Divided government, polarization, and policy: Regression-discontinuity evidence from US states

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Abstract

In this paper we use data on US states and a regression-discontinuity design to study how divided government affects the polarization of the legislature, inter-branch conflict, and policy implementation. We document that Republican legislators serving under a divided government have more conservative ideologies than those serving under a fully unified government. Correspondingly, Democrats have more liberal ideologies. In terms of policy implementation, however, we find evidence of moderation: compared to unified Republican governments, divided ones with a democratic governorship or senate implement more liberal policies. When Democrats lose unified control, instead, policies become more conservative.

Keywords: Divided governments; polarization; policy liberalism; regression-discontinuity design; US state governments

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1. Introduction

Divided governments are common in the US, both at the federal and state level. For example, 8 of the last 10 US presidents faced an opposing Senate or governorship at some point during the term. At the state level, over the past 70 years, the control of the executive and at least one of the legislative branches has been split between Republicans and Democrats in over one-third of the time. Whether divided government is an undesirable outcome of the political system or not is still a subject of debate. On the one hand, divided government may increase conflict among parties, leading to polarization, lowered legislative productivity or even gridlock (Sundquist, 1988; Coleman, 1999). On the other hand, it also creates incentives to reach across the aisle, hence improving intra-party cooperation, possibly facilitating the implementation of shared policies (Trubowitz and Mellow, 2005).

Still, empirical research has found somewhat mixed results. Some work suggests that divided government harms the correct functioning of the government, by lowering legislative productivity (e.g., Binder 2004; Kirkland and Phillips 2020), delaying budget approval (Klarner, Phillips and Muckler, 2012; Kirkland and Phillips, 2018) and reducing governments' ability to react to economic shocks (Alt and Lowry, 1994). Others, instead, challenge this view and find null or even positive effects, with divided governments being more likely to implement important legislation, such as welfare and civil service reforms (Bernecker, 2016; Ash, Morelli and Vannoni, 2020). One possible explanation for this apparent lack of consensus is that providing credible exogenous variation in divided control is challenging. In addition, previous evidence comes from a variety of empirical strategies, settings and outcomes, making comparisons difficult.[1]

In this paper we set out to investigate whether this evidence can be reconciled by studying the effects of divided government on several aspects of the political process, using the same setting and a credible identification strategy. To this end, we implement a regression-discontinuity design using US state-level data and estimate the effects of divided government on i) legislative polarization, ii) inter-branch conflict, and iii) implementation of actual policies. We also study whether the effect of divided government differs by party and document substantial heterogeneity between Republicans and Democrats.

Our identification strategy relies on a regression-discontinuity design with close elections. This method relies on the assumption that, when election outcomes are very close, whether one party gains full control of the government or, instead, loses one branch to the opposition is – at least in part – determined by chance (see, e.g., Lee 2008a; Lee and Lemieux 2010). As a result, governments resulting from these elections should be comparable in all

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[1]Influential early contributions by Mayhew (2005) and Krehbiel (1996) argue that divided government should have limited impact on legislative productivity, and reinforced the role of pivots or key voters in the chambers as determinants of gridlock, regardless of party control.

respects except that some are divided and some are unified. To implement this method, we collect electoral information on all US state governments and legislators for the period 1950-2018, complemented with several measures of ideology, polarization, and policy liberalism scores drawn from previous studies (e.g., Shor and McCarty 2011; Grumbach 2018; Caughey and Warshaw 2015). Finally, we gather information on the number of vetoes issued by the governor during the term as a measure of inter-branch conflict.

After the elections, different configurations of government can arise – depending on whether the same party wins all three elections (governor, house and senate), or not. Because the effects of divided government may differ, we will provide estimates separately for each configuration, as well as distinguishing by party. To do so we adapt standard regression-discontinuity techniques to study heterogeneous effects in this setting and document substantial differences in the estimates across parties and types of divided government.

We start by studying the effect of divided government on the polarization of state legislatures. Our findings indicate that in a divided government, legislators tend to hold more extreme ideological positions compared to a unified government. Specifically, we find a sizeable effect for Republican state senators, who are substantially more conservative when their party loses control of the senate or the governor to the Democrats. We document a similar but smaller effect for Democratic senators, who hold more liberal positions, while there appears to be little evidence of an effect for house members of either party. These results contribute to the vast literature on the causes of political polarization in the US and elsewhere and lend support to previous work documenting that the observed secular increase in polarization is mainly due to Republicans shifting to the ideological right (McCarty, 2019). We provide additional evidence to this debate by showing that divided government affects polarization and may, therefore, be an important driver of this trend.

Then, we ask whether divided control makes clashes between the governor and the legislature more likely. Governors of either party facing a legislature fully controlled by the opposing party issue substantially more vetoes than in the unified case. No effect is found, instead, when the control of the legislature is split. These results are in line with previous evidence finding positive a association between divided government and inter-branch conflict (Herzik and Wiggins, 1989; Klarner and Karch, 2008), and provide additional causal evidence in favour of the hypothesis that divided government increases conflict among branches of government. Our results also support previous work by Clarke (1998), who argues that when divided government is characterized by split control of the legislative (one party holds the lower governorship and the other party holds the Senate), the governor has one of the chambers as partisan ally. This chamber's leadership can work to support the governor and, in so doing, help to advance its own goals. Conversely, when the chambers unite against the governor then conflict increases.

Finally, we consider the effects of divided control on actual policy implementation by estimating our regression-discontinuity model using several different measures of policy liberalism (Caughey and Warshaw, 2015; Grumbach, 2018). These scores measure how liberal (or conservative) the bills passed in each state are in each year and therefore are informative on whether implemented policies tend to converge towards the ideological middle when the government is divided. Irrespective of the measure used, we find that when Republicans face an opposing chamber or governor, the implemented policies are more liberal. Correspondingly, when Democrats give up one chamber or the governor to Republicans, policies are substantially more conservative.

Our results show that, under divided governments, legislators hold more ideologically extreme positions but, at the same time, implemented policies converge towards moderation. This convergence appears to be the consequence of institutional features – such as the possibility of a divided government and the governor's veto – that create incentives for intra-party cooperation. This evidence is thus consistent with models where divided government acts as an institutional "checks and balances" mechanism (Alesina and Rosenthal 1995, 1996, 2000). In these models, parties choose polarized platforms in anticipation of the fact they must later cooperate. As a result, implemented policies will be relatively moderate. This mechanism may help reconcile the apparently contrasting results found in earlier empirical work, which find that, while divided governments may be more likely to have inter-branch conflict and a more cumbersome legislative process, they are often rather successful in implementing important, bipartisan reforms (see, e.g., Bernecker 2016 and Ash, Morelli and Vannoni 2020).

This paper also contributes to the literature studying political polarization in the US and elsewhere. Scholars debate on how much of the increase in polarization is due to replacement of moderate legislators with more extreme ones or, rather, to legislators become more conservative (or liberal) during their career (a phenomenon called *adaptation*, see Theriault 2006). McCarty (2019) shows that most of the political elite polarization observed at both at the national and state level is due to Republicans and Democrats representing similar districts in a different way (*divergence*). While he suggests changes in social and economic factors – especially inequality – are at play, others have emphasized other drivers, such as the role of party discipline (Canen, Kendall and Trebbi, 2021) and changes in the agenda (Lee, 2008*b*). Our results show that legislators can indeed alter their ideological positions during their careers in a way that leads to more polarized legislatures, and that divided government is an important driver of this change.

Our paper also relates to the vast literature in political science and political economy on the effects of divided governments. Previous studies investigate how divided governments affect, e.g., the probability of a late budget approval (Klarner, Phillips and Muckler, 2012;

Andersen, Lassen and Nielsen, 2012; Kirkland and Phillips, 2018), legislative productivity (Mayhew, 2005; Binder, 1999), policy (Alt and Lowry, 1994), and the likelihood of passing reforms (Bernecker, 2016). We provide causal evidence that divided governments are important drivers of polarization and increase conflict between the executive and the legislative branches. Finally, we also relate to earlier findings that voters sometimes seek "ideological balancing" by voting a President of a party other than the governor's (Erikson, Folke and Snyder Jr, 2015) or split tickets between the President and Congress to offset conflicting fiscal policies (Chari, Jones and Marimon, 1997). Our results lend some support to this hypothesis by showing that, compared to unified governments, divided governments implement less ideologically charged policies.

2. Institutional background and data

The US state governments

In US state governments, the executive power is held by the governor, directly elected, while two chambers exercise the legislative power: the house (or state assembly) and the senate.[2] State governments' main responsibilities are domestic, including taxation, local law enforcement, health care, education and infrastructure.

Governors hold significant power. Besides being in charge of the executive power, they prepare the state budget for approval by the state legislature. They can also veto bills approved by the legislature, either partially or entirely, which gives them some agenda-setting power. The total number of vetoes issued by a governor during office is, in part, due to institutional rules and conventions but is also a reflection of the conflict between branches of government.[3] Vetoes can be overridden by a qualified majority of the legislature, although legislative override rules vary by state (CSG, 2020).

Governors are elected for a period of four years, with the exception of Vermont and New Hampshire, where terms are limited to two years (Klarin, 2019). In all states but Virginia, governors can run for re-election after their first term, usually only once. Although third-party candidates sometimes run for office, in the vast majority of cases the elected governor is either a Democrat or a Republican. In fact, since 1940, only eight governors have been elected from a third party or identify as independent.[4]

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[2]The only exception is Nebraska, where the legislative branch consists of a unicameral non-partisan body. Given its non-partisanship, we exclude Nebraska from our analysis.

[3]As an example, in 2019 (under a divided government) the Republican governor of New Hampshire, Chris Sununu, issued 54 vetoes, more than 7 times the combined amount issued during his first 2 years of tenure under unified Republican government. His critics called the measures "childish" while Sununu defended his position as a "counterweight to Democratic extremists". See https://www.concordmonitor.com/Sununu-embraces-vetoes-in-first-year-of-divided-government-27147372

[4]We exclude these cases from our analysis.

The state legislature has legislative responsibilities at the state level comparable, to some extent, to those of the US Congress at the national level. Legislatures are separate, co-equal branches of government that function independently from the governor, and work as a system of checks and balances for the executive, while being in charge of the legislative process. Chambers are composed of representatives – each representing a local district – usually elected in single-district first-past-the-post elections.[5] Third party candidates are relatively common but rarely win any seat. Most houses hold elections every two years, while senates generally hold them every four.

Data and descriptive statistics

Our main dataset is a yearly panel of US states covering the years 1950-2018. Information on electoral results, including seat shares is gathered from the *State Partisan Balance Data* (Klarner, 2013). We update this source with information for recent years using data from the National Conference of State Legislatures and the Atlas of US Elections (Leip, 2022).

We construct indicators for each possible configurations of divided government, taking value one if a state has a divided government of a specific kind in a given year, and 0 otherwise. A government is defined to be divided if the control of the executive and at least one of the legislative branches is split among parties. From 1950 to 2018, 43 percent of state governments were divided, with all states experiencing at least one instance of divided governments in the sample. From the 1950s to the mid 2000s there was a positive trend, from about 30% to 55% at the end of the period, making divided government an increasingly likely event. After the 2010 "Republican Wave" elections – where in one cycle 19 out of 88 chambers changed control – the trend was interrupted and the fraction of divided governments decreases and then rebounded recently.

Our main measures of state legislators' ideology and the polarization of the legislature are constructed using data from Shor and McCarty (2011), who combine roll-call voting records and answers to the National Political Awareness Test (NPAT) questionnaire to construct individual ideology scores for all state legislators. The scores are available for the period 1993-2018. Negative scores identify more liberal positions while positive ones identify more conservative ones. In our legislator-level analysis, we will use legislators' ideology scores as our dependent variable of interest. Since ideology scores are time-invariant for each legislator, identification of the effect of divided government on ideology relies on comparing legislators who served for a longer or shorter period under a divided government.

Following Hicks (2015), we measure polarization at the state legislature level as the dis-

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[5]The exceptions are Arizona, Idaho, Maryland, New Jersey, North and South Dakota, Vermont, Washington and West Virginia, which use some form of multi-member district for some or all of their districts.

tance, in each state and year, between the ideology of the median Democratic legislator and the median Republican legislator (again using Shor and McCarty 2011's measures), averaged across chambers. In Figure 1, we plot the evolution of this variable over time by divided government status. Polarization has been steadily rising over the past decades, for both divided and unified governments. However, it appears that it has increased substantially more for divided governments in which the legislature is split, with one party controlling the house and another the senate. Although descriptive in nature, the result in this graph suggests that the effects of divided government on polarization are larger when the legislature is split, whereas divided governments with chambers controlled by the same party display levels of polarization that are similar to fully unified ones.

FIGURE 1

EVOLUTION OF POLARIZATION IN US STATE LEGISLATURES BY DIVIDED GOVERNMENT STATUS
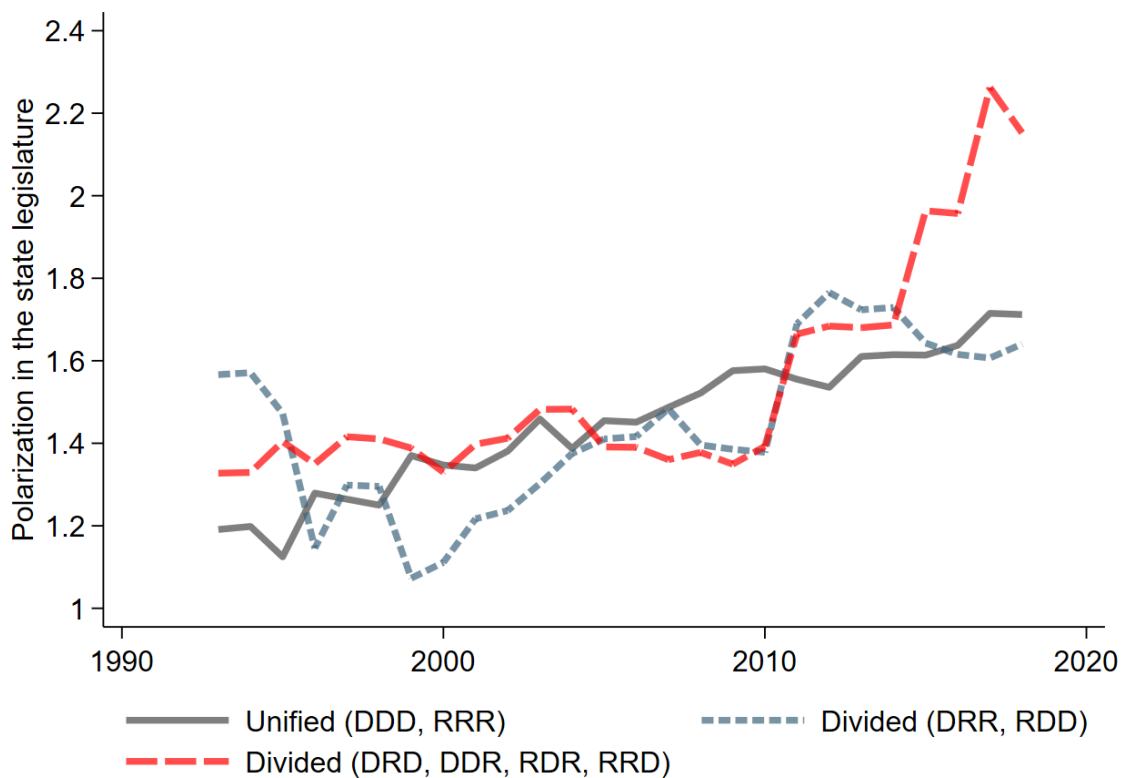
Notes: Evolution of polarization in US state legislature over time. Polarization is measured as the distance in party medians of Republican and Democratic legislators' ideology, averaged across chambers. We plot separately cases of unified governments (solid line), divided governments where the control of the two chambers is split (long dash), and divided governments where one party controls both chambers (short dash). Source: authors' calculations using data from Shor and McCarty (2011).

As an additional measure of legislative ideology, we use Berry et al. (2010) state legislature ideology scores. The scores are available for 1960-2017, a longer period than our main measure, and range from 0 (most conservative) to 100 (most liberal). The fact that they are only available at the state level and not for individual legislators prevents us from studying

the effect separately by party. Hence, we use them only for robustness analysis, in Section 5.

To estimate the effect on policy implementation, we use the state-level policy liberalism score constructed by Caughey and Warshaw (2015), as well as three alternative measures by Grumbach (2018). These scores use information on a variety of policies in different areas and summarize in a single index, for each state and year, how liberal or conservative the policies implemented were. The original scores, taking on negative values for liberal policies to positive values for conservative policies, are standardized to have mean zero and unit variance in each state.

To measure conflict between governor and legislature, we use information for the period 1970-2018 on the number of bills vetoed by the governor, collected from the Book of the States.[6] We also obtain additional variables on legislative productivity, available from by Hicks (2015) and Legiscan.

We provide descriptive statistics in Table 1, separately by the party of the governor and divided government status.[7] Unified governments are the most common ones, with Democratic ones accounting for 33% of the legislative terms and Republican ones for 23%. Nonetheless, divided governments are common, both with Republican (24%) and Democratic (20%) governors. As expected, measures of ideology capture the large differences between Republican (having positive values) and Democratic (having negative values) representatives. Republicans also tend to be slightly more ideologically conservative when the government is unified. Democratic governors have much more liberal positions than their Republican counterparts, as measured by Berry et al. (2010)'s state government ideology score but, interestingly, the difference between the two parties reduces substantially when the governments are divided.

In terms of legislative activity, there are some differences across parties and divided government status. Legislatures with divided governments appear to approve less bills although the number of introduced bills is comparable or even greater than under a unified government. Republican governors tend to veto bills more often when the government is divided, although these average differences should be interpreted with caution because they are likely to be affected by the large variation across states in the number of vetoes.[8] In terms of policy liberalism, we can see that divided governments generally implement more moderate policies. The last panel of Table 1 reports information for individual legislators. Most are very experienced, with on average of over 10 years in office, and have served in a divided government at least once.

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[6]We exclude partial or line vetoes as these are only possible in certain states.

[7]Variable descriptions are available in Table D.8 in the Appendix

[8]For the purpose of comparability across states, in the regression-discontinuity analysis that follows, we standardize all outcome variables by state by removing the mean and dividing by the standard deviation.

TABLE 1

DESCRIPTIVE STATISTICS BY PARTY AND DIVIDED GOVERNMENT STATUS

	Unified D. governor	**Unified** R. governor	**Divided** D. governor	**Divided** R. governor
A. State and electoral charact.				
Population (x1000)	5624.40 (6469.80)	5650.66 (6003.62)	4983.76 (4739.67)	6334.49 (6952.45)
Income p.c. (x1000 USD)	20.19 (9.38)	24.88 (8.16)	23.32 (9.08)	23.07 (9.63)
Dem. vote margin (governor)	0.26 (0.27)	-0.17 (0.15)	0.14 (0.13)	-0.13 (0.13)
Dem. seat margin (senate)	0.56 (0.30)	-0.35 (0.20)	-0.18 (0.22)	0.26 (0.28)
Dem. seat margin (house)	0.53 (0.30)	-0.32 (0.20)	-0.13 (0.24)	0.25 (0.24)
B. Partisanship and polarization				
Dem. mean ideology (senate)	-0.82 (0.41)	-0.77 (0.34)	-0.83 (0.35)	-0.75 (0.42)
Rep. mean ideology (senate)	0.67 (0.37)	0.80 (0.23)	0.71 (0.30)	0.59 (0.34)
State govt. ideology	62.91 (5.96)	31.02 (7.52)	53.67 (7.14)	47.72 (6.45)
C. Policy				
Introduced bills	2447.53 (1885.42)	1559.17 (1319.65)	2003.90 (2561.54)	2785.45 (2830.19)
Enacted bills	512.25 (354.22)	558.86 (595.18)	400.82 (372.73)	494.36 (438.71)
Full vetoes	22.84 (42.65)	11.32 (33.76)	14.84 (28.79)	33.99 (62.39)
Policy liberalism score (std.)	0.25 (0.92)	-0.40 (0.99)	-0.12 (0.89)	0.07 (0.97)
Observations	1,043	712	643	754

Notes: Quantities are averages over all years, with sample restricted as specified in the column header. Standard deviations reported in parenthesis. The measures for senate Democrats and Republicans mean ideology is calculated as the mean of the ideology scores of senators by party affiliation and state, using Shor and McCarty (2011) scores. The measure ranges from -1 (most liberal) to 1 (most conservative). State government ideology ranges from 0 (most conservative) to 100 (most liberal) and is taken from Berry et al. (2010). Introduced bills measures the number of bills introduced for consideration by year and state, while enacted bills measures the number of bills approved by the legislature (Hicks, 2015). Full vetoes measures the number of bills approved by the legislature but vetoed by the governor. Policy liberalism score measures how liberal policies implemented in a given year are. The original score, taken from Caughey and Warshaw (2015), ranges from -1 (most liberal) to 1 (most conservative) has been standardized by state to have mean 0 and unit variance.

TABLE 1

	Unified D. governor	Unified R. governor	Divided D. governor	Divided R. governor
D. Individual legislators				
N. years in office	11.46 (5.95)	10.32 (5.86)	10.57 (5.85)	11.77 (6.16)
First year in office	2001.06 (6.30)	2003.13 (7.09)	2001.80 (6.62)	1999.39 (6.00)
Ever in a div.govt.	0.76 (0.43)	0.44 (0.50)	1.00 (0.00)	1.00 (0.00)
First year in a div.govt.	2002.90 (6.69)	2002.84 (5.71)	2003.20 (6.58)	2000.31 (6.46)
N. years in div.govt.	4.32 (4.07)	2.32 (3.37)	6.32 (3.62)	7.76 (4.07)
Ideology Score	-0.28 (0.88)	0.27 (0.84)	0.05 (0.89)	-0.26 (0.84)
Senator	0.26 (0.44)	0.27 (0.44)	0.24 (0.43)	0.27 (0.44)
Observations	35,358	51,408	33,641	40,750

Notes: Quantities are averages over all legislators (house and senate) and years, with sample restricted as specified in the column header. Ideology score is the individual-level measure constructed by Shor and McCarty (2011). Standard deviations reported in parenthesis.

3. Empirical strategy: regression-discontinuity design

3.1. RD model

In a two-party system with a governor and two chambers, 8 electoral outcomes are possible. Two of these give rise to a unified government, either Republican, which we denote *RRR*, or Democratic, *DDD*, where the letters indicate control of governor, house, and senate respectively. All the remaining cases are divided governments, though they differ in which party controls the executive body and the two chambers. We estimate the effect of each configuration of divided government, separately for Republicans and Democrats. Starting from the unified Republican case, *RRR*, there are three possibilities: *RDR*, where the Republicans lose the house, *RRD*, where they lose the senate, and, finally, *DRR*, where they lose the governor. Similarly, three cases arise from the unified Democratic case.

Our empirical strategy relies on using close elections in a regression-discontinuity design and estimating the discontinuity separately in each of the six cases. In the first part of the analysis, we use data at the legislator level, indexed by l. Letting i denoting states and t

years, we therefore estimate

$$Y_{ilt} = \alpha + \beta D_{it} + \gamma_1 V_{it} + \gamma_2 V_{it} D_{it} + u_{ilt}, \tag{1}$$

where Y_{ilt} is an outcome of interest, for instance a legislator's ideology. The indicator D_{it}, equal one when the government is divided, and the running variable V_{it}, the distance to a divided government, are defined appropriately in each case.[9]

Each discontinuity is estimated by fixing the electoral outcome in two government bodies, and define the running variable appropriately as the distance to a switch in the control of the third one (Wong, Steiner and Cook, 2013). The margin of victory in the gubernatorial election is defined in terms of vote share distance to a change in party control. Instead, we measure the margin of victory in the house and senate with the seat share distance. To make the running variable comparable across states with different chamber sizes, as well as across the different elections, we standardize it by dividing by each state's standard deviation (Cheng 2016, Cerqua and Pellegrini 2014). More details are available in Appendix C.

As an illustration, consider the case of estimating the effect of a unified Republican government losing the senate to the Democrats. There, we restrict the sample to legislatures where both the governor and the house are Republican, and define the running variable V_{it} as the seats share distance to Democratic control of the senate. Correspondingly, we define $D_{it} = 1$ when this distance is positive.[10]

3.2. Comparison to other approaches

The specification described above allows us to study the effect of different configurations of divided government separately, which is important if, e.g., the effects of losing the governor or one of the two chambers are different. One advantage of this approach is that a three-dimensional regression-discontinuity design is reduced to six univariate ones, to which standard estimation and inference techniques can be applied (Lee and Lemieux, 2010).[11] A possible limitation of our approach lies in the fact that estimating several discontinuities requires a substantial amount of data. In fact, although we have a rather long time span and the number of states is large, at times we run into some precision issues in estimation.

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[9]Because both the running variable and the divided government indicator only vary at the state-legislative term level, there is no index for the individual legislator. In the second part of our analysis we estimate a model analogous to eq. 1 but using state-level variables as outcomes.

[10]We exclude from the sample cases of ties in the seat share distribution, as there is no clear way of categorizing these as either divided or unified governments. Results are unaffected by considering seat ties in one government body as instances of divided government.

[11]Additionally, we do not incur in the interpretation and consistency issues described in Wong, Steiner and Cook (2013) that arise when pooling different threshold and collapsing multi-dimensional running variables into one. As Wong, Steiner and Cook (2013) show, estimation of a single discontinuity by pooling thresholds can only be justified under the assumption of homogeneous treatment effects and when the running variables are in the same scale and metric. As we show in the following, there is substantial heterogeneity in the effects across parties, and the running variables for the gubernatorial and legislative elections are different in nature.

Recent work on RD designs has emphasized that seats share distance may not always be a good measure of the effective distance to a majority change (Folke, 2014; Fiva, Folke and Sørensen, 2018). Another possible alternative would instead be to implement Kirkland and Phillips (2018)'s simulation method that uses information on all district-level elections to construct a single running variable. This approach is unsuited to our context because i) we are interested in all discontinuities separately, and ii) district-level electoral returns are available only for part of our sample period (see, e.g. Klarner 2013, Kirkland and Phillips 2018). Since estimation relies on having a sufficient number of elections close to each of the six thresholds, having the longest possible time coverage is essential for implementing our approach.

The approach that relies on simulation also requires specifying how votes are redistributed across districts, the size of state-level shocks and its distribution, decisions for which little theoretical guidance is available. We nonetheless follow this route and show results in Section 5, where we also discuss some limitations.

3.3. Validation of the regression-discontinuity design

We perform conventional tests to assess the validity of our regression-discontinuity design. In our setting, the assumption that the running variable cannot be perfectly manipulated amounts to requiring that parties cannot affect their vote share so to perfectly locate at one side of the threshold. This assumption is likely to be satisfied when focusing on close elections, where the outcome is uncertain and partly determined by election-day events or by chance.[12] A violation of such assumption would result in observing relatively more observations at one side of the threshold. Reassuringly, we find no evidence in this regard. In Figure D.1 in Appendix D, we show that the density of each of the six running variables used in our analysis does not jump discontinuously at any of the thresholds.

To test formally the null hypothesis of no discontinuity, we implement a McCrary (2008) test we fail to reject the null of no discontinuity at conventional level in all cases. Finally, Tables D.1 and D.2 in Appendix D show balancing checks for the individual legislator-level database, whereas Tables D.3 and D.4 show balancing for a set of state characteristics. Again, we find overall no evidence of discontinuities in covariate averages at the threshold.

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[12]The validity of regression-discontinuity designs with close elections has been questioned in setting such as the US house of representatives, where incumbents appear to disproportionally win close elections (Caughey and Sekhon, 2011). However, Eggers et al. (2015) provide evidence that state elections do not exhibit this kind of sorting.

4. The effects of divided government on polarization and policy

4.1. Divided government affects legislators' ideology scores

We begin by estimating the effect of divided government on the polarization of the legislature using individual-level ideology scores for state representatives obtained from Shor and McCarty (2011). If divided government increases polarization – for instance because the party leaders that set the agenda in each chamber are from different parties – representatives who serve under periods where the government was divided should be more liberal (if Democrats) or conservative (if Republicans) than they would be if they served under a unified government.

We study the effect on ideology for senators and house representatives separately, and further split by party. Ideology scores are calculated using voting behavior over the entire career and are, thus, time-invariant for each legislator. For this reason, our estimates capture the impact on the overall individual ideology – measured over the entire career in office – of serving one additional term (2-4 years) under a divided government. To put this number into perspective, it is useful to note that state legislators serve for about 11 years on average (see Table 1 above). Throughout the analysis we use a local linear specification with an optimal bandwidth chosen using Calonico, Cattaneo and Titiunik (2014)'s method.[13] Results using instead the local polynomial RD estimator proposed by Calonico et al. (2019) and bias-robust confidence intervals are available in Appendix D.

In Tables 2 through 4, we show regression-discontinuity estimates comparing the effect on legislators' ideology of different types of divided government.[14] As column 1 of Table 2 indicates, comparing a fully unified Democratic government to one where Democrats barely lost the senate to Republicans shows a positive and large effect on Republican senators' ideology scores, who are substantially more conservative. Specifically, the estimate in Column 1 suggests that Republican senators have an ideology score 60% higher than their mean score compared to those serving under unified Democratic governments.[15] Instead, we find no effect for Democratic senators (column 2). When a unified Republican government loses the senate to Democrats (columns 3-4), we observe similarly large effects, with Republican senators being more conservative while Democrats appearing more liberal. Taken together, these results indicate that divided government has a large impact on the polarization of the senate, in large part because of Republicans moving to the right of the ideological spectrum.

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[13]This method is implemented using the *rdrobust* package in STATA, which automatically takes into account the possibility of a discrete running variable.

[14]We also considered second and third-order polynomials, with (unreported) results qualitatively unchanged. Results using local linear regression with other bandwidth choices are discussed in Section 5.

[15]The large magnitude of this estimate appears to be driven, at least in part, by the particular bandwidth chosen by the Calonico, Cattaneo and Titiunik (2014)'s criterion. Results for other reasonable bandwidth choices, available in Figure D.2 in the Appendix, suggest that a range of the Beta estimate from 0.15-0.3 could be more appropriate.

These results are in line with previous descriptive work on the determinants of polarization (Shor and McCarty 2011; McCarty 2019).

In Table 3, we provide similar estimation results for the house. The estimated coefficients are much smaller than the ones for the senate, and, throughout, imprecisely estimated. In sum, we find very little evidence that divided governments increases polarization in the house.

Results in Tables 2 and 3 show that divided government impacts the ideology of both Republican and Democratic senators who, by moving towards their ideological poles, increase the polarization of the legislature as a whole. The large effects detected in the senate also suggest that it is in the senate, more than the house, where ideology matters the most.

TABLE 2

EFFECT OF DIVIDED GOVERNMENT (LOSING THE SENATE) ON SENATORS' IDEOLOGY SCORE

	DDD → DDR		RRR → RRD	
	(1)	(2)	(3)	(4)
	Ideology Score	Ideology Score	Ideology Score	Ideology Score
DDR	0.542***	0.027		
	(0.191)	(0.166)		
RRD			0.600***	-0.327**
			(0.113)	(0.157)
Party	Republicans	Democrats	Republicans	Democrats
Bandwidth	0.31	0.44	0.27	0.31
Mean of dep.var.	0.67	-0.91	0.75	-0.91
R2	0.13	0.05	0.25	0.04
Obs.	1114	1914	787	1007

Notes: Regression-discontinuity estimates of the effect of losing the senate on individual state senators' ideology scores (more positive scores indicates more conservative ideology). Columns 1 and 2 compare unified Democratic governments to divided governments where Republicans won the senate, for Republican (col. 1) and Democratic (col. 2) senators respectively. Similarly, columns 3 and 4 compare unified Republican governments to divided governments where Democrats won the senate. Local linear regressions with bandwidth chosen using Calonico, Cattaneo and Titiunik (2014)'s optimal bandwidth. Bandwidth measured in standard deviations. Cluster-robust standard errors at the state level in parentheses. Standard errors for optimal bandwidth selection clustered at the state level.

***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

TABLE 3

EFFECT OF DIVIDED GOVERNMENT (LOSING THE HOUSE) ON HOUSE REPRESENTATIVES' IDEOLOGY SCORE

	DDD → DRD		RRR → RDR	
	(1)	(2)	(3)	(4)
	Ideology Score	Ideology Score	Ideology Score	Ideology Score
DRD	-0.014	-0.240		
	(0.117)	(0.190)		
RDR			0.171	0.042
			(0.155)	(0.215)
Party	Republicans	Democrats	Republicans	Democrats
Bandwidth	0.71	0.66	0.43	0.28
Mean of dep.var.	0.79	-0.75	0.83	-0.81
R2	0.01	0.04	0.02	0.01
Obs.	5543	6386	5795	3328

Notes: Regression-discontinuity estimates of the effect of losing the house on individual state house representatives' ideology scores (more positive scores indicates more conservative ideology). Columns 1 and 2 compare unified Democratic governments to divided governments where Republicans won the house, for Republican (col. 1) and Democratic (col. 2) house representatives respectively. Similarly, columns 3 and 4 compare unified Republican governments to divided governments where Democrats won the house. Local linear regressions with bandwidth chosen using Calonico, Cattaneo and Titiunik (2014)'s optimal bandwidth. Bandwidth measured in standard deviations. Cluster-robust standard errors at the state level in parentheses. Standard errors for optimal bandwidth selection clustered at the state level.

[***] $p < 0.01$, [**] $p < 0.05$, [*] $p < 0.1$

Our results for the senate are strong but not surprising. Senators represent larger and more heterogeneous districts than house representatives, and previous research has shown that polarization in the senate is positively associated with preference heterogeneity of the district (McCarty et al., 2019). Our stronger results for Republicans are in line with earlier work by Shor and McCarty (2011), who show most of the polarization is due to the Republicans moving to more conservative positions are responsible for a large part of the increase in polarization (see also McCarty 2019).

Finally, in Table 4, we show the impact on legislators' ideology (pooling senate and house representatives together) of losing the governorship to the other party. In columns 1 and 2, we show that a comparison of a unified Democratic to a divided government with a Republican governor shows no appreciable difference on ideology scores. However, comparing a unified Republican government to one where Democrats win the governorship, Republican

legislators have much more conservative ideology scores, with an effect of about one-quarter of their sample mean. This is further evidence that the increase in polarization is mainly a consequence of large ideological movements of the Republican party to the right.[16] We will investigate further the impact of having an opposing legislative branch on inter-branch conflict and implemented policies in the following section.

TABLE 4

EFFECT OF DIVIDED GOVERNMENT (LOSING THE GOVERNOR) ON HOUSE AND SENATE REPRESENTATIVES' IDEOLOGY SCORE

	DDD → RDD		RRR → DRR	
	(1)	(2)	(3)	(4)
	Ideology Score	Ideology Score	Ideology Score	Ideology Score
RDD	0.041	-0.211		
	(0.092)	(0.158)		
DRR			0.218**	-0.038
			(0.103)	(0.089)
Party	Republicans	Democrats	Republicans	Democrats
Bandwidth	0.41	0.43	0.34	0.45
Mean of dep.var.	0.68	-0.71	0.81	-0.85
R2	0.01	0.01	0.04	0.00
Obs.	9953	20254	14223	11046

Notes: Regression-discontinuity estimates of the effect of unified governments losing the governorship on house and senate representatives' ideology scores (more positive scores indicates more conservative ideology). Columns 1 and 2 compare unified Democratic governments to divided governments where Republicans won the governorship, for Republican (col. 1) and Democratic (col. 2) legislators respectively. Similarly, columns 3 and 4 compare unified Republican governments to divided governments where Democrats won the governorship. Local linear regressions with bandwidth chosen using Calonico, Cattaneo and Titiunik (2014)'s optimal bandwidth. Bandwidth measured in standard deviations. Cluster-robust standard errors at the state level in parentheses. Standard errors for optimal bandwidth selection clustered at the state level.

$^{***}p < 0.01, ^{**}p < 0.05, ^{*}p < 0.1$

4.2. Effects on inter-branch conflict

Results in the previous section show that divided control increases polarization of the legislature. Taking more extreme ideological stances might reflect an increased willingness

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[16]An alternative to using legislator-level data would be to use state-level measures of ideology. We show that this approach yields broadly similar results in Figure B.1 in the Appendix, where we find that a change from unified Republican to divided government by change in governorship makes legislators more liberal, while changing from unified Democratic to divided government moves ideological scores to the right.

by parties to enter conflict, or it could simply be a way to start negotiations from a vantage point. One institutional feature that acts as a "checks and balances" mechanism for the legislature and discourages the approval of ideologically charged bills is the veto power of the governor. Knowing that they may face a veto, legislators may be more likely to present and approve bills that have been previously agreed upon with the governor's party.[17] As a consequence, whether divided control increases or decreases the likelihood of inter-branch conflict is, at least in theory, unclear. To shed some light on this question, we estimate our baseline regression-discontinuity model using, as outcome, the number of vetoes issued by the governor in each state and year standardized to have mean zero and unit variance in each state. Again, in this and the next section we estimate the model using local linear regression and bandwidth chosen by Calonico, Cattaneo and Titiunik (2014), and report results using Calonico et al. (2019)'s estimator in the Appendix. For the sake of space and readability, we display results using coefficient plots with 90 and 95% confidence intervals throughout.

Figure 2 shows that, compared to a fully unified government, governors (either Republican or Democrat) facing a unified opposing legislature use their veto power substantially more. In these cases, one party holds full control of the legislative branch, hence it is in a better position to pass bills that are ideologically bolder and closer to party positions. The estimated effects are large and equal to one standard deviation for both Republican and Democratic governors. We find no effect, instead, in split legislature cases, i.e., when only one chamber is controlled by the opposition. This result may reflect the fact that in split legislatures one chamber has preferences aligned to the governor's and may be unwilling to pass bills that may create conflict, fostering bipartisan cooperation (Trubowitz and Mellow 2005, Harbridge 2015). Our results that conflict increases only under split control of the executive and legislative branches – with no effect of having a divided legislature – are in line with the theoretical arguments by Clarke (1998) on conflict and previous empirical evidence.[18]

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[17]Governors' willingness to veto bills may also be affected by other strategic considerations and has been linked to several factors, such as the strength of the electoral mandate, party affiliation, or experience (Klarner and Karch, 2008).

[18]In his empirical application, Clarke (1998) defines conflict as the percentage of budget proposals from the governor modified by the legislature. He finds that there is an increase in conflict only when both chambers unite against the governor, while there is no impact under legislative split and one chamber aligns with the governor.

FIGURE 2

EFFECT OF DIVIDED GOVERNMENT ON BILLS VETOED BY THE GOVERNOR
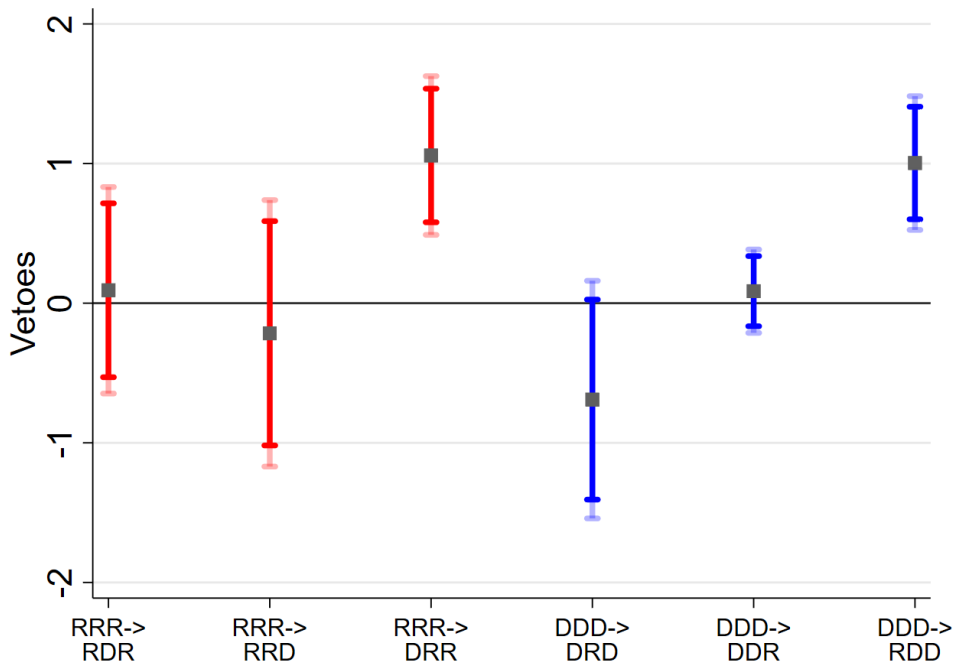
Notes: Regression-discontinuity estimates of the effect of going from unified to divided government on the (standardized) number of bills vetoed by the governor in a given year. Each coefficient corresponds to a different configuration of divided government. S.e. are clustered at the state level. Point estimates are shown together with 90% and 95% confidence intervals. Local linear regressions using Calonico, Cattaneo and Titiunik (2014)'s optimal bandwidth. Bandwidth measured in standard deviations. Standard errors for optimal bandwidth selection clustered at the state level.

These results relate to previous literature on the relationship between divided government and vetoes. For instance, Klarner and Karch (2008) show that partisan alignment of the legislature and electoral cycles correlates with veto activity, finding that divided government slightly increases the number of vetoes by a governor, albeit marginally. Similarly, Herzik and Wiggins (1989) find that divided government is associated with more veto overrides.

4.3. Effects on policy implementation

Our findings in the previous sections suggest that divided government might hamper the correct functioning of the government and legislative production. However, it is not *ex-ante* clear whether higher polarization or inter-branch conflict may affect which policies are ultimately implemented.

To investigate this issue, we study the impact of divided control on the actual content of the policies implemented by state governments. Specifically, we use four different state-level measures of how liberal (or conservative) the implemented policies are on average.

To start, we consider the state policy liberalism score proposed by Caughey and Warshaw (2015). This score is constructed using a large data set of policies from different areas and takes on positive values for states that implemented mostly liberal-leaning policies over a given year, and negative values for conservative states.[19] Then, we use as outcomes three additional measures developed by Grumbach (2018): the first one is an extension of Caughey and Warshaw (2015)'s measure which includes a wider range of policies. The other two are "substantive scales", indices that count the number of a state's liberal policies minus the number of conservative policies in each year.[20]

Figure 3 plots regression-discontinuity estimates of the effect of each divided government configuration on the four measures of policy liberalism, together with 90% and 95% confidence intervals. Irrespective of the measure used, we observe large effects of divided control on policy implementation. In particular, when Republicans gain control of one chamber or the governor at the expense of Democrats, implemented policies become more conservative. These effects are sizeable and mostly in the order of magnitude of 0.5-1 standard deviations. Correspondingly, we find that when Democrats obtain control of a branch, more liberal policies are implemented.

Taken together with our findings on polarization from the previous section, these results suggest that the large differences in legislators' ideology do not translate to the implementation of extreme policies. On the contrary, when one chamber (or the governor) is controlled by the other party, approved bills are much closer ideologically to the ideal points of the opposition party than they would be if the government control were unified. This result lends indirect support to the view that voters who seek divided control of the government may do so as a way to induce a greater balance of power between parties. This balance should then lead to the approval of more moderate, middle-ground policies.

5. Additional specifications and robustness checks

5.1. Bandwidth selection

Because regression-discontinuity designs typically use locally linear estimators – which only use observations within a certain bandwidth around the threshold – bandwidth choice is crucial. In all our baseline specifications, we use the optimal bandwidth proposed by Calonico, Cattaneo and Titiunik (2014) and calculated using Stata 17 with the package *rdbwselect*. However, it is informative to estimate the model using a range of different bandwidth around the optimal one to assess the sensitivity of the results to bandwidth choices.

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[19]All measures used in this sections are standardized to have mean zero and unit variance to facilitate comparisons across states and the interpretation of the coefficients of interest. An alternative to account for intra-state differences would be to include state fixed effects. This approach leads to very similar results (not reported).

[20]These two measures differ in the way policies are weighted in the construction of the index (see Grumbach 2018 for more details).

FIGURE 3

EFFECT OF DIVIDED GOVERNMENT ON POLICY LIBERALISM SCORES
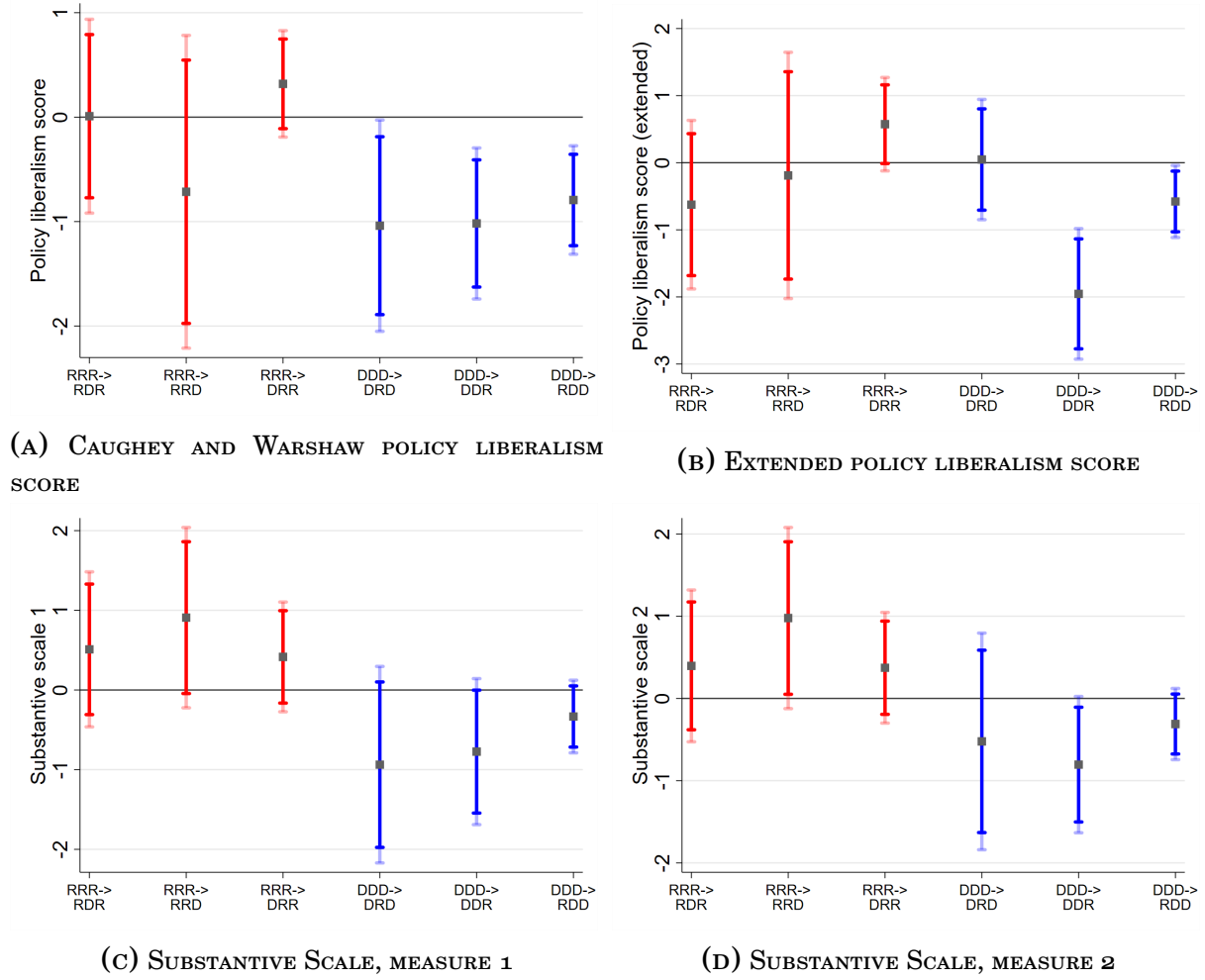
(A) CAUGHEY AND WARSHAW POLICY LIBERALISM SCORE

(B) EXTENDED POLICY LIBERALISM SCORE

(C) SUBSTANTIVE SCALE, MEASURE 1

(D) SUBSTANTIVE SCALE, MEASURE 2

Notes: Regression-discontinuity estimates of the effect of going from unified to divided government on implemented policies. Each coefficient corresponds to a different configuration of divided government. The outcome variables are, in panel A, Caughey and Warshaw (2015) policy liberalism score *pollib_median*; in panel B, Grumbach (2018)' extended policy liberalism score; in panels C and D, two different measures of policy liberalism based on the sum the state's liberal policies minus its conservative policies in a given year. These measures are taken from Grumbach (2018) and differ in how policies are weighted. All four measures are standardized by state. S.e. are clustered at the state level. Point estimates are shown together with 90% and 95% confidence intervals. Local linear regressions using Calonico, Cattaneo and Titiunik (2014)'s optimal bandwidth. Bandwidth measured in standard deviations. Standard errors for optimal bandwidth selection clustered at the state level.

In Figure D.2 in the Appendix, we re-estimate the model of Table 2 several times, each with a different bandwidth. Panels A and B replicate Columns 1 and 2 of Table 2, where we estimate the impact of shifting from unified Democratic to divided government by change in senate control over ideology scores. In panels C and D, instead, we replicate columns 3 and 4 of Table 2. In all four panels we observe that results are fairly stable across a considerable interval of bandwidths around the optimal ones (represented as dashed vertical lines), reassuring us about the robustness of our results. Results are analogous in Figures D.11 and D.12, where we study the robustness of Table 3 and 4's results.

To check the sensitivity of our state-level results to bandwidth selection, we show results using a fixed bandwidth of 0.5 for all specifications in Figure D.13. Results are robust to this alternative choice of bandwidth and qualitatively similar to our main estimates.

5.2. Alternative thresholds

To strengthen our confidence in the RD design, we then re-estimate our baseline model using alternative thresholds. Specifically, in each case we re-define the running variable and the indicators for a divided government in equation 1 using a range of different thresholds. We show results in Figures D.5-D.7 for the individual-level RDD and in Figures D.8-D.10 for the state-level RDD.[21]

Results from these additional robustness check are reassuring, with the coefficients estimated using the threshold standing our from the others obtained using alternative fake thresholds. Results for the individual-level analysis show some instability due to the fact that the sample in some of the cases is relatively small. Altering the threshold further reduces the number of data points available for estimation to the right of the threshold. This lack of data is reflected in the size of some of the coefficients and their wide confidence intervals. Results from the state-level analysis – where the effective sample size is larger because we do not split by party – are instead clearer, and one can identify the coefficients estimating using the true thresholds as being the largest in magnitude in virtually all cases.

5.3. Other estimation methods and specifications

In Figure D.14, we re-estimate our state-level regressions by adding as controls all the covariates used for balancing checks – including population, state-level income, and election year fixed effects – with little qualitative difference in the results.

As a final exercise to assess robustness to the estimation method, we repeat the entire analysis using Calonico et al. (2019)'s local polynomial estimator with robust confidence intervals. Results, available in Tables D.5-D.7 and Figure D.15, are in line with our baseline

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[21]For the state-level RDD we only show results for vetoes, and two measures of policy liberalism (results for the other measures – which are variations of the ones we show – are very similar so we omit them for brevity).

estimates, both in terms of precision and of magnitude. Results on policy liberalism are sometimes more imprecise, with bias-corrected confidence intervals slightly larger than the baseline ones.

5.4. Alternative running variable

In our main specification, we estimate the effect by party and for each chamber, separately. An alternative approach would be to define only one running variable, which measures the distance to any type of divided government, and estimate a standard univariate regression-discontinuity design.

Along these lines, Kirkland and Phillips (2018) suggest constructing a single running variable to measure the distance from any divided government using simulations that incorporate electoral shocks to district-level and gubernatorial election results. As a robustness test, we estimate the effect of divided government using a regression-discontinuity model and Kirkland and Phillips (2018)'s running variable instead of ours. A more detailed discussion of this method and estimation results are available in Table A.1 in the Appendix. We find qualitatively similar results to those in section 4.1. As expected, a change from unified to divided government increases polarization of the state legislatures using both Hicks (2015)'s and Shor and McCarty (2011)'s polarization measures, although in the latter case, the precision of the estimate is low.

6. Conclusions

In this paper we provide evidence that divided government is an important driver of political polarization, and it affects both conflict among branches of government and the type of policies implemented by US state governments. Our findings contribute to the debate on the causes of polarization – and its consequences – in the US and elsewhere. Although there is now a fairly general consensus that political elites have become increasing polarized over the last forty years (McCarty, 2019; Akkerman, 2015), there is less agreement on what are the drivers of this phenomenon.

The effects of divided control are not limited to ideological positions of legislators, but translate directly into actual policy implementation. The threat of obstructionism from the opposition appears to induce legislators from either party to reach common ground before a bill is approved. Theoretically, in presence of moderating institutions – such as the possibility of divided governments, or governors' veto power – parties trying to approve policies closer to their ideal point have incentives to adopt more extreme ideological positions than in a purely presidential regime. However, the policies implemented in equilibrium may end up being moderate (Alesina and Rosenthal, 2000). We provide evidence that this is indeed the case

in US states, where under divided governments legislators polarize more but implemented policies tend towards the ideological middle.

One intriguing question is whether these effects are also likely to be present in countries other than the US. In principle, we can expect our results to be relevant also for other countries where there are two hegemonic parties and a presidential electoral system.

It is unclear, however, whether the results in this paper apply to countries with semi-presidential systems, such as France, where divided government arises when the president – elected by popular vote – and the prime minister, who needs approval of the parliament – are from different parties. In these cases of *cohabitation*, conflicts and stalemate have been fairly common historically, although there have been also cases in which important reforms have been pushed through by the prime minister's party. Given that cohabitations are fairly common in semi-presidential systems, it is reasonable to assume that voters intentionally seek split-ticket governments to achieve a balance in policies or a mix of policies that no single party would be able to deliver. If this were indeed the case, then our results could be – at least to some extent – extrapolated to these countries as well.

Other interesting cases arise in countries where the president has limited or no veto powers, or in regimes without a two-party system, where control of the executive branch and of the chambers is split among three parties or coalitions. Whether these situations increases polarization or, instead, lead parties to assume even more moderate positions is a question that requires further research.

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Appendix

A. Results on ideology and polarization using Kirkland and Phillips (2018)

As an alternative to our main specification, in this section we use the running variable proposed by Kirkland and Phillips (2018) and available in the paper's replication package. This running variable is constructed by drawing state-level and district-level electoral shocks from a uniform distribution and measuring the smallest state-level vote share shock that would lead to a divided government.

In Table A.1, we report result from estimating a regression-discontinuity model in which we include the running variable, an indicator for a divided government, and the interaction of the two. The model is then estimated by OLS using only observations within the Calonico, Cattaneo and Titiunik (2014)'s optimal bandwidth.

Because Kirkland and Phillips (2018)'s running variable is constructed as the distance from *any* type of divided government, we cannot replicate our main analysis by party and by type of divided government. Instead, results in Table A.1 should be interpreted as the effect of going to a unified government to a divided government of any type. As measures of polarization, we use, in column 1, Hicks (2015)'s measure *polar*, which uses Shor and Mc-Carty (2011)'s ideology scores and is defined as the distance between the median Democratic legislator and the median Republican legislator, averaged across the chambers. Instead, in column 2, the outcome is the absolute value of the distance between the ideological medians scores of Democratic and Republican state senators.

Results show that a divided government increases polarization of the legislatures by about 10-20%, depending on the measure used. These estimates are in line, in terms of sign, with our baseline results in Tables 2-4, in which we also find a positive effect of divided government on polarization. Howerve, as our results in Section 4 shows, there is considerable heterogeneity along both party and type of divided government, with large effects in some cases and negligible ones in others. These differences highlight the advantages of analyzing each case separately.

In addition, column 3 of Table A.1 considers the number of bills vetoed by the governor as dependent variable. Results are in line with our findings in Section 4.2, albeit again with larger standard errors.

B. Results on ideology and polarization using state-level measures

As a complement to our legislator-level analysis presented in Section 4, we here use state-level data. As an alternative to Shor and McCarty (2011)'s legislator ideology measures we use above, we consider Berry et al. (2010) state legislature ideology scores. The advantage

TABLE A.1

TABLE A.1

EFFECT OF DIVIDED GOVERNMENT ON ALL LEGISLATORS' INDIVIDUAL IDEOLOGY SCORES

	(1) Hicks	(2) Shor and McCarty	(3) Vetoes
Divided Government	0.285**	0.138	2.351
	(0.118)	(0.152)	(9.970)
Bandwidth	0.06	0.05	0.06
Mean of dep.var.	1.40	1.51	1.52
R2	0.03	0.01	0.01
Obs.	234	140	387

Notes: Regression-discontinuity estimates, using Kirkland and Phillips (2018)'s running variable, of the effect of divided government on state-level polarization. In column 1, the outcome is Hicks 2015's measure *polar*, which uses Shor and McCarty (2011)'s ideology scores and is defined as the distance between the median Democratic legislator and the median Republican legislator, averaged across the chambers. In column 2, the outcome is the absolute value of the distance between the ideological medians scores of Democratic and Republican state senators. The measure was developed by Shor and McCarty (2011). In column 3, the outcome is the number of bills vetoed by the governor in a given year. The bandwidth is chosen using Calonico, Cattaneo and Titiunik (2014)'s optimal bandwidth and a triangular kernel. Bandwidth measured in electoral margins as in Kirkland and Phillips (2018) . Robust standard errors in parentheses. Local linear regressions. Standard errors for optimal bandwidth selection clustered at the state level.
$^{***}p < 0.01,^{**}p < 0.05,^{*}p < 0.1$

of these scores is that they should be unaffected by agenda changes at the state level. The disadvantage is that the scores are constructed considering the ideology of national representatives by state, and therefore only capture local legislators ideology indirectly. Another advantage of Berry et al. (2010) scores is their time-span availability, as we gain about 30 years of data in comparison to Shor and McCarty (2011)'s scores. Positive values of this score indicates a more liberal ideology.

Results in Figure B.1 are consistent with those in Table 4 and show that a change from unified Democratic to divided government via a change in governorship control shifts ideology scores to the right by more than one standard deviation. Conversely, a change from unified Republican has the opposite sign and similar magnitude. Nonetheless, and differently from our baseline results, we do not find the same effect for changes in control of the chambers, suggesting perhaps that individual-level scores are better suited at measuring ideology changes in this setting.

C. Details on the construction of the running variable

The running variable V_{it} is defined, for each of the 6 possible cases of divided government, as the distance to a change in the majority that leads to a divided government. When we study the effect of losing the house or the senate, the running variable is constructed as the seats share difference between the opposition party and 50%. For instance, when estimating the effect of a Republican unified government losing the senate, the running variable is

EFFECT OF DIVIDED GOVERNMENT ON STATE GOVERNMENT IDEOLOGY
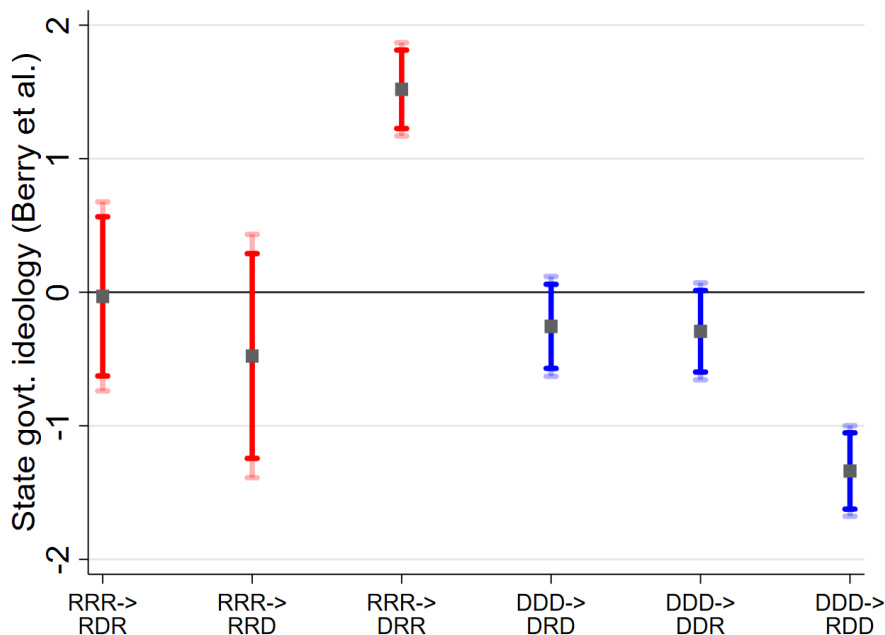
Notes: Regression-discontinuity estimates of the effect of going from unified to divided government on state government ideology, using measure by Berry et al. (2010). Each coefficient corresponds to a different case. S.e. are clustered at the state level. Local linear regressions using Calonico, Cattaneo and Titiunik (2014)'s optimal bandwidth. Bandwidth measured in standard deviations. Standard errors for optimal bandwidth selection clustered at the state level.

defined as the difference between the senate seats share of the Democrats and 50%. Here, observations with negative values of V are legislatures where the Republican control all three bodies, whereas cases where V is positive correspond to divided governments with the Democrats controlling the senate only. Correspondingly, when we study the effect of losing (or winning) the governorship, the running variable is defined using the vote share distance to losing (winning) the election.

As a final step, we standardize the running variable by dividing it by its standard deviation, calculated for each state across all elections. The standardization is performed in order to mitigate the issue that vote or seats share differences of similar magnitude might have very different impacts in different states. For instance, in states where there are frequent swings in support from Republicans to Democrats, a running variable value of, say, 5%, can be considered a close election. Instead, the same value should be considered as a clear victory of one party over the other in states where races are more contested and decided over a few percentage points. We do not remove the mean so to preserve the sign, so that positive values of the running variable always correspond to cases of divided governments and vice versa, negative cases correspond to unified ones.

D. Additional results

TABLE D.1
BALANCING CHECKS 1 - INDIVIDUAL-LEVEL DATASET

| | DDD → DRD | | | DDD → DDR | | | DDD → RDD | | |
	$\hat{\beta}$	se($\hat{\beta}$)	N	$\hat{\beta}$	se($\hat{\beta}$)	N	$\hat{\beta}$	se($\hat{\beta}$)	N
Years served	-3.73	1.37	5,254	0.78	1.88	9,877	0.67	0.59	42,657
First year in off.	-0.61	2.72	14,832	-0.98	2.37	12,337	1.16	1.58	37,793
Served in both ch.	0.04	0.06	16,410	-0.09	0.05	13,955	-0.04	0.03	22,721
Republican	0.00	0.01	8,299	0.02	0.02	12,337	-0.05	0.03	42,657
Senator	0.02	0.03	11,447	0.09	0.03	8,789	-0.02	0.02	41,251

Notes: Regression-discontinuity estimates of the discontinuity in the covariate specified in the each row. Years served is the number of years in office over the entire career. First year in office is a variable recording the first calendar year in office of each legislator. Served in both chambers is an indicator for having being elected in both chambers over the entire career. Republican is an indicator for the representative being a Republican, while Senator is an indicator for being a member of the state senate. Data at the individual legislator level. Standard errors clustered at the state level. Local linear regressions using Calonico, Cattaneo and Titiunik (2014)'s optimal bandwidth. Bandwidth measured in standard deviations. Standard errors for optimal bandwidth selection clustered at the state level.

TABLE D.2
BALANCING CHECKS 2 - INDIVIDUAL-LEVEL DATASET

| | RRR → RDR | | | RRR → RRD | | | RRR → DRR | | |
	$\hat{\beta}$	se($\hat{\beta}$)	N	$\hat{\beta}$	se($\hat{\beta}$)	N	$\hat{\beta}$	se($\hat{\beta}$)	N
Years served	-0.22	1.05	6,355	-0.74	1.72	8,911	-0.18	0.69	37,799
First year in off.	-0.82	3.01	5,385	-1.32	2.38	18,208	-1.70	1.33	43,383
Served in both ch.	-0.12	0.07	5,076	-0.01	0.08	7,082	-0.01	0.02	46,995
Republican	-0.02	0.01	6,533	0.03	0.01	13,253	0.03	0.03	39,875
Senator	0.02	0.02	6,355	-0.16	0.03	6,058	0.03	0.02	37,799

Notes: Regression-discontinuity estimates of the discontinuity in the covariate specified in the each row. Years served is the number of years in office over the entire career. First year in office is a variable recording the first calendar year in office of each legislator. Served in both chambers is an indicator for having being elected in both chambers over the entire career. Republican is an indicator for the representative being a Republican, while Senator is an indicator for being a member of the state senate. Data at the individual legislator level. Standard errors clustered at the state level. Local linear regressions using Calonico, Cattaneo and Titiunik (2014)'s optimal bandwidth. Bandwidth measured in standard deviations. Standard errors for optimal bandwidth selection clustered at the state level.
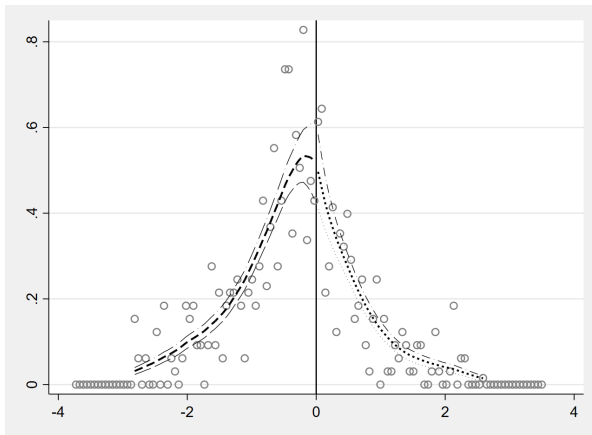
FREQUENCY DISTRIBUTION OF THE RUNNING VARIABLE IN EACH OF THE SIX DIVIDED GOVERNMENT CASES.
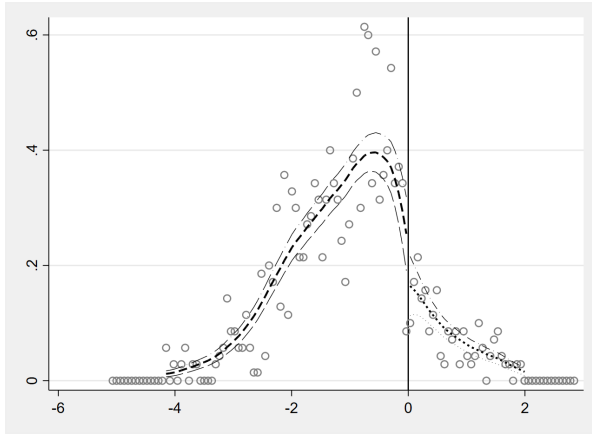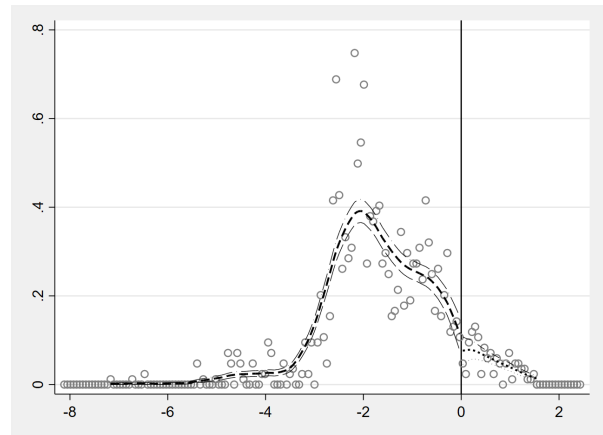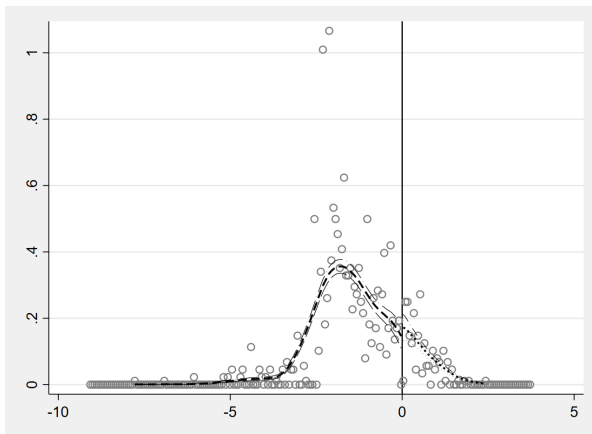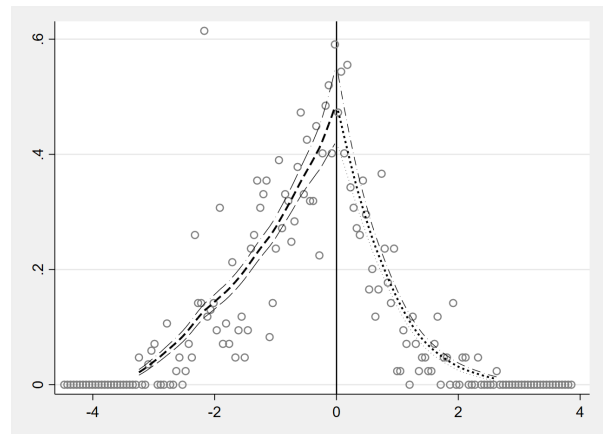

(A) RRR→RDR
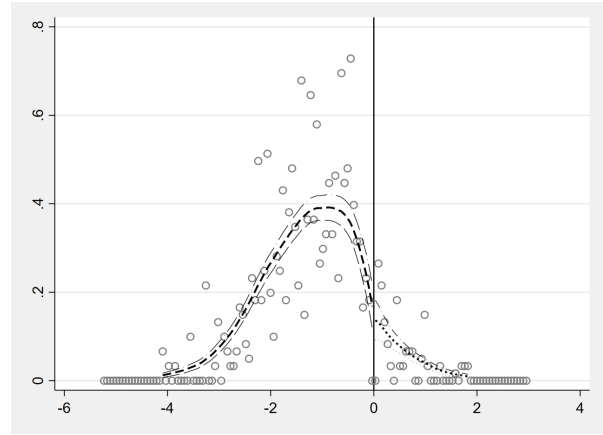
(B) RRR→RRD

(C) RRR→DRR

(D) DDD→DRD

(E) DDD→DDR

(F) DDD→RDD

Notes: Plots of the (log) frequency distribution of the running variable, appropriately defined as the distance to a divided government in each of the six configurations. Each running variable is standardized so to have a standard deviation of one. Bandwidth measured in standard deviations. The lines are nonparametric fits with 95% confidence interval obtained using the DCDensity command in Stata 17. McCrary (2008)'s test yields p-values of 0.12, 0.87, 0.39, 0.26, 0.24, and 0.96 in panels A through F.

FIGURE D.2

EFFECT OF DIVIDED GOVERNMENT ON INDIVIDUAL IDEOLOGY SCORES - SENATE
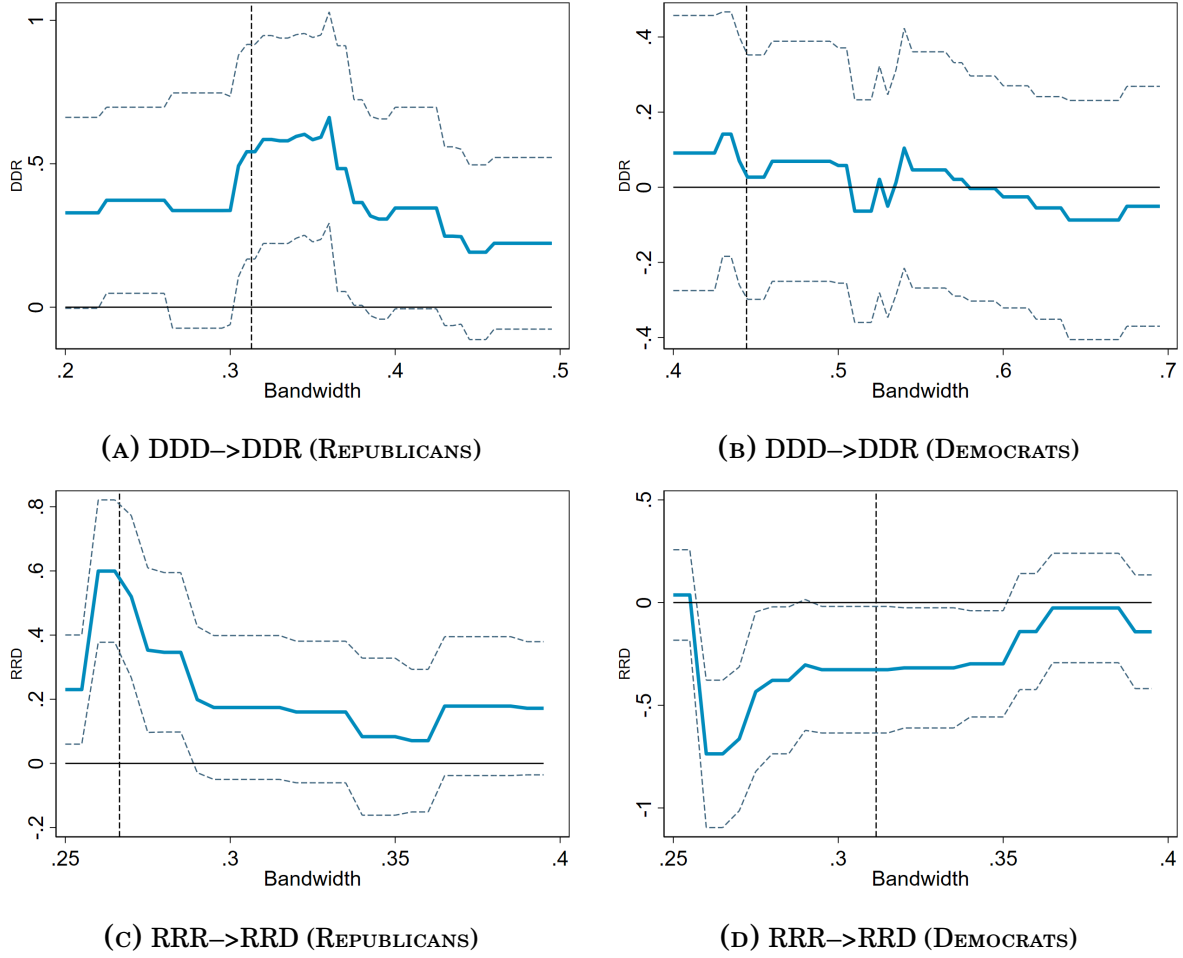
(A) DDD–>DDR (REPUBLICANS)   (B) DDD–>DDR (DEMOCRATS)

(C) RRR–>RRD (REPUBLICANS)   (D) RRR–>RRD (DEMOCRATS)

Notes: Regression-discontinuity estimates of the effect of unified governments losing the senate on individual state legislators' ideology scores (as in Table 2 above). Panel A and B restrict the sample to terms with Democratic governor and house, and estimate the effect of losing the senate on the ideology of Republican (A) and Democratic (B) senators separately. Analogously, panels C and D restrict the sample to terms with a Republican governor and House and estimate the effect of losing the senate. Local average treatment effects for different bandwidths (as specified in the horizontal axis) and 95% confidence interval with cluster-robust standard errors. Optimal bandwidth in dotted line. Bandwidth measured in standard deviations.

FIGURE D.3

EFFECT OF DIVIDED GOVERNMENT ON INDIVIDUAL IDEOLOGY SCORES - HOUSE

(A) DDD–>DRD (REPUBLICANS)

(B) DDD–>DRD (DEMOCRATS)
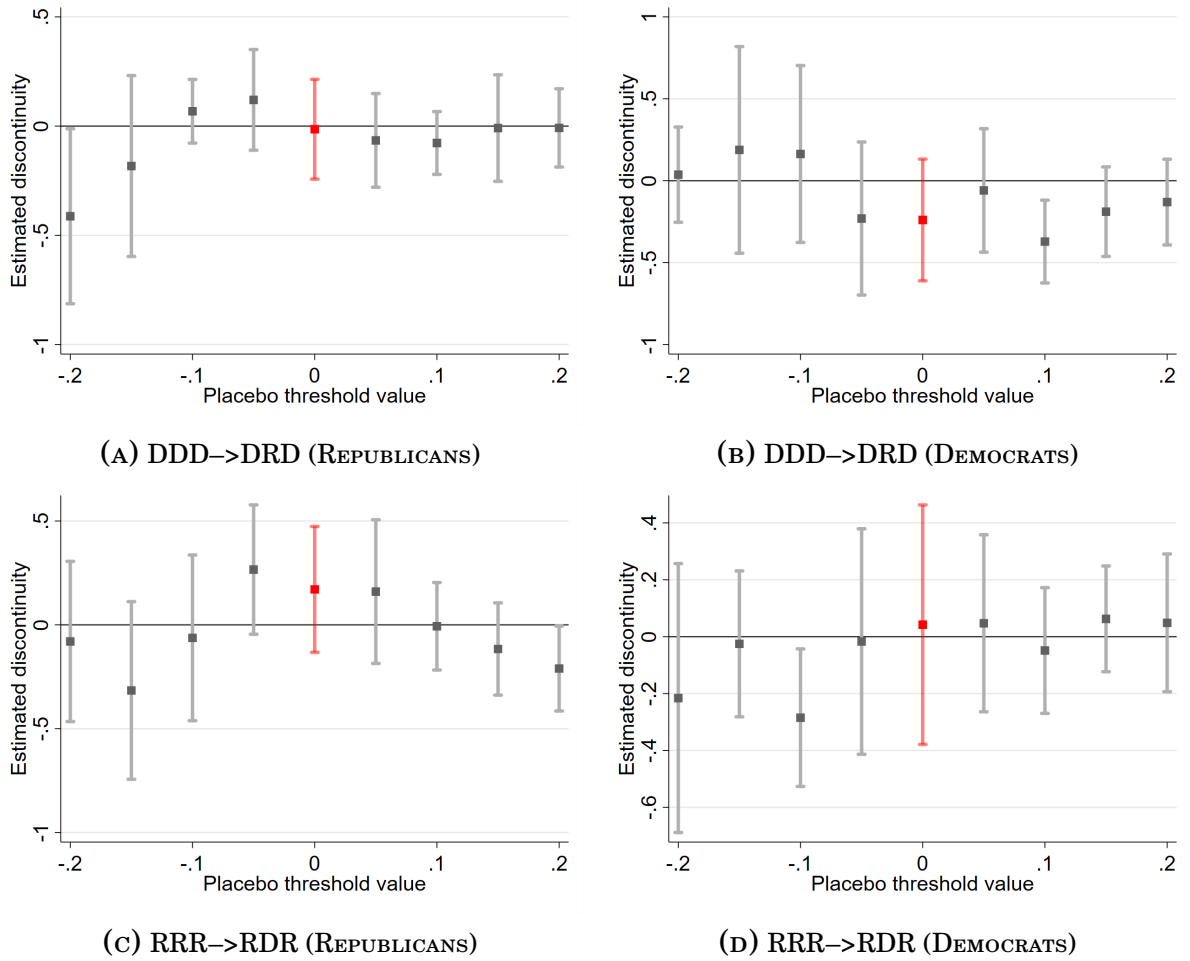
(C) RRR–>RDR (REPUBLICANS)

(D) RRR–>RDR (DEMOCRATS)

Notes: Regression-discontinuity estimates of the effect of unified governments losing the house on individual state legislators' ideology scores (as in Table 3 above). Panel A and B restrict the sample to terms with Democratic governor and senate, and estimate the effect of losing the house on the ideology of Republican (A) and Democratic (B) representatives separately. Analogously, panels C and D restrict the sample to terms with a Republican governor and Senate and estimate the effect of losing the house. Local average treatment effects for different bandwidths and 95% confidence interval with cluster-robust standard errors. Optimal bandwidth in dotted line. Bandwidth measured in standard deviations.

Figure D.4

Effect of Divided Government on Individual Ideology Scores - Governor

(A) DDD–>RDD (Republicans)

(B) DDD–>RDD (Democrats)

(C) RRR–>DRR (Republicans)

(D) RRR–>DRR (Democrats)

Notes: Regression-discontinuity estimates of the effect of unified governments losing the governorship on individual state legislators' ideology scores (as in Table 4 above). Panel A and B restrict the sample to terms with Democratic legislature, and estimate the effect of losing the governorship on the ideology of Republican (A) and Democratic (B) legislators separately. Analogously, panels C and D restrict the sample to terms with a Republican legislature and estimate the effect of losing the governorship. Local average treatment effects for different bandwidths and 95% confidence interval with cluster-robust standard errors. Optimal bandwidth in dotted line. Bandwidth measured in standard deviations.

EFFECT OF DIVIDED GOVERNMENT ON INDIVIDUAL IDEOLOGY SCORES - SENATE − ALTERNATIVE THRESHOLD VALUES
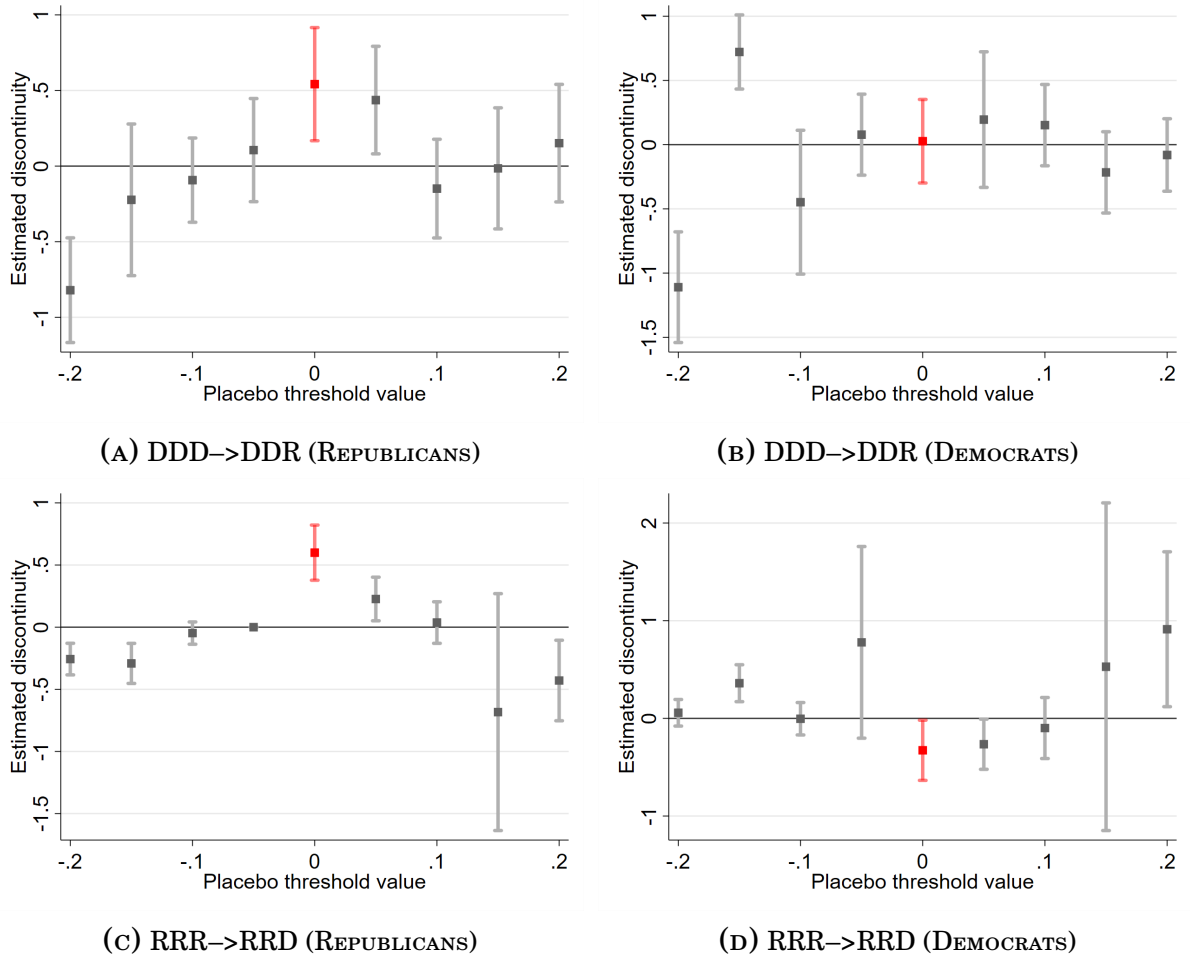
(A) DDD–>DDR (REPUBLICANS)

(B) DDD–>DDR (DEMOCRATS)

(C) RRR–>RRD (REPUBLICANS)

(D) RRR–>RRD (DEMOCRATS)

Notes: Regression-discontinuity estimates of the effect of unified governments losing the senate on individual state legislators' ideology scores. Panel A and B restrict the sample to terms with Democratic governor and house, and estimate the effect of losing the senate on the ideology of Republican (A) and Democratic (B) senators separately. Analogously, panels C and D restrict the sample to terms with a Republican governor and house and estimate the effect of losing the senate. Estimates are obtained using different threshold values for a change in majority status (as specified in the horizontal axis), with 0 corresponding to the baseline estimates in Table 2. 95% confidence interval with cluster-robust standard errors are also shown. In each estimation, the bandwidth is chosen optimally.
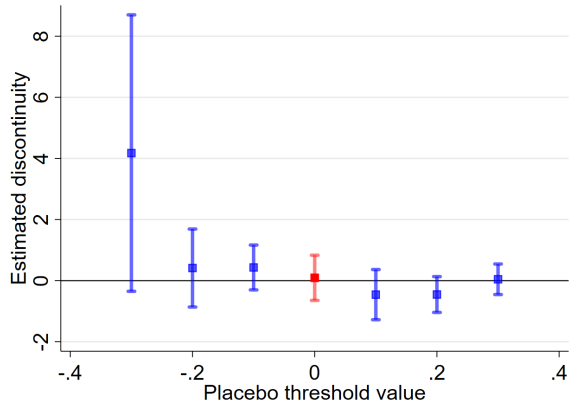
EFFECT OF DIVIDED GOVERNMENT ON INDIVIDUAL IDEOLOGY SCORES - HOUSE − ALTERNATIVE THRESHOLD VALUES

(A) DDD–>DRD (REPUBLICANS)

(B) DDD–>DRD (DEMOCRATS)

(C) RRR–>RDR (REPUBLICANS)

(D) RRR–>RDR (DEMOCRATS)

Notes: Regression-discontinuity estimates of the effect of unified governments losing the house on individual state legislators' ideology scores. Panel A and B restrict the sample to terms with Democratic governor and senate, and estimate the effect of losing the house on the ideology of Republican (A) and Democratic (B) senators separately. Analogously, panels C and D restrict the sample to terms with a Republican governor and senate and estimate the effect of losing the house. Estimates are obtained using different threshold values for a change in majority status (as specified in the horizontal axis), with 0 corresponding to the baseline estimates in Table 3. 95% confidence interval with cluster-robust standard errors are also shown. In each estimation, the bandwidth is chosen optimally.
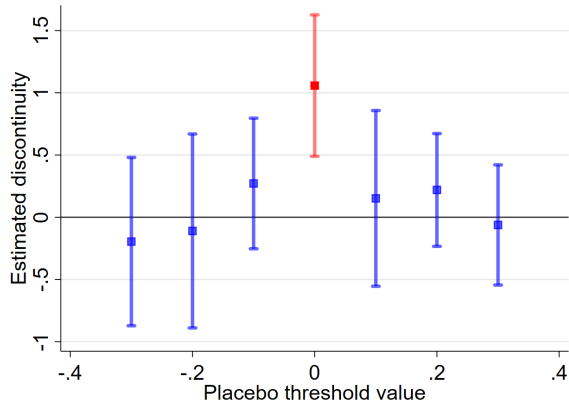
EFFECT OF DIVIDED GOVERNMENT ON INDIVIDUAL IDEOLOGY SCORES - GOVERNOR – ALTERNATIVE THRESHOLD VALUES
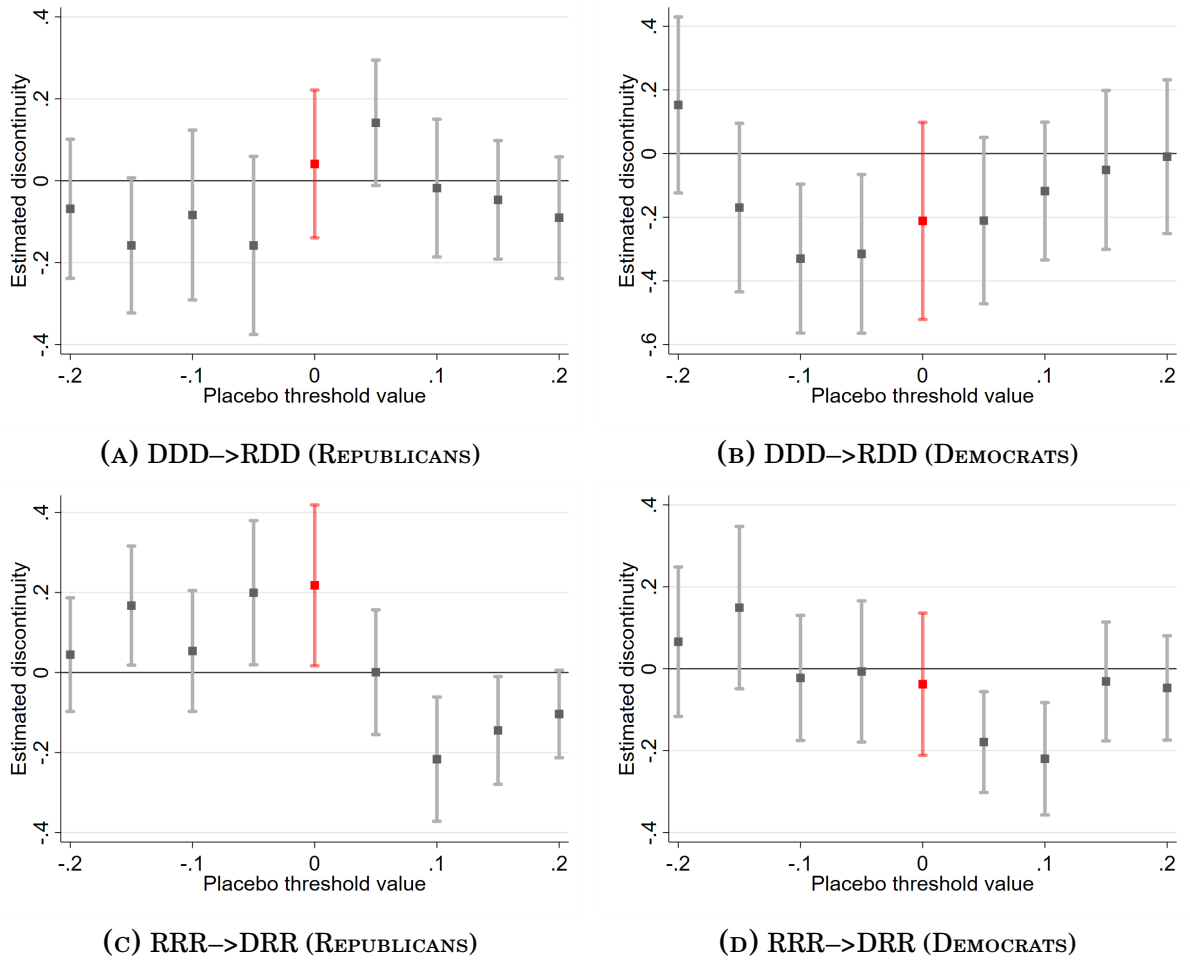
(A) DDD–>RDD (REPUBLICANS)

(B) DDD–>RDD (DEMOCRATS)

(C) RRR–>DRR (REPUBLICANS)

(D) RRR–>DRR (DEMOCRATS)

Notes: Regression-discontinuity estimates of the effect of unified governments losing the governorship on individual state legislators' ideology scores. Panel A and B restrict the sample to terms with Democratic house and senate, and estimate the effect of losing the governorship on the ideology of Republican (A) and Democratic (B) legislators separately. Analogously, panels C and D restrict the sample to terms with a Republican house and senate and estimate the effect of losing the governorship. Estimates are obtained using different threshold values for a change in majority status (as specified in the horizontal axis), with 0 corresponding to the baseline estimates in Table 4. 95% confidence interval with cluster-robust standard errors are also shown. In each estimation, the bandwidth is chosen optimally.

EFFECT OF DIVIDED GOVERNMENT ON BILLS VETOED – ALTERNATIVE THRESHOLD VALUES
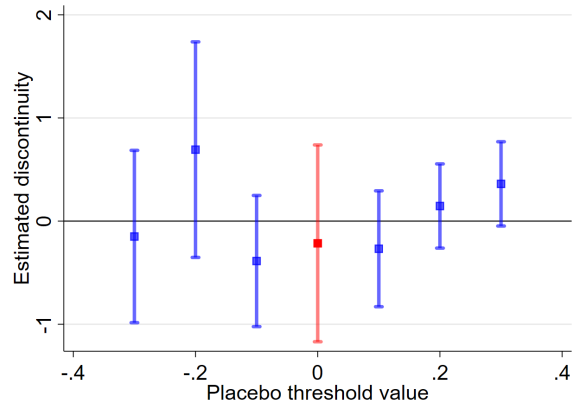
(A) RRR–>RDR
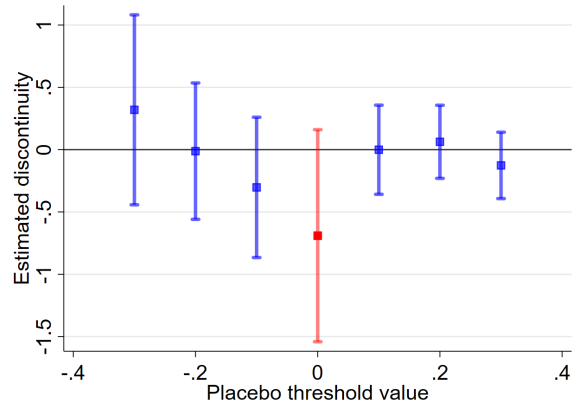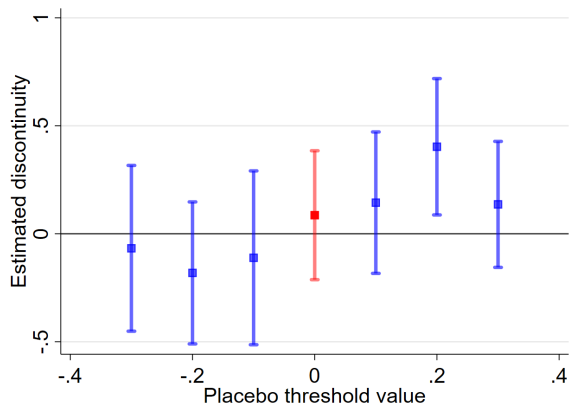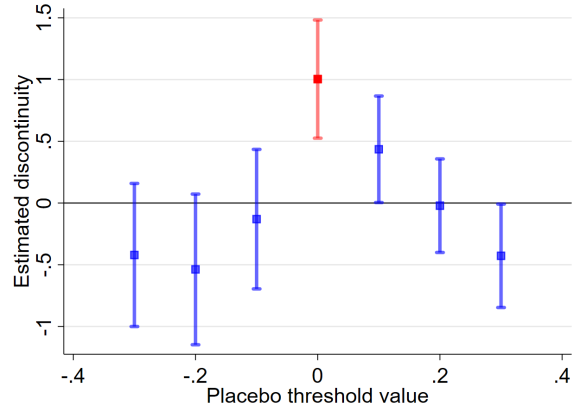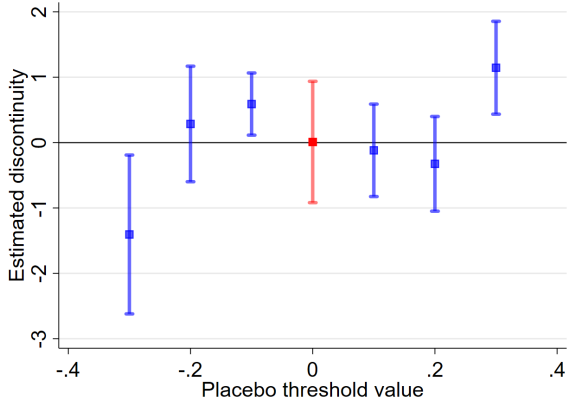
(B) RRR–>RRD

(C) RRR–>DRR

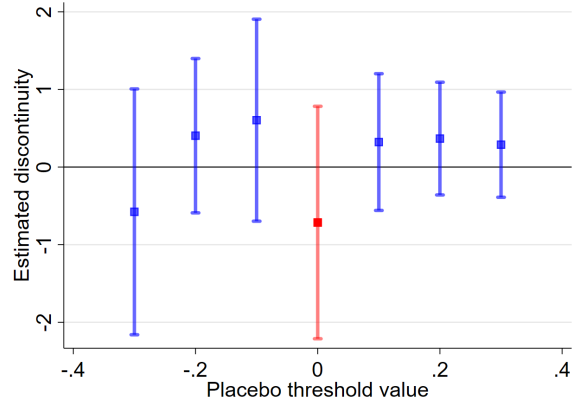(D) DDD–>DRD

(E) DDD–>DDR

(F) DDD–>RDD

Notes: RD estimates of the effect of going from unified to divided government on the (standardized) number of bills vetoed by the governor in a given year. Estimates are obtained using different threshold values for a change in majority status (as specified in the horizontal axis). 95% confidence interval with cluster-robust standard errors are also shown. Bandwidth chosen optimally.
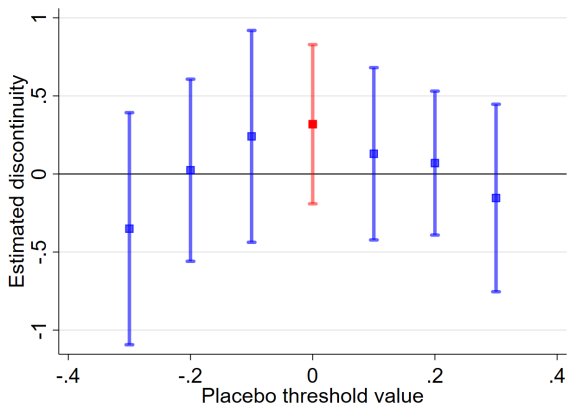
EFFECT OF DIVIDED GOVERNMENT ON POLICY LIBERALISM − POLICY LIB. SCORE − ALT. THRESHOLD VALUES

(A) RRR–>RDR
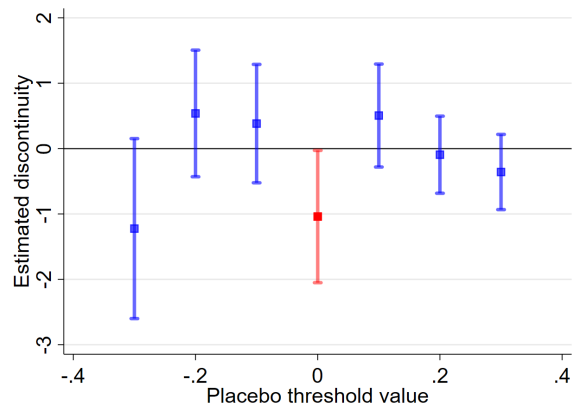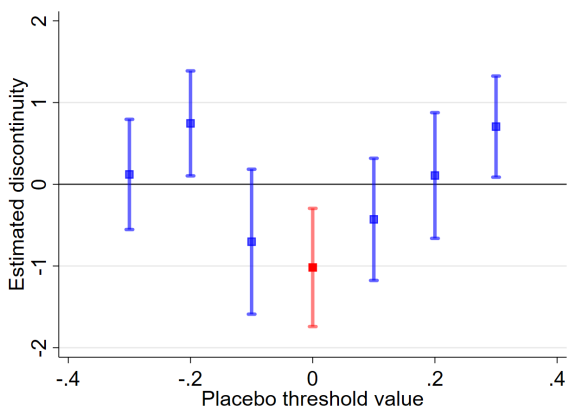
(B) RRR–>RRD

(C) RRR–>DRR

(D) DDD–>DRD

(E) DDD–>DDR

(F) DDD–>RDD

Notes: RD estimates of the effect of going from unified to divided government on the (standardized) policy liberalism score in a given year. Estimates are obtained using different threshold values for a change in majority status (as specified in the horizontal axis). 95% confidence interval with cluster-robust standard errors are also shown. Bandwidth chosen optimally.

FIGURE D.10

EFFECT OF DIVIDED GOVERNMENT ON POLICY LIBERALISM − SUBSTANTIVE SCALE 1 − ALT. THRESHOLD VALUES
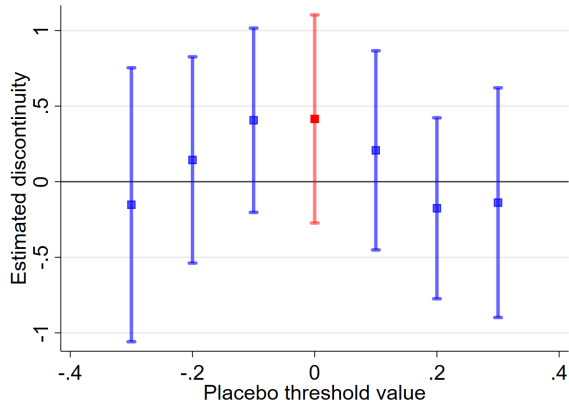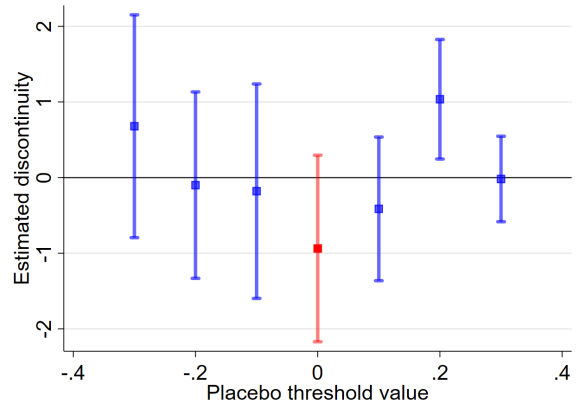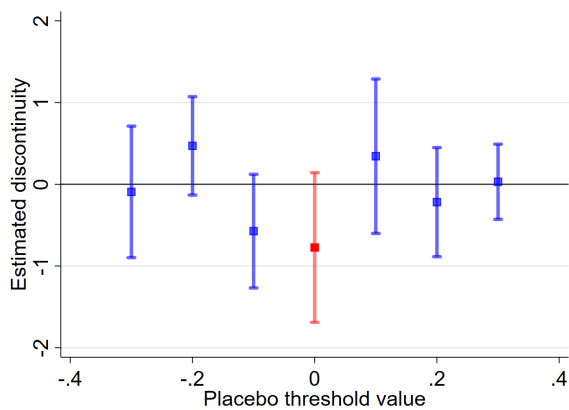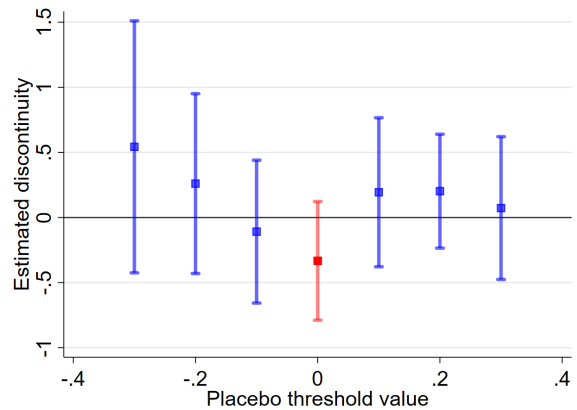
(A) RRR–>RDR

(B) RRR–>RRD
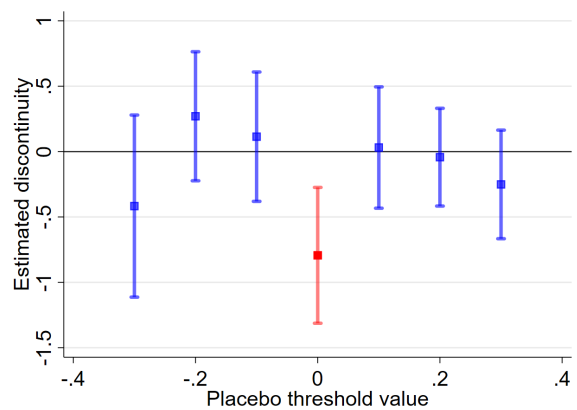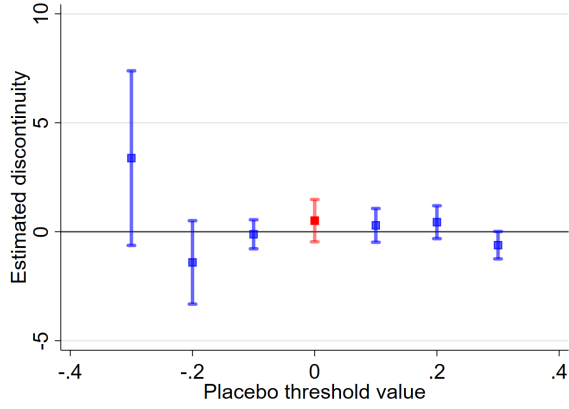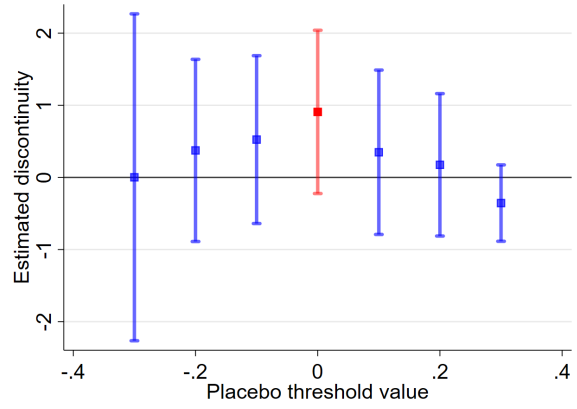
(C) RRR–>DRR

(D) DDD–>DRD

(E) DDD–>DDR

(F) DDD–>RDD

Notes: RD estimates of the effect of going from unified to divided government on the (standardized) substantive scale (first measure) in a given year. Estimates are obtained using different threshold values for a change in majority status (as specified in the horizontal axis). 95% confidence interval with cluster-robust standard errors are also shown. Bandwidth chosen optimally.

FIGURE D.11

EFFECT OF DIVIDED GOVERNMENT ON INDIVIDUAL IDEOLOGY SCORES - HOUSE

(A) DDD–>DRD (REPUBLICANS)

(B) DDD–>DRD (DEMOCRATS)

(C) RRR–>RDR (REPUBLICANS)

(D) RRR–>RDR (DEMOCRATS)

Notes: Regression-discontinuity estimates of the effect of unified governments losing the house on individual state legislators' ideology scores (as in Table 3 above). Panel A and B restrict the sample to terms with Democratic governor and senate, and estimate the effect of losing the house on the ideology of Republican (A) and Democratic (B) representatives separately. Analogously, panels C and D restrict the sample to terms with a Republican governor and Senate and estimate the effect of losing the house. Local average treatment effects for different bandwidths and 95% confidence interval with cluster-robust standard errors. Optimal bandwidth in dotted line. Bandwidth measured in standard deviations.

FIGURE D.12

EFFECT OF DIVIDED GOVERNMENT ON INDIVIDUAL IDEOLOGY SCORES - GOVERNOR

(A) DDD–>RDD (REPUBLICANS)

(B) DDD–>RDD (DEMOCRATS)

(C) RRR–>DRR (REPUBLICANS)

(D) RRR–>DRR (DEMOCRATS)

Notes: Regression-discontinuity estimates of the effect of unified governments losing the governorship on individual state legislators' ideology scores (as in Table 4 above). Panel A and B restrict the sample to terms with Democratic legislature, and estimate the effect of losing the governorship on the ideology of Republican (A) and Democratic (B) legislators separately. Analogously, panels C and D restrict the sample to terms with a Republican legislature and estimate the effect of losing the governorship. Local average treatment effects for different bandwidths and 95% confidence interval with cluster-robust standard errors. Optimal bandwidth in dotted line. Bandwidth measured in standard deviations.

TABLE D.3
BALANCING CHECKS 1 - STATE-LEVEL DATASET

	DDD → DRD			DDD → DDR			DDD → RDD		
	$\hat{\beta}$	se($\hat{\beta}$)	N	$\hat{\beta}$	se($\hat{\beta}$)	N	$\hat{\beta}$	se($\hat{\beta}$)	N
Population	848.34	1,278.85	104	243.57	1,708.29	143	1,856.71	1,147.76	365
Elect year	14.84	7.86	76	-4.55	5.70	166	0.95	2.38	726
Income	-7.63	4.48	77	-5.11	4.39	113	-0.74	2.09	388
Elect S	-0.15	0.26	122	0.10	0.22	144	0.01	0.05	682
Elect H	0.01	0.21	148	0.13	0.21	149	0.03	0.05	779
North	-0.05	0.18	118	-0.21	0.18	169	0.12	0.06	852
South	-0.21	0.21	141	0.13	0.14	192	-0.05	0.08	734
Midwest	0.03	0.15	126	0.02	0.11	282	0.04	0.06	663
West	-0.01	0.19	170	-0.13	0.16	201	-0.11	0.05	951

Notes: Regression-discontinuity estimates of the discontinuity in each of the covariate specified in the each row. Data at the state-year level. Population is in thousand inhabitants, whereas income is in thousands of USD per capita. *Elect S* and *Elect H* are indicators for the state having a senate or house election in a given year. The last four variables are indicators for the state belonging to a given region. Standard errors clustered at the state-year level. Local linear regressions using Calonico, Cattaneo and Titiunik (2014)'s optimal bandwidth. Bandwidth measured in standard deviations. Standard errors for optimal bandwidth selection clustered at the state level.

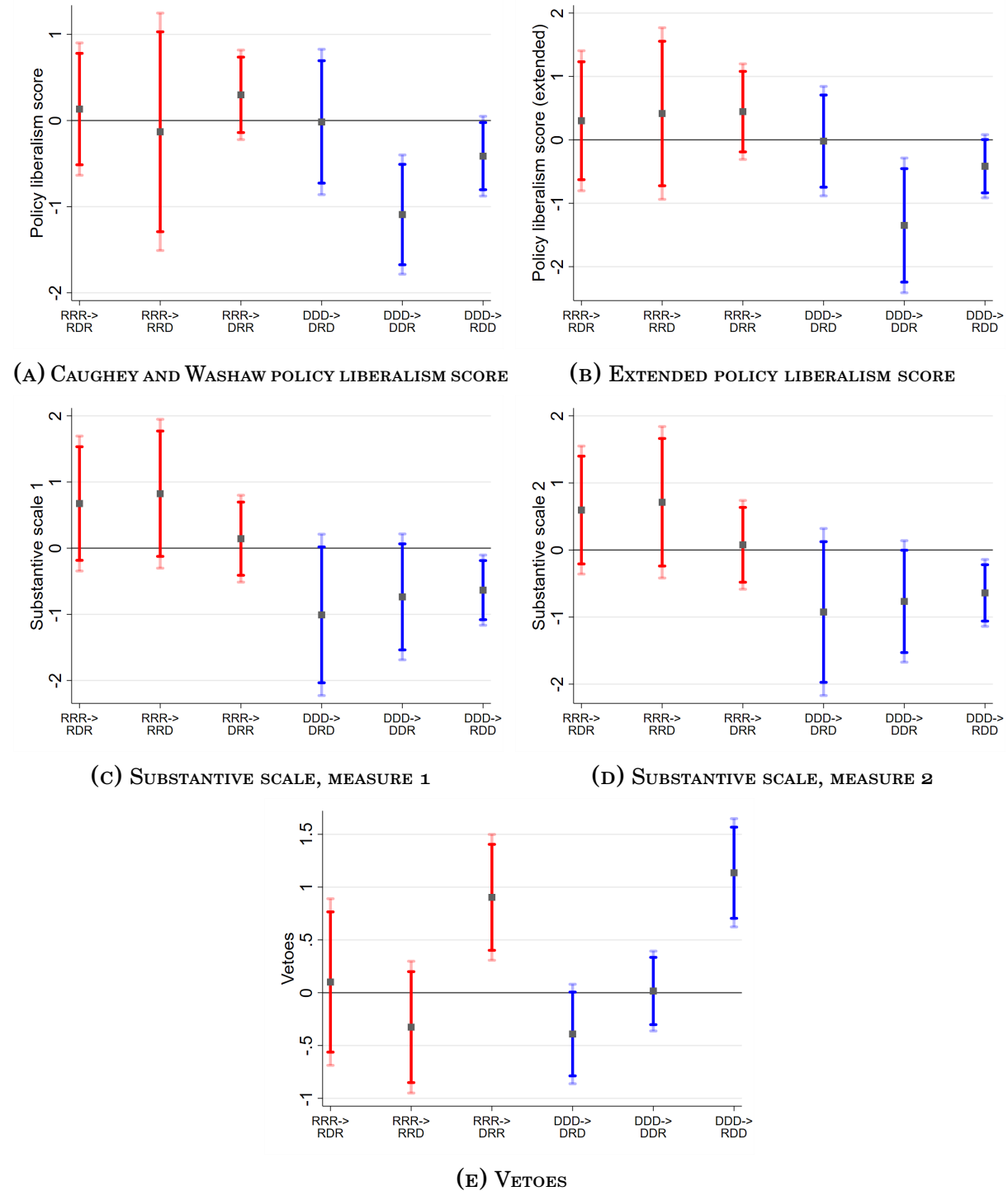## TABLE D.4
BALANCING CHECKS 2 - STATE-LEVEL DATASET

	RRR → RDR			RRR → RRD			RRR → DRR		
	$\hat{\beta}$	se($\hat{\beta}$)	N	$\hat{\beta}$	se($\hat{\beta}$)	N	$\hat{\beta}$	se($\hat{\beta}$)	N
Population	-1,591.28	2,271.58	77	3,752.94	4,567.31	84	-1,828.68	1,107.25	391
Elect year	-9.05	7.90	47	0.33	9.89	120	-1.31	2.32	766
Income	2.81	9.80	26	-15.24	8.38	45	2.24	2.17	347
Elect S	0.22	0.26	83	-0.04	0.24	116	-0.02	0.05	696
Elect H	0.20	0.28	69	0.00	0.24	118	-0.02	0.05	824
North	-0.48	0.20	64	-0.23	0.30	79	-0.17	0.06	848
South	0.43	0.28	82	0.64	0.38	79	0.09	0.08	736
Midwest	0.06	0.21	129	-0.49	0.43	68	-0.07	0.06	713
West	0.18	0.18	115	-0.03	0.23	113	0.12	0.06	852

Notes: Regression-discontinuity estimates of the discontinuity in each of the covariate specified in the each row. Data at the state-year level. Population is in thousand inhabitants, whereas income is in thousands of USD per capita. *Elect S* and *Elect H* are indicators for the state having a senate or house election in a given year. The last four variables are indicators for the state belonging to a given region. Standard errors clustered at the state-year level. Local linear regressions using Calonico, Cattaneo and Titiunik (2014)'s optimal bandwidth. Bandwidth measured in standard deviations. Standard errors for optimal bandwidth selection clustered at the state level.

ROBUSTNESS – EFFECT OF DIVIDED GOVERNMENT – RESULTS WITH FIXED BANDWIDTH SELECTION.

(A) CAUGHEY AND WASHAW POLICY LIBERALISM SCORE

(B) EXTENDED POLICY LIBERALISM SCORE

(C) SUBSTANTIVE SCALE, MEASURE 1

(D) SUBSTANTIVE SCALE, MEASURE 2

(E) VETOES

Notes: Regression-discontinuity estimates of the effect of divided government on different outcomes. Each coefficient corresponds to a different configuration of divided government. S.e. are clustered at the state level. Point estimates are shown together with 90% and 95% confidence intervals. Local linear regressions using a fixed bandwidth of 0.5 standard deviations.

ROBUSTNESS – EFFECT OF DIVIDED GOVERNMENT – RESULTS WITH FIXED BANDWIDTH SELECTION AND CONTROLS.
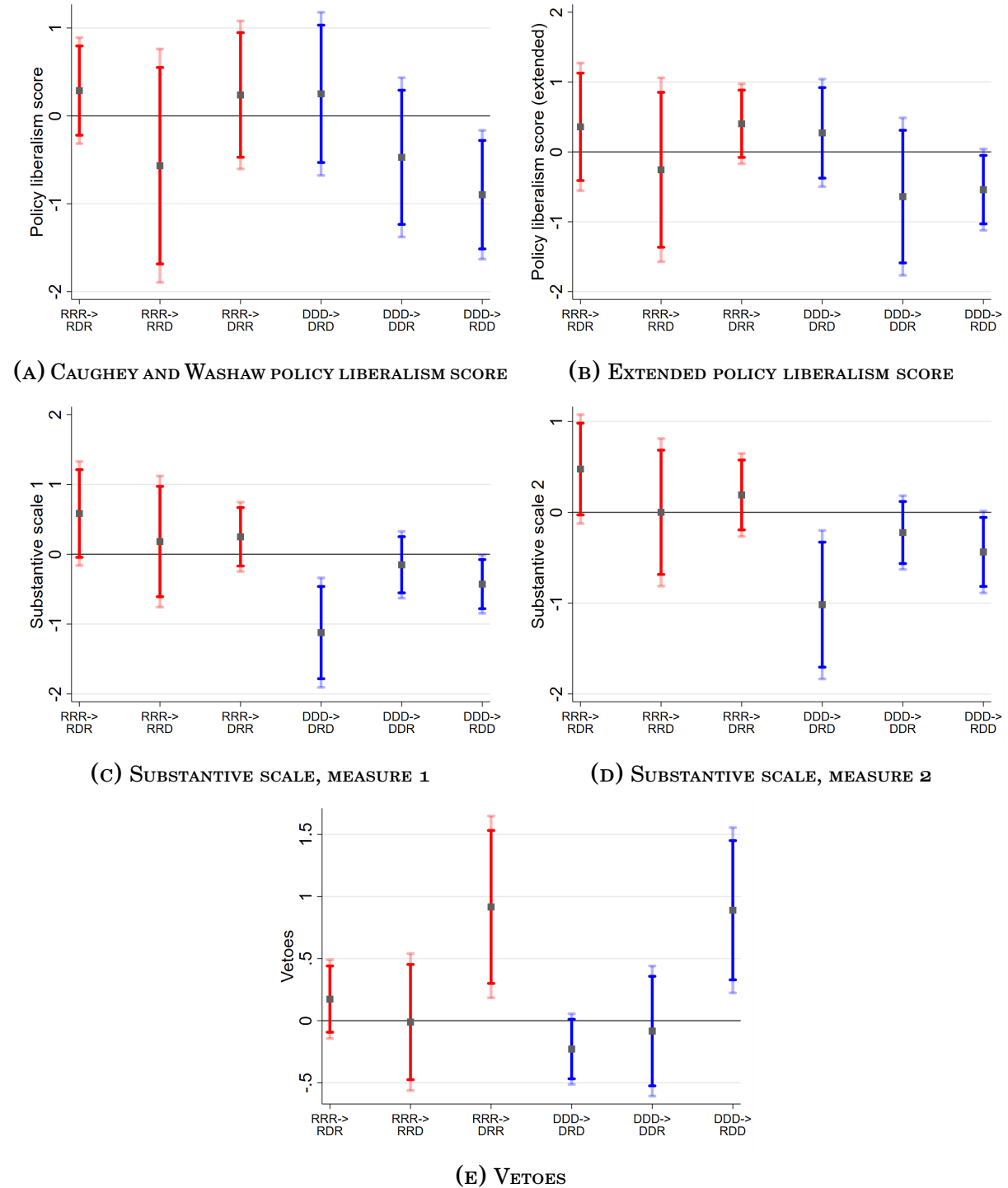
(A) CAUGHEY AND WASHAW POLICY LIBERALISM SCORE

(B) EXTENDED POLICY LIBERALISM SCORE

(C) SUBSTANTIVE SCALE, MEASURE 1

(D) SUBSTANTIVE SCALE, MEASURE 2

(E) VETOES

Notes: Regression-discontinuity estimates of the effect of divided government on different outcomes. Each coefficient corresponds to a different configuration of divided government. S.e. are clustered at the state level. Point estimates are shown together with 90% and 95% confidence intervals. Local linear regre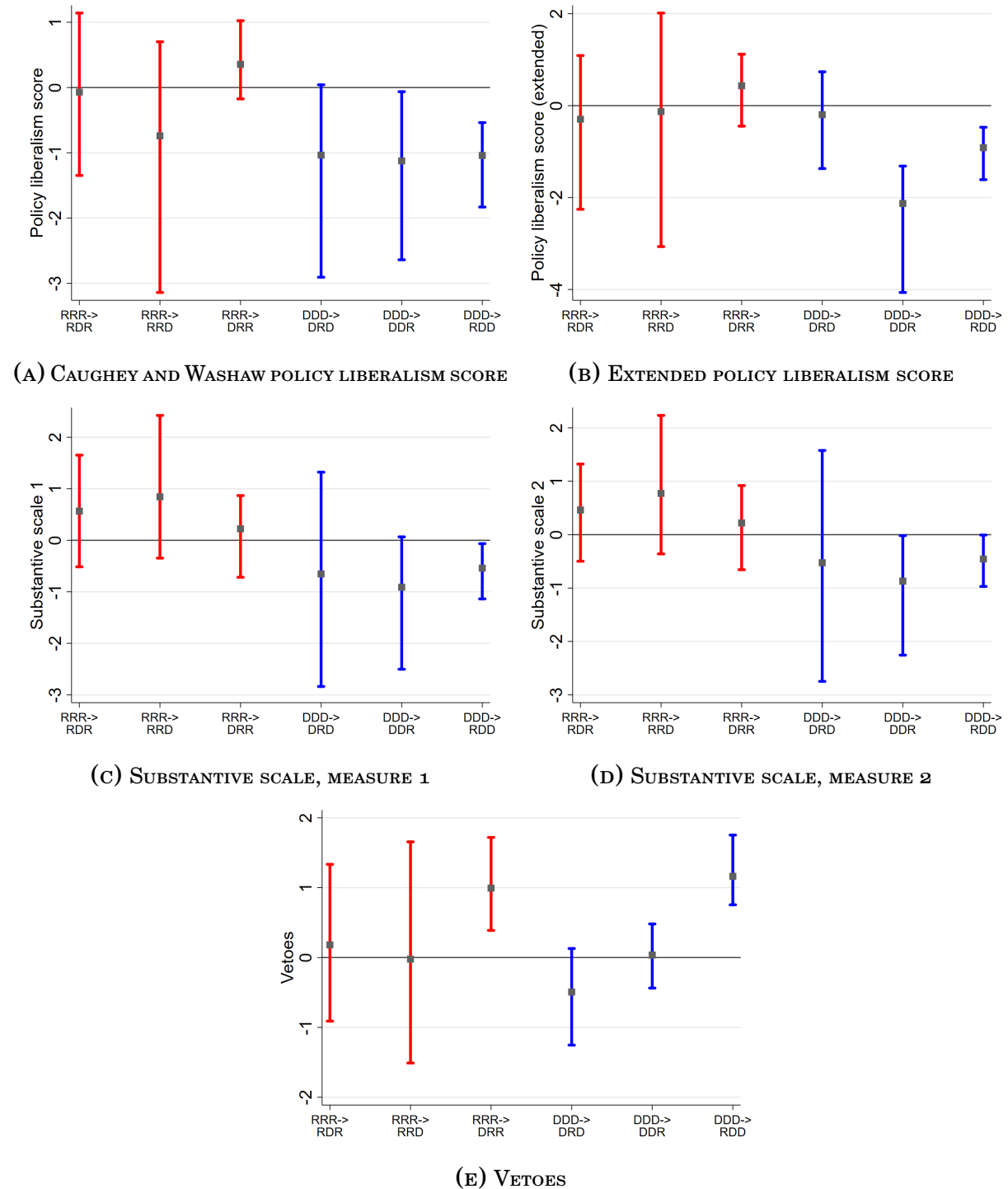ssions using a fixed bandwidth of 0.5 standard deviations. State-level controls include total population, gross income level and election-year controls for the House and Senate

ROBUSTNESS – EFFECT OF DIVIDED GOVERNMENT – RESULTS WITH *RDROBUST* ESTIMATOR AND ROBUST C.I.

(A) CAUGHEY AND WASHAW POLICY LIBERALISM SCORE

(B) EXTENDED POLICY LIBERALISM SCORE

(C) SUBSTANTIVE SCALE, MEASURE 1

(D) SUBSTANTIVE SCALE, MEASURE 2

(E) VETOES

Notes: Regression-discontinuity estimates of the effect of divided government on different outcomes. Each coefficient corresponds to a different configuration of divided government. S.e. are clustered at the state level. Point estimates and 95% robust confidence intervals are obtained using *rdrobust* command in Stata 17 (Calonico et al., 2019; Calonico, Cattaneo and Titiunik, 2014).

TABLE D.5

EFFECT OF DIVIDED GOVERNMENT (LOSING THE SENATE) ON SENATORS' IDEOLOGY SCORE - RD ROBUST

	DDD → DDR		RRR → RRD	
	(1) Ideology Score	(2) Ideology Score	(3) Ideology Score	(4) Ideology Score
RD estimate β	0.378**	0.073	0.256**	-0.364**
	(0.186)	(0.214)	(0.109)	(0.167)
Party	Republicans	Democrats	Republicans	Democrats
Robust c.i.	[-.055 ; .934]	[-.474 ; .742]	[.148 ; .904]	[-.908 ; .164]
Bandwidth	0.31	0.44	0.27	0.31
Mean of dep.var.	0.67	-0.91	0.76	-0.91
Obs.	1114	1914	787	1007

Notes: Regression-discontinuity estimates of the effect of losing the senate on individual state senators' ideology scores. Columns 1 and 2 compare unified Democratic governments to divided governments where Republicans won the senate, for Republican (col. 1) and Democratic (col. 2) senators respectively. Similarly, columns 3 and 4 compare unified Republican governments to divided governments where Democrats won the senate. Bias-corrected estimates obtained using *rdrobust* command with Stata 17, with bandwidth chosen using Calonico, Cattaneo and Titiunik (2014)'s criterion. Bandwidth measured in standard deviations. Cluster-robust standard errors at the state level in parentheses.

***$p < 0.01$,** $p < 0.05$,* $p < 0.1$

TABLE D.6

EFFECT OF DIVIDED GOVERNMENT (LOSING THE HOUSE) ON HOUSE REPRESENTATIVES' IDEOLOGY SCORE - RD ROBUST

	DDD → DRD		RRR → RDR	
	(1) Ideology Score	(2) Ideology Score	(3) Ideology Score	(4) Ideology Score
RD estimate β	0.001	-0.108	0.290*	0.030
	(0.115)	(0.199)	(0.165)	(0.243)
Party	Republicans	Democrats	Republicans	Democrats
Robust c.i.	[-.25 ; .28]	[-.523 ; .401]	[-.066 ; .737]	[-.529 ; .688]
Bandwidth	0.71	0.66	0.43	0.28
Mean of dep.var.	0.79	-0.75	0.83	-0.81
Obs.	5543	6386	5795	3328

Notes: Regression-discontinuity estimates of the effect of losing the house on individual state house representatives' ideology scores. Columns 1 and 2 compare unified Democratic governments to divided governments where Republicans won the house, for Republican (col. 1) and Democratic (col. 2) house representatives, respectively. Similarly, columns 3 and 4 compare unified Republican governments to divided governments where Democrats won the house. Bias-corrected estimates obtained using *rdrobust* command with Stata 17, with bandwidth chosen using Calonico, Cattaneo and Titiunik (2014)'s criterion. Bandwidth measured in standard deviations. Cluster-robust standard errors at the state level in parentheses.

***$p < 0.01$,** $p < 0.05$,* $p < 0.1$

TABLE D.7

Effect of divided government (losing the governor) on house and senate representatives' ideology score - RD robust

	DDD → RDD		RRR → DRR	
	(1) Ideology Score	(2) Ideology Score	(3) Ideology Score	(4) Ideology Score
RD estimate β	0.089	-0.039	0.334***	0.079
	(0.085)	(0.168)	(0.105)	(0.094)
Party	Republicans	Democrats	Republicans	Democrats
Robust c.i.	[-.037 ; .315]	[-.335 ; .423]	[.159 ; .629]	[-.094 ; .332]
Bandwidth	0.41	0.43	0.34	0.45
Mean of dep.var.	0.68	-0.71	0.81	-0.85
Obs.	9953	20254	14223	11046

Notes: Regression-discontinuity estimates of the effect of losing the governorship on individual state legislators' ideology scores. Columns 1 and 2 compare unified Democratic governments to divided governments where Republicans won the governorship, for Republican (col. 1) and Democratic (col. 2) house representatives, respectively. Similarly, columns 3 and 4 compare unified Republican governments to divided governments where Democrats won the governorship. Bias-corrected estimates obtained using *rdrobust* command with Stata 17, with bandwidth chosen using Calonico, Cattaneo and Titiunik (2014)'s criterion. Bandwidth measured in standard deviations. Cluster-robust standard errors at the state level in parentheses. .
***$p < 0.01$,** $p < 0.05$,* $p < 0.1$

Table D.8

Variables description

Variable	Description	Coverage	Source
State-level variables			
Population	Total population (in thousands)	1980-2018	US Census Bureau
Income p.c.	Gross Income per capita	1980-2019	US Census Bureau
Dem. vote margin (gov.)	Dem - Rep vote share	1950-2018	Klarner, Leip
Dem. seat margin (sen.)	Dem - Rep seat share	1950-2018	Klarner, Leip, NCSL
Dem. seat margin (hou.)	Dem - Rep seat share	1950-2018	Klarner, Leip, NCSL
Divided Government	Indicator of divided government	1950-2018	Klarner, Leip
Dem. mean ideology	Mean ideology of Democrats	1993-2018	Shor and McCarty
Rep. mean ideology	Mean ideology of Republicans	1993-2018	Shor and McCarty
State govt. ideology	Government ideology score	1960-2017	Berry et al
Introduced bills	Bills introduced in legislature	1991-2018	Hicks & Book of States
Enacted bills	Bills enacted in legislature	1991-2018	Hicks & Book of States
Full vetoes	Vetoes issued by governor	1970-2018	Book of States
Veto overrides	Vetoes overridden by legislature	1970-2018	Book of States
Policy liberalism score	Index of liberalism of policies	1950-2014	Caughey and Warshaw
Policy liberalism (ext)	Index of liberalism of policies	1970-2014	Grumbach
Individual-level variables			
Ideology Score	Ideology score of legislators	1993-2018	Shor and McCarty
N. years in office	Tenure in office	1993-2018	Shor and McCarty
First year in office	Year of first election to office	1993-2018	Shor and McCarty
Ever in a div.govt.	Indicator serving under div. gov.	1993-2018	Shor and McCarty
First year in a div.govt.	First year of service under a div. gov.	1993-2018	Shor and McCarty
N. years in div.govt.	Total years under div. gov.	1993-2018	Shor and McCarty
Senator	Indicator for being a senator	1993-2018	Shor and McCarty