \Delta X_{it} + \beta_1 X_{it-1} +$  $\varepsilon_{it}$ , where  $\Delta$  is the difference operator, t indexes time (in years), and i countries. Substantively, the model is flexible enough to uncover both the immediate and longterm impact of a shock to X on Y. Empirically, modeling shifts in policy outcomes rather than levels helps address potential issues of nonrandom error structures (Tromborg 2014). The contemporaneous impact of a shock to X is provided by  $\beta_0$ , while the cumulative impact is  $\beta_1/\alpha_1$  (De Boef and Keele 2008). Models include country fixed effects to account for unobserved country-specific factors.12

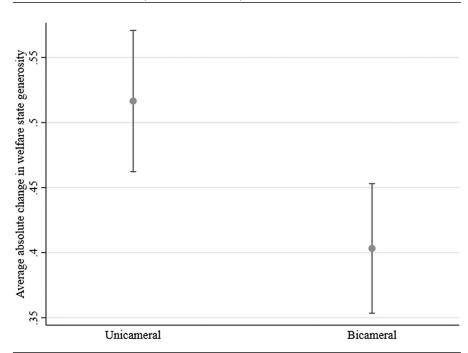
We estimate the model on data from 15 countries and report the results in Table 1. Models 1 and 2 stratify the sample and report estimates separately for unicameral and bicameral systems, classified as in Figure 1 above. In these models, our chief interest is in the impact of median voter position on welfare state generosity. This coding convention means that a negative coefficient indicates responsiveness: if the median voter is moving right and increasing in value, this suggests that welfare state generosity should decrease. In Model 1, the coefficient of the long-term effect for the lagged public opinion is negatively signed and precisely estimated, a finding consistent with previous research (Budge et al. 2012; Elkjær and Iversen 2020; Kang and Powell 2010; Soroka and Wlezien 2010). Estimates show that the transmission be-

the list are not in the cross-national analyses below that rely on Eurobarometer survey data.

<sup>&</sup>lt;sup>11</sup>We provide further evidence of bicameralism's status quo bias in SI Section C (pages 5–7).

<sup>&</sup>lt;sup>12</sup>Section E of the SI (page 10) discusses time series and stationarity considerations, and Table S5 (page 11) reports the results of alternative estimators. Table S6 (page 13) provides a check of the robustness of these results to the inclusion of several control variables.

FIGURE 1 Cameral Structure and Absolute Changes in Welfare State Generosity across Twenty-Two Countries



*Notes*: The figure shows the mean of the absolute changes in welfare state generosity observed in unicameral and bicameral systems. To depict the difference between means with 95% confidence, vertical bars for each category report 84% confidence intervals (Julious 2004).

tween public opinion and policy occurs over time rather than immediately. Model 2 reports estimates for bicameral systems. In this case, the contemporaneous effect of the median voter position is indistinguishable from zero while the lagged series returns a positive-signed coefficient.<sup>13</sup>

Model 3 assesses whether these differences in the influence of public opinion on policy change is statistically significant by pooling all observations but interacting median voter positions with a dummy variable coded 1 if medium-to-strongly bicameral and 0 otherwise. Recalling that a negative coefficient indicates more responsiveness, the positively-signed coefficients on the interaction terms implies that responsiveness to the median voter is weaker in systems with two chambers. For systems with a single chamber, the coefficient on the median voter position<sub>t-1</sub> variable is negatively signed and precisely estimated ( $\beta = -0.95$ , s.e. = 0.14), but for bicameral systems it is no different from zero ( $\beta = 0.36$ , s.e. = 0.26).<sup>14</sup>

Figure 2 leverages the dynamics of the error correction model to chart the effects of public opinion shifts on policy change over time. We use the Model 3 estimates to display a forecast of welfare state generosity when the median voter position shifts one standard deviation to the left (see SI Section I, page 15, for details). As we would expect, a leftward opinion shift increases welfare state generosity steadily over time in unicameral systems. But in bicameral systems, positions of the median voter position produce almost no effect on policy.

The last column in Table 1 treats the bicameralism variable as continuous. <sup>15</sup> We again find that policy responsiveness to public opinion declines as the strength of bicameralism increases. Further, treating cameral structure in terms of degrees of bicameralism, rather than its presence or not, has the effect of revealing a contemporaneous effect of public opinion change on policy change. The contemporaneous impact of the median voter position is also negatively signed and precisely estimated,

along Lijphart's four-point scale. The substantive findings are unchanged from those reported in Table 1. However, long-term effects notwithstanding, we further find that responsiveness is most rapid in the subset of strongly or purely unicameral cases (i.e., those scoring one on the index).

<sup>&</sup>lt;sup>13</sup>This finding is not robust across specifications (see Figure 2), and analyses below suggest that it is driven by symmetrical bicameral systems (see fn. 19).

<sup>&</sup>lt;sup>14</sup>In SI Table S7 (page 14) we reestimate Table 1 Model 3, dichotomizing the index of bicameralism at alternative points

 $<sup>^{15}\</sup>mbox{We}$  rescale the bicameralism index to zero to one to facilitate comparability.

TABLE 1 Unicameralism, Bicameralism, and Policy Responsiveness to the Median Voter: Welfare State Generosity

|   | (1)<br>Unicameral   | (2)<br>Bicameral    | (3)<br>All          | (4)<br>All          |
|---|---------------------|---------------------|---------------------|---------------------|
| Welfare state generosity <sub>t-1</sub>                   | -0.072**<br>(0.025) | -0.122**<br>(0.027) | -0.084**<br>(0.018) | -0.080**<br>(0.018) |
| $\Delta Median \ voter \ position_t$                      | -0.437 (0.431)      | 0.245<br>(0.304)    | -0.433 (0.363)      | $-0.998^*$ (0.446)  |
| Median voter position <sub>t-1</sub>                      | -0.926**<br>(0.307) | 0.449*<br>(0.200)   | -0.949**<br>(0.257) | -1.271**<br>(0.376) |
| $Bicameral_t$   |                     |                     | -7.009**<br>(2.015) |                     |
| $\Delta Median\ voter\ position_t \times Bicameral_t$     |                     |                     | 0.616<br>(0.546)    |                     |
| $Median\ voter\ position_{t\text{-}1} \times Bicameral_t$ |                     |                     | 1.313**<br>(0.370)  |                     |
| Index of bicameralism <sub>t</sub>                        |                     |                     |                     | -9.608**<br>(3.377) |
| $\Delta Median\ voter\ position_t \times Index_t$         |                     |                     |                     | 1.945*<br>(0.880)   |
| $Median\ voter\ position_{t1} \times Index_t$             |                     |                     |                     | 1.839**<br>(0.614)  |
| Constant  | 7.364**<br>(1.902)  | 2.455<br>(1.296)    | 7.882**<br>(1.539)  | 9.449**<br>(2.142)  |
| Observations $R^2$  | 202<br>0.165        | 184<br>0.148        | 386<br>0.159        | 386<br>0.154        |

*Notes*: Cells report least squares coefficients with standard errors in parentheses. Models include country fixed effects. The dependent variable is  $\Delta$ Welfare state generosity<sub>t</sub>. Negative estimates indicate stronger government responsiveness to public opinion. \*p < 0.05, \*\*p < 0.01, two tailed test.

both directly and conditioned by its interaction with the bicameralism index, a finding that is consistent with the unicameral hypothesis. Relying on the long-term effects (median voter position<sub>t-1</sub>) we use these Model 3 estimates to display the marginal effects in Figure 3. Results show that responsiveness occurs only for systems with values less than three on the index.<sup>16</sup>

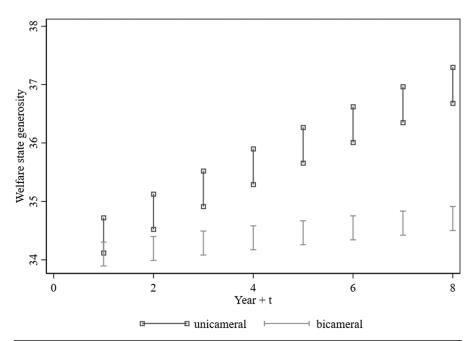
We show the organization of the assembly as a key determinant of responsiveness. Three considerations fol-

<sup>16</sup>This suggests, for example, that countries with symmetric (e.g., Belgium before 1995) and/or incongruent chambers (e.g., France) do not yield responsive policy making, while those without both of these features do exhibit responsiveness (e.g., Belgium after 1995). See SI Table S1 (page 2).

low from this. The first pertains to whether this result is due to the explanation behind the unicameral hypothesis that policy change is less constrained in these systems. In SI Section C (Table S3, page 6), we report analyses that greater policy changes are more likely to produce responsive outcomes than small policy changes.

The second consideration is how other political institutions, such as federalism and electoral systems, may also influence responsiveness. To this end, we reestimate Model 4 from Table 1 to consider a broad range of formal rules and report the results in Table S8 in the SI (pages 18–19) that control for vertical diffusion (i.e., federalism), horizontal diffusion (separation of legislative

FIGURE 2 Dynamic Simulation of Welfare State Generosity in Unicameral and Bicameral Systems



*Notes*: The figure displays expected values of welfare state generosity, when the median voter position $_{t-1}$  is set to one standard deviation to the left of its in-sample mean. Estimates are based on Table 1 Model 3. The initial value for welfare state generosity, is set to 34. Vertical bars report 95% confidence intervals.

and executive power), majoritarian electoral rules, assembly size, and Lijphart's "executive parties" and "federal unitary" dimensions of power-sharing. For all of the above, bicameralism's conditioning effect on government responsiveness remains intact.

Finally, to evaluate whether the results extend to other types of legislation, we examine government responsiveness on immigration policy. Immigration is appropriate for our purpose because it has consistently ranked as one of the most important issues in Europe over the past decades (Böhmelt, Bove, and Nussio 2020),<sup>17</sup> and it captures a dimension of issue contestation that is not coterminous with welfare state issues (Allen and Knight-Finley 2019). The results, reported in SI Table S9 (page 22), reveal a pattern consistent with those for welfare state generosity.

# Policy Responsiveness within Bicameralism

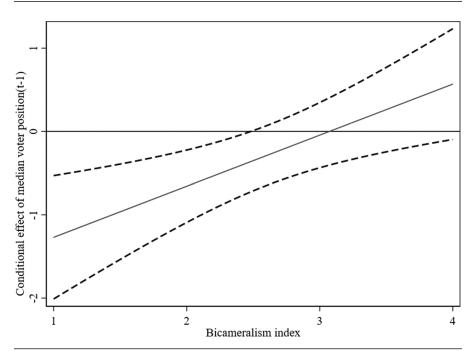
Our second pair of hypotheses examines responsiveness within bicameral designs, which further focus on the dis-

tribution of power between chambers. According to the power symmetry hypothesis (Hypothesis 2a), equality between chambers facilitates responsiveness; the power asymmetry hypothesis (Hypothesis 2b) posits the opposite expectation. To evaluate these contrasting views, we retain country cases with two chambers and remove those with only one chamber. Our measure of interest is the distribution of power between the lower and upper houses. Following Lijphart (2012), we create the variable symmetrical coded 1 for upper houses in Germany, Italy, the Netherlands, Switzerland, and Belgium from 1978 to 1995; and coded 0 otherwise. For asymmetric systems, the estimated yearly absolute change in welfare state generosity is 0.53, and the estimated change is lower for symmetric systems (0.36). The difference in means is 0.17 (p = 0.01).

We interact median voter position with the symmetrical variable and report estimates in Table 2 Model 1. The coefficient on median voter position $_{t-1}$  is negatively signed and precisely estimated, implying responsiveness when the lower house holds a preponderance of legislative power. However, for the symmetrical cases, the effect of public opinion is positively signed, suggesting that governments shift policy in the direction opposite

<sup>&</sup>lt;sup>17</sup>For instance, in the United Kingdom between 2003 and 2017, nearly 30% of the population viewed immigration as one of the two most important issues facing the country.

FIGURE 3 Marginal Effects of Median Voter Position on Welfare State Generosity across the Range of the Index of Bicameralism



*Notes*: The figure is produced with Table 1 Model 4 estimates, and it charts the coefficient on median voter position<sub>t-1</sub> over values of the bicameralism index. Negative estimates indicate stronger government responsiveness to public opinion. Dashed lines report 95% confidence intervals.

of public opinion on welfare state generosity.<sup>18</sup> Parity of power across the two chambers within bicameral systems diminishes estimates of responsiveness. This finding is consistent with the power symmetry hypothesis.

The remaining columns in Table 2 assess the robustness of this result using additional sources of intercameral differences. First, we consider whether the method of selection to the chambers. Lijphart refers to "incongruent" legislatures in which the two chambers are selected by different methods. For example, in some systems selection to the upper house is designed to enhance regional representation (e.g., Germany). Such incongruent designs may be less adapted to responding to the median voter position. By contrast, "congruence" represents a similarity of selection methods (Lijphart 2012, 194), and these systems are potentially more responsive to the median. Accordingly, we use Lijphart's measure for chamber incongruence, which he assigns to France, Germany, Spain, Switzerland, and the United Kingdom. The conditional coefficients reported in

 $^{18}$ The coefficient on median voter position<sub>t-1</sub> conditional on the symmetrical variable taking a value of one is estimated as 0.43 with standard error 0.13. While not robust to all specifications, this finding may warrant further examination.

Model 2 indicate that (in)congruence within bicameral systems does not affect responsiveness.

We next consider differences in partisan control of the chambers. Regardless of power symmetry or incongruence in selection, partisan compatibility (or whether the same parties dominate across chambers) may vary over time. We therefore also consider variation in terms of the average absolute difference in party seat shares between the two houses.<sup>19</sup> Higher values of seat difference indicate greater differences across the chambers with respect to party dominance. To the extent that this would influence the status quo bias of the legislature, as our theory suggests, we would expect that seat difference diminishes government responsiveness. Model 3 shows that the estimate on median voter position<sub>t-1</sub>  $\times$  seat difference<sub>t-1</sub> interaction variable is indeed positively signed, suggesting that responsiveness is weaker where the differences in party seat shares are greater. This effect, however, is

<sup>19</sup>Seat difference is calculated as  $(\sum_{i=1} |UpperShare_i|)$  -LowerShare<sub>i</sub>|)/n, where  $UpperShare_i$  is party i's seat share in the upper chamber, LowerShare<sub>i</sub> is party i's seat share in the lower chamber, and n is the number of parties. Data are from Druckman and Thies (2002), which we update for years after 2000.

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TABLE 2 Power Distribution between Chambers and Policy Responsiveness

|   | (1)      | (2)          | (3)          | (4)          |
|---|----------|--------------|--------------|--------------|
| Welfare state generosity <sub>t-1</sub>   | -0.094** | -0.107**     | -0.091**     | -0.096**     |
|   | (0.021)  | (0.022)      | (0.023)      | (0.021)      |
| $\Delta Median\ voter\ position_t$  | 0.360    | 0.614        | 0.283        | 0.534        |
| •   | (0.433)  | (0.586)      | (0.446)      | (0.538)      |
| Median voter position <sub>t-1</sub>  | -0.895** | -1.296**     | $-0.859^{*}$ | -1.031**     |
|   | (0.277)  | (0.350)      | (0.343)      | (0.337)      |
| Symmetrical <sub>t</sub>  | -7.201** | -7.433**     | -7.817**     | $-6.073^{*}$ |
|   | (2.221)  | (2.224)      | (2.580)      | (2.709)      |
| $\Delta Median\ voter\ position_t \times Symmetrical_t$                             | -0.119   | -0.364       | 0.001        | -0.174       |
|   | (0.677)  | (0.732)      | (0.689)      | (0.702)      |
| $Median\ voter\ position_{t1} \times Symmetrical_t$                                 | 1.338**  | 1.409**      | 1.409**      | 1.149*       |
|   | (0.408)  | (0.410)      | (0.434)      | (0.484)      |
| Incongruent <sub>t</sub>  |          | $-4.794^{*}$ |              |              |
| -   |          | (2.228)      |              |              |
| $\Delta Median\ voter\ position_t\ 	imes\ Incongruent_t$                            |          | -0.443       |              |              |
|   |          | (0.745)      |              |              |
| Median voter position <sub>t-1</sub> $\times$ Incongruent <sub>t</sub>              |          | 0.781        |              |              |
|   |          | (0.415)      |              |              |
| $\Delta Seat \ difference_t$  |          |              | 6.616        |              |
|   |          |              | (4.290)      |              |
| Seat difference <sub>t-1</sub>  |          |              | -5.750       |              |
|   |          |              | (22.17)      |              |
| $\Delta$ Median voter position <sub>t</sub> × $\Delta$ Seat difference <sub>t</sub> |          |              | 18.59        |              |
|   |          |              | (24.11)      |              |
| $Median\ voter\ position_{t1} \times Seat\ difference_{t1}$                         |          |              | -2.970       |              |
|   |          |              | (4.609)      |              |
| Shuttles <sub>t</sub>   |          |              |              | -7.599       |
|   |          |              |              | (4.215)      |
| $\Delta Median\ voter\ position_t \times Shuttles_t$                                |          |              |              | -0.510       |
|   |          |              |              | (1.023)      |
| $Median\ voter\ position_{t-1}\ \times\ Shuttles_t$                                 |          |              |              | 0.532        |
|   |          |              |              | (0.728)      |
| Constant  | 7.944**  | 10.45**      | 7.451**      | 8.730**      |
|   | (1.706)  | (2.154)      | (1.831)      | (2.017)      |
| Observations  | 280      | 280          | 280          | 280          |
| R-squared   | 0.139    | 0.157        | 0.150        | 0.143        |

*Notes*: Sample excludes unicameral systems. Cells report least squares coefficients with standard errors in parentheses. Models include country fixed effects. The dependent variable is  $\Delta$ Welfare state generosity<sub>t</sub>. \*p < 0.05, \*\*p < 0.01, two tailed test.

imprecise and—more germane to our efforts—the influence of power distribution is unchanged.

Lastly, we consider the power the second chamber extracts from the first due to systems of passing legislation. Nearly all bicameral assemblies (and all those in our dataset) employ a shuttle, or "navette," system for passing legislation. It may be that the more shuttling required between chambers, the less likely that proposals result in legislation. Hence, more shuttling may yield less policy responsiveness. On the other hand, the enhanced deliberation afforded by shuttling may well lead to more representative policy outputs. To gauge the influence of shuttling, we create the variable shuttles to capture the number of rounds of exchange between chambers required to pass legislation.<sup>20</sup> Model 4 includes the interaction between the variables shuttles and median voter position. Estimates on the interactive effects are imprecise. Yet again, for our focus, the conditioning influence of symmetry is unchanged. In total, Table 2 results lend support to claims that an asymmetric distribution of formal power between chambers increases government responsiveness to public opinion.

# From Symmetric to Asymmetric Bicameralism: Policy Responsiveness in Belgium

Ample evidence above reveals that bicameral designs are associated with lower levels of government responsiveness to the median voter and, further, that a reduction in responsive policy is due mainly to cases where the powers of the upper house match those of the lower house, that is, under symmetric bicameralism. The results support claims that bicameralism impedes movement from the status quo toward changes in the electorate's preferences. If we are right, changes in the design of legislative institutions should register in changes in policy responsiveness. As noted, many governments in recent years have contemplated such reforms. While instances of actual reform are rare, positive cases do exist. One such case is Belgium.

As part of a series of changes aimed at ameliorating tensions between its Flemish and Walloon communities, Belgium engaged in a series of constitutional changes in recent decades. Most fundamental of these was the fourth state reform, passed in 1993. Along with consolidating earlier efforts to disperse power to the regions, the reform reallocated representation between the lower and upper houses of parliament. The Senate shrunk in size by

61%, its method of selection modified to reduce malapportionment and, most importantly given our findings above, many of its powers were stripped. Where the chambers shared powers in symmetrical fashion prior to the reform, afterward, most legislation fell under so-called "unicameral matters" for which the Chamber of Representatives exercised sole power. The Senate retained competency on (pure or partial) "bicameral" matters, which include constitutional revisions, regional agreements, and international treaties (Alen and Peeters 1995).

Did the change in the distribution of power between the chambers influence future policy responsiveness? In Table 3 we present results from multivariate analyses, which estimate changes in welfare state generosity in Belgium. The first column shows that when we estimate our standard model for Belgium alone the coefficients on the median voter position variables are statistically insignificant. Model 2 reestimates the model and interacts the public opinion variables with a binary variable scored one for the postreform period (1995–2010).<sup>21</sup> Estimates show that the difference in the coefficients on median voter position<sub>t-1</sub> before and after the reform are statistically significant, and the coefficient on median voter position<sub>t-1</sub> (conditional on postreform taking a value of one) is -1.79 with standard error 0.77 (p = 0.01). These analyses suggest that when Belgium operated under symmetric bicameralism, policy makers were not systematically responsive to the median voter. When the balance of power shifted toward the lower house, estimates of policy responsiveness were statistically significant.<sup>22</sup>

These regression models leverage an intervention in a single country to show how responsiveness changes following a change in the locus of policy control. This test assumes that in the absence of the intervention we would not observe a move toward more responsiveness. While this assumption cannot be tested directly, we can approximate such a scenario by comparing policy changes in Belgium to similar cases. Accordingly, we utilize the methodology of synthetic controls (Abadie, Diamond, and Hainmueller 2015) to create a "synthetic" Belgium as a composite case that closely matches the attributes of Belgium before the shift in power between the two chambers took effect. This allows for policy responsiveness to

<sup>&</sup>lt;sup>20</sup>The shuttles variable scores range from one to three but extend to four for constitutions allowing for indefinite rounds. We rescale the measure from zero to one before entering it in the model.

<sup>&</sup>lt;sup>21</sup>The fourth state reforms took effect following the 1995 general election (Alen and Peeters 1995).

<sup>&</sup>lt;sup>22</sup>There is little to suggest that the concomitant—but far more gradual in their rollout—reforms to disperse power vertically to the regions contributed to the improvement in policy responsiveness. We also address this in relation to the synthetic control analysis.

TABLE 3 Constitutional Reform and Policy Responsiveness: The Case of Belgium

|   | , -     |         |                   |
|---|---------|---------|-------------------|
|   | (1)     | (2)     | (3)               |
|   | Belgium | Belgium | Synthetic Belgium |
| Welfare state generosity <sub>t-1</sub>                   | -0.130  | -0.117  | -0.349**          |
|   | (0.070) | (0.075) | (0.116)           |
| $\Delta Median \ voter \ position_t$                      | 0.396   | 0.482   | 0.334             |
|   | (0.468) | (0.564) | (0.564)           |
| Median voter position <sub>t-1</sub>                      | -0.230  | 0.212   | 1.189*            |
|   | (0.351) | (0.670) | (0.574)           |
| Post reform indicator                                     |         | 11.006* | -3.145            |
|   |         | (4.561) | (5.144)           |
| $\Delta$ Median voter position <sub>t</sub> × Post reform |         | -0.657  | -0.239            |
|   |         | (1.014) | (1.078)           |
| Median voter position <sub>t-1</sub> $\times$ Post reform |         | -2.105* | 0.571             |
| -   |         | (0.856) | (0.969)           |
| Constant  | 6.613   | 3.655   | 6.336             |
|   | (4.449) | (6.275) | (3.800)           |
| Observations  | 33      | 33      | 33                |
| R-squared   | 0.18    | 0.35    | 0.31              |

*Notes*: Cells report least squares coefficients, with standard errors in parentheses. The dependent variable is  $\Delta$ Welfare state generosity<sub>t</sub>. Models 1 and 2 are estimated with data on Belgium; Model 3 estimates are produced using data for synthetic Belgium. \*p < 0.05, \*\*p < 0.01, two tailed test.

be estimated in Belgium had the country not constitutionally reformed.

The analysis begins with the selection of a donor pool of countries from which to create the synthetic Belgium. We are constrained in our choice of donors by those countries for which we have sufficient pretreatment time periods.<sup>23</sup> We next identify cases on a set of matching variables that predict welfare state generosity levels in the donor pool of countries so that the levels match as closely as possible to Belgium before the reform. The algorithm assigns weights to the donor countries that minimize the differences between Belgium and synthetic Belgium during the pre-intervention period (Abadie, Diamond, and Hainmueller 2010). In this way, we can compare Belgium against a closely matched case as a test of the counterfactual.<sup>24</sup>

In the last column we reestimate the interactive specification but as a placebo test for the synthetic Belgium policy series (in place of the Belgium series). Unlike Model 2, the estimates on the interaction variables in Model 3 do not achieve statistical significance. This suggests that the synthetic Belgium does not experience an increase in policy responsiveness posttreatment (from 1995 to the end of our time series). We conduct jackknife analyses to check that these results are not being driven by one donor country in the construction of the synthetic control (SI Table S12, page 25).

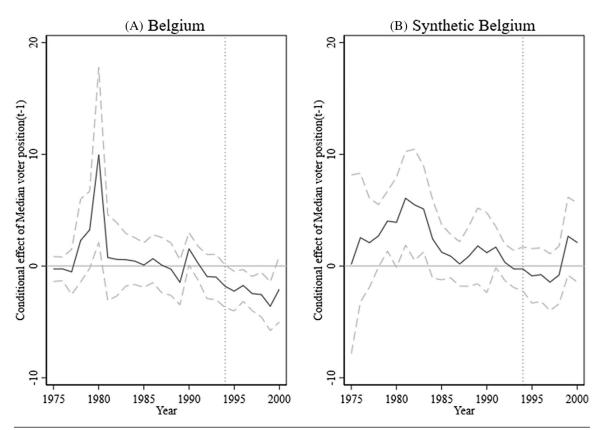
Finally, note that the models specified in Table 3 assume that any change in policy responsiveness in Belgium would occur just after the fourth state reform's implementation, rather than before or after. We can

thetic) units over the pre-intervention period. Matching variables are informed by research on social spending and include gross domestic product growth, union density, government partisanship, electoral rules, trade openness, and percent of residents over age 65. Given the role of regional diffusion in Belgian politics in general and the series of state reforms in particular, we also match on an indicator of vertical power diffusion. See SI Section L (pages 23–25) for details.

<sup>&</sup>lt;sup>23</sup>Synthetic control models require panels to be balanced across units to estimate the counterfactuals. Our donor pool is comprised of 11 European countries (see SI Section L, pages 23–25) for which we have a sufficiently long series on welfare state generosity.

<sup>&</sup>lt;sup>24</sup>The choice of donors and weights is achieved by matching the predictors between the treated (Belgium) and untreated (syn-

FIGURE 4 The Time-Varying Effects of Public Opinion on Policy, Belgium and Synthetic Belgium



*Notes*: The figure shows estimates of rolling coefficients for the long-term effect of public opinion on changes in generosity in Belgium (A) and Synthetic Belgium (B). The dashed lines show the 95% confidence intervals. The vertical dotted line separates the pre- and postreform period. Estimates are based on a time window of 10 years. Negative estimates indicate stronger government responsiveness to public opinion.

relax this assumption by allowing the effect of the median voter's preference to vary over time rather than at the time of the intervention (treatment) alone. To do so, we reestimate the specification in Model 1 using a rolling regression, and the coefficients on median voter position<sub>t-1</sub> are retained. Due to degrees of freedom, a 10year window is required to estimate these time-varying coefficients. Figure 4A plots coefficient estimates of median voter position<sub>t-1</sub> for Belgium between 1975 and 2000.<sup>25</sup> We see that for most of the period, the parameter estimates on the variable are not statistically different from zero—a finding consistent with the general lack of responsiveness in symmetric systems. But by 1995, estimates from the rolling regression veer negative. For comparison, Figure 4B displays the coefficients from a rolling regression using welfare state generosity from synthetic Belgium, and this scenario provides no evidence of a shift toward responsiveness, neither in 1995 nor any other time. In total, the results corroborate that

 $^{25}$ The series ends in 2000 rather than 2010 due to the rolling window.

welfare state generosity in Belgium became systematically responsive to public opinion after the constitutional reform that weakened its upper house.

### **Conclusion**

How governments respond to public opinion is one of the most important measures by which we can evaluate a democracy. A consensus has emerged that the quality of democracy is influenced by political institutions (Ferland 2020; Hooghe, Dassonneville, and Oser 2019; Kang and Powell 2010; Soroka and Wlezien 2010). We have evaluated government responsiveness to public opinion as measured by how policies respond to changes in the median voter position, paying particular attention to the legislature as the body responsible for channeling public preferences into policy proposals. Legislatures have long been identified as central institutions for translating voter preferences into policy decisions (e.g., Powell 2000); yet, which institutional designs for legislatures

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perform best in meeting that ideal? This article has investigated an institutional feature foundational to legislatures: the number of chambers. When responsiveness under bicameralism and unicameralism is magnified, policy responsiveness to public opinion is observed to be stronger with one chamber rather than two. Moreover, within bicameral systems, the more symmetrical the balance of power between chambers, the *weaker* the opinion–policy responsiveness.

In demonstrating how the structure of national legislatures matters for government responsiveness, this study lays a path for new research on how the views of the public are reflected in policy. Follow-up research should take up the question of responsiveness "to whom" by examining whether bicameralism means governments are more sensitive to the preferences of some subconstituencies over others (e.g., Elkjær and Iversen 2020; Gilens and Page 2014; Griffin and Newman 2005; Peters and Ensink 2015). It may be that governing parties may be responsive to their core supporters in bicameral systems. Another possibility is to test the bicameralism responsiveness connection across more issues than welfare state generosity and immigration. Notable here is the finding by Rasmussen, Reher, and Toshkov (2019, 425-426; see also Elkjær forthcoming) that opinion-policy congruence varies more across issues than across countries. While these authors acknowledge that bicameralism reduces congruence, future studies should evaluate the relative importance of issue types and assembly types.

Another possible way forward follows innovative work by Carey and Hix (2011), who propose an electoral "sweet spot" with respect to electoral system design that maximizes several features of representative democracy (e.g., responsiveness and stability). There may be a similar bicameral sweet spot that maximizes benefits of unicameral and bicameral systems. For example, although democratic theorists may view the policy responsiveness that we have attributed to unicameral systems as a normatively desirable feature of government, advocates of bicameralism could equally point to how upper chambers tend to protect the interests of regional or minority groups. Future work will examine these additional criteria for measuring the quality of democracy. Our analyses suggest that asymmetric bicameralism may be a case that maximizes the advantages of both systems. Another promising extension would be to assess the connection between bicameralism and responsiveness in new democracies. Finally, we must ask to what extent ordinary citizens perceive the difference in policy responsiveness across systems. Corroborating evidence (see SI Section M, pages 26-29) suggests that the answer is very clearly "yes," and that individuals in countries with bicameral assemblies are less likely to believe that decisions taken by their national parliament are in the interest of people like themselves.

Caveats aside, the normative implications of our findings for democratic responsiveness, political institutions, and policy outcomes are striking. By slowing the process of law-making and tempering majority tyranny, bicameral constitutional structures have been argued to be a positive feature of liberal democracy (Riker 1992). These systems require more deliberation and (often) supermajorities that produce legislation that will more likely be favored by majorities. We uncover a potential trade-off of bicameralism's status quo bias: when legislation is difficult to pass, as is the case on most social welfare policies, it has also been *less* responsive to changing preferences in the electorate.

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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:** Chamber classifications

**Appendix B:** Descriptive statistics

**Appendix C:** Bicameralism and Status Quo Bias

**Appendix D:** The relationship between preferences for redistribution and left-right positions

**Appendix E:** Alternative Estimators

**Appendix F:** Description of control variables

**Appendix G:** Models with controls

Appendix H: Models with alternative cut-points on index of bicameralism

**Appendix I:** Description of dynamic simulation

**Appendix J:** Models with political institutions

**Appendix K:** Immigration policy

**Appendix L:** Synthetic controls analysis

**Appendix M:** Bicameralism and perceptions of representation through legislatures