

Party Competition and Policy Liberalism

Abstract

Party competition is a foundational concept in the study of state politics, relating to outcomes as varied as policy choices, policy congruence, political participation, and the quality of representation. Scholars have long argued that increased levels of party competition are associated with more liberal policymaking. By this logic, parties in close competition with one another try to expand their bases of support by catering to the desires of those who tend to abstain from the political process—the “have-nots.” We extend this classic hypothesis by examining the relationship between competition and policy liberalism over several decades, articulating and testing a theory that suggests that party competition relates differently to social and economic policy liberalism. We find robust evidence that increased competition has a positive relationship with economic policy liberalism, weaker evidence for a negative relationship between competition and social policy liberalism, and suggestive evidence that the direction and magnitudes of these relationships have changed over time.

1 Introduction

Political scientists have studied the development of political parties and their effect on policymaking for decades (e.g. Schattschneider 1960; Key 1949; Downs 1957; Campbell 1977). The direction of public policy is often thought to depend, in part, on the party controlling government and the preferences of their electoral coalition. In some places and times, a single party is dominant and has little chance of losing office in the next election (e.g. Key 1949); in other places and times, the major parties routinely alternate power. Scholars term the vigor with which parties alternate power party competition.

Party competition is one of the most important concepts in the study of state politics. Ranney (1965) claims that “of all the variables studied in the analysis of state party politics, the one receiving the most attention from political scientists has been ‘inter-party competition’ ” (63). Similarly, Jewell (1982) calls the concept “[o]ne of the most important dimensions along which states differ” (6).

Perhaps the most significant hypothesis involving party competition and policymaking in the American states is its relationship to the ideological leaning of the laws produced. The conventional wisdom, dating back to Key (1949) and Schattschneider (1960), establishes a crystal clear prediction: higher competition should be associated with more liberal policies. This relationship has received widespread support, leading one prominent scholar to go as far as to state that “Expectations about the effects of competition on policy-making are unambiguous” (Barrilleaux 1997, 1462). Unfortunately, most tests of this theory have relied on data encompassing only single policy areas or relatively short time periods. Moreover, these tests tend to treat state policymaking as homogeneous, either because they generalize from a single issue area or because they rely upon measures that do not distinguish among types of state policies.

This paper reexamines the relationship between policy liberalism and party competition, building on previous scholarship in two ways. First, this paper takes advantage of new advances in data availability to examine the relationship between these two variables over a

longer time horizon and across a broader array of policy areas. Most existing studies look only at a decade or two and at a small slice of economic policy. Our study, by contrast, examines the effects of party competition on economic policy liberalism since the Great Depression, enabling us to probe the generalizability of this theory over time and across issue domains.

Second, we expand on earlier theories by distinguishing between social and economic policy, exploring the effect of party competition on each of these policy areas separately. Key's (1949) landmark study focuses on economic policy, finding higher levels of interparty competition are associated with the expansion of the electorate, bringing routine nonvoters to the ballot box. These nonvoters tend to be society's "have-nots," people with low incomes whose interests are traditionally excluded from policy creation by their more economically advantaged neighbors.

In contrast to Key, we also explore the effect of competition on social policy. We argue that, while party competition has the positive effect on economic liberalism that Key (1949), Schattschneider (1960), and Barrilleaux (1997) suggest, it has *the exact opposite* effect on social liberalism: more competitive electoral environments lead to *less* social policy liberalism. This expectation is based upon the fact that class-level preferences on social policy cross-cut positions on social issues; higher income Americans tend to have socially liberal but economically conservative preferences while the converse is generally true from lower income Americans (Flavin 2011; Rigby and Wright 2013). Because the haves and have-nots tend to have divergent preferences over these bundles of policy, we expect that higher levels of party competition will have different effects for social and economic policy liberalism.

This paper is organized as follows: first, we review the literature on policymaking and competition. Next, we develop a theory explaining why party competition is associated with more liberal economic policy and more conservative social policy. Third, we discuss the novel data we bring to bear on this question and the methods of analysis we employ. Fourth, we examine the relationship between party competition and policy liberalism from multiple

perspectives. We conclude that party competition is related to more liberal economic policies and more conservative economic policies; however, the link between competition and social policy is less robust than its relationship with economic policy. We end by discussing the practical implications of these results and the impact they have on our theory.

2 Making Policy in the American States

Commonly, four factors predominate explanations of state-level policymaking: public opinion (Erikson, Wright and McIver 1989, 1993), the ideology of the lawmakers serving in government (Entman 1983; Erikson, Wright and McIver 1989, 1993), the party controlling the policymaking process (Dye 1984; Garand 1985; Erikson, Wright and McIver 1989, 1993), and the degree of competition between these parties (Barrilleaux 1997, 2000; Davies and Worden 2009). First, regarding public opinion, states with more liberal citizens are more likely to produce liberal policies (Erikson, Wright and McIver 1993). Second, the ideology of legislators affects their roll call votes; liberal members tend to vote for liberal policies (Entman 1983).

While these first two factors are fairly robust predictors of the ideological valence of state policy, the relationship between party control, party competition, and policymaking is less clear.¹ Some research demonstrates Democratic control of government corresponds

¹It is important to separate the desires of individual candidates and legislators from the goals of the party. While parties are both exogenous from, and endogenous to, candidates and policymakers, they have a duty to maintain their strength and assemble majority coalitions. Individual lawmakers may be incentivized to run toward their electoral base to secure future campaign resources, but parties must craft an agenda and platform that resonates with the state public at-large. While both parties are responsible for pushing policy in a decidedly ideological position (Dye 1984; Garand 1985; Erikson, Wright and McIver 1989, 1993), they must advance an agenda that appeals to the whole state or risk all of their candidates appearing out of touch.

to more liberal policies (Dye 1984; Garand 1985) while others find the opposite (Erikson, Wright and McIver 1989). To square these disparate conclusions, Barrilleaux (1997, 2000) examines the interactive effect of competition and partisanship on policymaking. These studies demonstrate party competition increases policy liberalization and that absent inter-party competition both Democrats and Republicans are unlikely to modify their positions (Barrilleaux 1997, 2000).

The importance of party competition for effective governance has been underscored by several scholars. Ranney (1965) argues that:

Most writers on the subject of state politics believe that a state's competitiveness is significantly related to other characteristics of its parties and politics... they generalize that the state parties facing the closest competition are likely to have the most centralized control of nominations, and the highest cohesion in state legislatures and in gubernatorial-legislative relations. Consequently, they are likely to be the most effective and responsible governing agencies (63).

Ranney does not stand alone. Aldrich (2011) draws a connection between party competition and the quality of governance: “[t]he South was solidly Democratic for a century, machines ruled in many cities and in some rural areas, and in such areas of one-party dominance there was for long periods effectively no competition for office by the opposing party. Thus articulation, aggregation, and accountability were all lost” (13, see also Aldrich and Griffin (2018)). Scholars have long believed that high levels of interparty competition will incentivize parties to improve the quality of representation they provide.

Many of these conclusions are generated, however, by examining a single policy area or by examining many laws during only a single year. For example, Dye (1984) and Barrilleaux, Holbrook and Langer (2002) examine the relationship between electoral competition and welfare policy while Erikson, Wright and McIver (1993) examine the correlation across a cross-sectional measure of state policy liberalism. While each of these studies has represented an important advance in our understanding of state policymaking, studies relying on single

policy areas or single points in time raise questions of generalizability across policies or time.

We are fortunate that new, dynamic measures of state policy liberalism exist. Caughey and Warshaw (2016) develop a measure of policy liberalism based on nearly 150 different policies dating back to the 1930s that is comparable across states and years. Caughey and Warshaw (2018) extend this data collection effort, creating separate measures of social and economic policy liberalism. Caughey and Warshaw use separate measurement models to estimate state-year estimates of social policy liberalism and economic policy liberalism based on the presence or absence of particular policies in a given state-year. As a result, a state-year’s estimate for one type of liberalism does not affect that state-year’s estimate for the other type of liberalism. The availability of new data allows us to reexamine these questions while differentiating between types of policies.

3 Why May Competition Lead to Liberal Policymaking

Traditional expectations for the relationship between party competition and policy liberalism see variation in electoral participation as the glue that binds competitive elections and liberal state policies. High levels of competition are associated with increased levels of electoral participation (Flavin and Shufeldt 2015); therefore, the argument goes, high rates of competition should increase the quality of representation by encouraging parties to expand the voters they target. Blais (2000), summarizing 32 studies across time, space, and method, writes that there is a “crystal clear” relationship between the closeness of an election and turnout: individuals are more likely to vote in close elections (60). Moreover, the effect of closeness is not limited to increased spending by candidates or parties on mobilization (Blais 2000). Parties in close competition with one another are expected to increase their base by targeting voters they believe will turn out. In these cases, parties must choose between doubling-down on the same policies their base already supports or modifying their position to attract the support of those who traditionally do not participate and whose interests may not currently be well-represented by either party.

The traditional explanation linking competition and policy liberalism favors the latter strategy: parties respond to increasing competition by targeting the have-nots (Key 1949; Downs 1957; Holbrook and Van Dunk 1993; Davies and Worden 2009). These have-nots are marginal voters—the sort of people who are likely to turn out in competitive elections but not in landslide elections—and their policy preferences tend to be less represented under low party competition. As originally theorized, these are voters with low-incomes who are not regularly participating in the electoral process. Key (1949) argues that:

Politics generally comes down, over the long run, to a conflict between those who have and those who have less. In state politics the crucial issues tend to turn around taxation and expenditure. . . [O]ver the long run the have-nots lose in a disorganized politics. They have no mechanism through which to act and their wishes find expression in fitful rebellions led by transient demagogues who gain their confidence but often have neither the technical competence nor the stable base of political power to effectuate a program (307).

Key is not alone. Indeed, Schattschneider (1960) contends that “one-party politics tends to strongly vest political power in the hands of people who already have economic power” (80). In this way, areas with low competition tend to have conservative policies because elites have little need to represent the more liberal preferences of the have-nots.

Increased electoral participation can remedy this conservative bias. Key (1949) writes: “The have-have-not match is settled in part by the fact that substantial numbers of the have-nots never get into the ring. For that reason, professional politicians often have no incentive to appeal to the have-nots” (308).² Because higher levels of competition tend to foster higher turnout elections and those non-habitual voters that only turn out in competitive elections

²Schattschneider sang a similar tune: “in one-party areas (areas of extreme sectionalism) votes decline in value because the voters no longer have a valuable party alternative” leading to low voter turnout (180).

tend to be have-nots, politicians facing high levels of competition are incentivized to appeal to a more liberal electorate than they would otherwise target.

More recent scholarship has validated Key's intuition. Hill and Leighley (1992) demonstrate there is a negative relationship between a class bias in state electorates and redistributive state policies; more generous redistributive policies are associated with the participation of the poor in the electoral politics. Hill, Leighley and Hinton-Anderson (1995) examine the relationship between the mobilization of lower-class voters and the generosity of a state's welfare policy, demonstrating that higher rates of lower-class voting are associated with more generous welfare policies, exactly as Key suggested.

Taken together, Key and others suggest that, because (a) party competition increases electoral participation and (b) those mobilized by this competition tend to be have-nots who favor liberal policies, (c) increased party competition should lead policymakers to pass policies that are more liberal than those they would have passed in the absence of such competition.

4 Is This Always True?

States pass a heterogeneous bundle of policies. Some issues are more salient than others to voters and, by extension, more important in electoral campaigns (Stokes and Miller 1962; Kingdon 1966; Jennings and Zeigler 1970; Carmines and Stimson 1980; Carpini, Keeter and Kenamer 1994; Bianco 1994). One major distinction between policies concerns whether they affect economic or social issues. Existing explanations linking competition to policy liberalism tend to focus on either economic policy (e.g. Barrilleaux 1997) or a bundle of state policies (e.g. Erikson, Wright and McIver 1993). This makes sense; in his original formulation of this expectation, Key (1949) refers specifically to *economic* policy. We extend this theory to the domain of *social* policy, as well.

Social policy differs from economic policy in several important ways. First, much of a state's budget is constrained by their laws and constitution, level of indebtedness, amount

of federal transfers, and economic health (Bunche 1991; Poterba 1994). While lawmakers may desire to move the budget strongly in one direction, they are often stymied by the economic realities and legal environment in which they operate. Second, social policy is easier for citizens to understand and take positions on (Carmines and Stimson 1980). These issues attract more attention and parties may come to believe their electoral fortunes ride more highly on these bills. While it is unlikely that citizens will take firm positions on the allocation of the state's budget, it is far more likely that they can express an opinion on a social concern (e.g. abortion) and remain invested in this position for a considerable length of time. Finally, there is empirical support for high degrees of policy responsiveness among social policies (Lax and Phillips 2009, 2012). While there is qualified support for policy responsiveness on economic issues (Pacheco 2013), its effect is stronger when examining social issues, like gay rights (Lax and Phillips 2009). For these reasons, Caughey and Warshaw (2018) note that policy responsiveness to voters should be weaker on economic issues than social issues.

Perhaps most importantly, however, class-level preferences on social policy cross-cut their positions on social issues. For example, Flavin (2011) reports that low-income citizens are 6% more likely to report a belief that abortion should be banned completely, compared to high-income citizens. Similarly, Ansolabehere, Rodden and Jr. (2006) find that lower-class voters are more conservative on moral issues than upper-class voters. Gilens (2009) reaches a similar conclusion in his analysis of more than 1,700 survey questions; while low-income Americans are strong supporters of many redistributive policies, they tend to be more conservative on many social issues, including abortion policy, stem cell research, and gay rights.³

In short, and as Rigby and Wright (2013) explain, “higher-income Americans tend to be more conservative than the poor on economic issues, but more liberal on social and moral

³This view is not unanimous. Soroka and Wlezien (2008) argue that “differences in preferences across income brackets are in fact small and insignificant” (309).

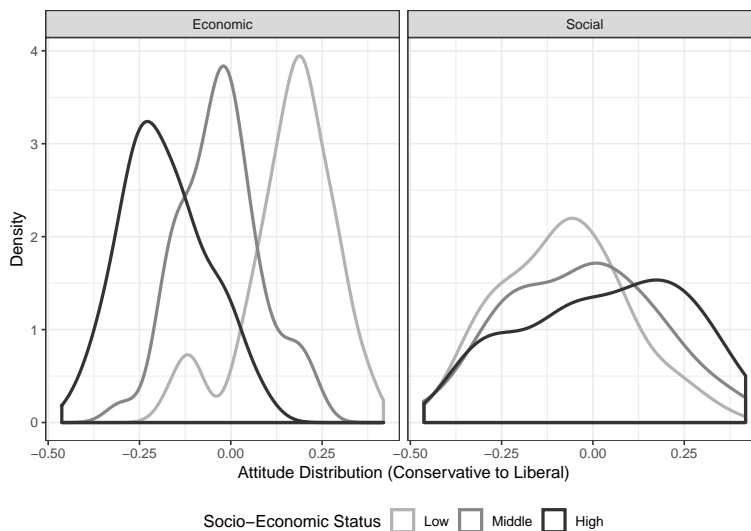


Figure 1: Smoothed distribution of economic and social attitudes by socio-economic status. Data from Rigby and Wright (2013).

issues” (554). Figure 1 illustrates this relationship, plotting the smoothed distribution of economic and social attitudes by socio-economic status from Rigby and Wright (2013). Those authors measure average attitudes for citizens with low, middle and high income (divided into equally-sized groups by state income percentiles) for 47 states in the year 2000. Economic attitudes are distributed as expected: Low-SES citizens have the most economically liberal attitudes, and the differences between the three income classes are fairly pronounced. For example, the most liberal respondents in the high-income group are about as liberal as the average respondent in the low-income group. On the social policy dimension, *the ordering of the three groups is reversed*. On issues of social policy, low-SES citizens have the most conservative attitudes. Importantly, however, the differences in social attitudes between the three groups are not as large as on the economic dimension. At the conservative end of the spectrum, the three groups are almost equally well-represented, and while high-income respondents lean liberal, there is still a substantial number of them on the conservative side.

This cross-cutting opinion structure suggests that the relationship between overall policy liberalism and competition may differ on social issues than economic issues. Increased competition incentivizes politicians to appeal to marginal voters, and marginal voters tend

to have preferences aligned with the have-nots in society. Moreover, have-nots have cross-cutting preferences on social and economic issues. Therefore, we expect:

H_1 : Increased party competition is associated with increased economic liberalism.

H_2 : Increased party competition is associated with decreased social liberalism.

5 Research Design and Data

Testing these hypotheses requires repeated measures of policy liberalism and party competition for each state over time. We now describe how we operationalize these concepts, provide descriptive statistics for each, and explain our strategy for assessing our hypotheses.

We test our hypotheses using measures of economic and social policy liberalism estimated by Caughey and Warshaw (2018). These variables, which are the output of a latent variable model incorporating information on the adoption of nearly 150 policies between 1936 and 2014, range from -2.49-2.61 (Social) and -2.24-3.13 (Economic). Both variables have a mean of 0 and standard deviations of 0.85 (Social) and 0.93 (Economic).

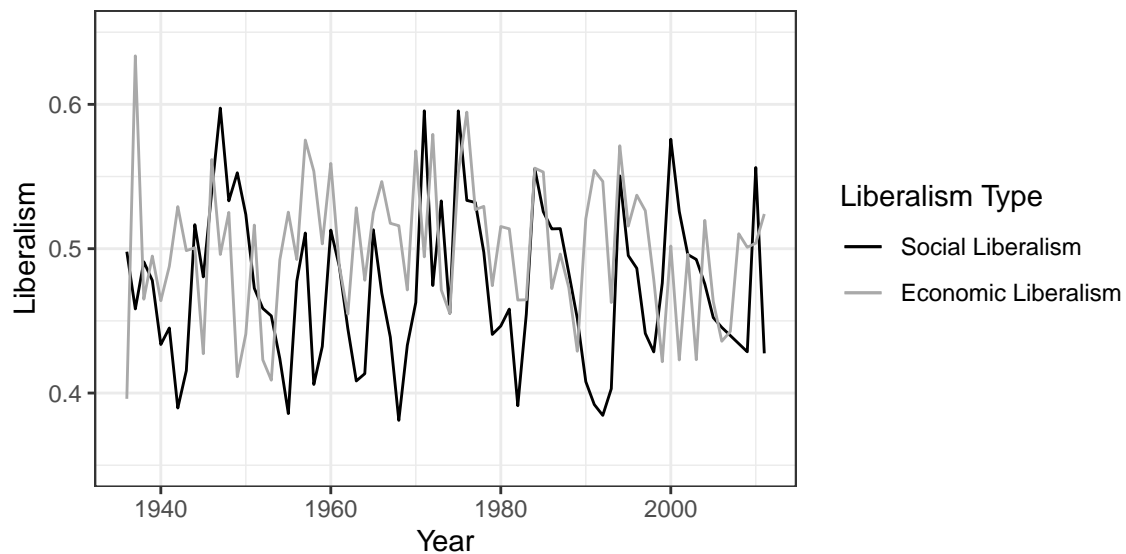


Figure 2: Median values of policy liberalism, by year. Data from Caughey and Warshaw (2018).

Figure 2 shows the median values of the two variables by year. Overall, there is no clear trend in the series by year (a bivariate regression yields p-values of $p=0.1$ Social and $p=0.26$

Economic for the slopes). Unsurprisingly, the two measures are highly correlated: $r = 0.71$. Conceptually, there are some differences between the two series. Many of the economic policies that Caughey and Warshaw (2018) use to construct their measures are effectively dials that states can use to change their level of economic policy liberalism very gradually. For example, a state might adjust its tax on a pack of cigarettes, or the level of benefits from the Aid for Families with Dependent Children program by a few percentage points. By contrast, social policies such as the death penalty, or the legality of same-sex marriage, are more akin to levers which are either on or off. Consequently, social policy moves more slowly within a state, but when changes do occur, they can be more erratic. The Caughey and Warshaw (2018) model includes both continuous and binary variables, but for some state-years, only binary social policy items exist. As a result, the model has no continuing time series of an interval-level variable to “tether” itself to from year to year. As a result, the standard errors for these estimates are larger.

To measure party competition, we turn to the Folded Ranney Index. The original (unfolded) Ranney index assesses for the competitiveness of the party in government by including the proportion of seats won by the Democratic party in the legislature, the percent of the vote received by the Democratic candidate for governor, and the percent of the time Democrats control both the executive and legislative branches (Ranney 1976). A single score is calculated by averaging these three items together over a number of years to account for the timing of gubernatorial and legislative elections as well as to smooth out high and low values that may be the product of one aberrant election cycle. The Ranney Index, therefore, measures the strength of the Democratic (or Republican) party in government. Scholars interested in the level of *competition* between the parties for control of government more explicitly have “folded” the Ranney Index over its midpoint to create a measure where higher values are associated with more competition and lower values, one-party dominance. The variable ranges from 0.50 to 1.00 with a median of 0.86 and a standard deviation of 0.13.⁴

⁴Our focus in this paper is *party competition*, rather than *electoral competition*. *Party*

Our unit of analysis is the state-year, and our dataset is a panel. Each of our outcome measures is continuous, so we rely on linear regression to test our hypotheses. We estimate a series of regression models using two-way state and year fixed effects to account for within-state and within-year confounding factors. To assess the robustness of our findings to various aggregations of the Folded Ranney index, we estimate each model using 4-, 6-, 8-, and 10-year time aggregations for each measure of competition. Our data begin in the late 1930's (depending on the time aggregation) and end in 2010.

Because we employ fixed effects for state and year, the gravest threats to inference are confounding factors that vary within states over time and are related to both competition and policy liberalism.⁵ Therefore, in addition to estimating the bivariate relationship between *competition* refers to the frequency with which the major parties alternate control of government. Ranney (1976), for example, measures this concept by assessing the number of seats a party holds in the legislative branch, the party's control of the executive branch, and the presence of unified government. *Electoral competition*, by contrast, refers to the vulnerability of a given legislator seeking reelection absent partisan considerations. In early studies, this concept was operationalized by comparing the votes received by the winner to candidate receiving the next most (Jewell and Breaux 1988; Weber, Tucker and Brace 1991) or aggregating the margin of victory to the state level (Anderson 1997; Berry, Berkman and Schneiderman 2000). More recently, Holbrook and Van Dunk (1993) developed a state-level measure of electoral competition that incorporates the percent of votes received by the winning candidates, their margin of victory, the number of seats considered safe, and the number of races in which both major parties are running a candidate. While these two concepts are positively correlated, they are distinct conceptually (Shufeldt and Flavin 2012) and often have different effects on policymaking (Barrilleaux 1997). We discuss the theoretical and empirical differences for the two concepts as applied to our theory and data analysis in the appendix.

⁵Given Angrist and Pischke's (2009) warning that a lagged dependent variable in a model

competition and policy liberalism, we also estimate another series of models that included lagged controls for several factors—public opinion, gubernatorial control, legislative control, and the percentage of black citizens—that relate to both policy liberalism and competition and vary within states over time.

First, Caughey and Warshaw (2018) provide measures of public opinion toward social and economic liberalism; we include those concepts in the models that assess those concepts, respectively. Again, these variables are the output of a latent variable model; they range from -1.25-2.04 (Social) and -0.93-0.65 (Economic) with means of 0 and standard deviations of 0.47 (Social) and 0.22 (Economic). The two variables are not strongly correlated: $r = -0.07$. Second, to measure control of the state legislature, we rely on Klarner’s (2013) measure of the proportion of state lower chamber seats held by the Democratic party.⁶ This variable has a median of 0.57 and a standard deviation of 0.23. Third, to measure gubernatorial control, we rely on Klarner’s (2013) measure. The variable takes a value of 0 for a Republican governor, 1 for a Democratic governor, and 0.5 for a non-major party governor. The modal state during this time period has a Democratic governor. Finally, state-level demographic changes over time, coupled with the fact that party competition was low in southern states with a high proportion of black citizens (e.g., Key 1949), demand that we account for the racial make-up of the state population. We use data from the U.S. Census to control for the percentage of the state’s population that identifies as black.⁷ As the data is only available in 10-year intervals, we interpolate linearly between them to get data for every state-year. In 1940, the average state population consisted of 9.3% of black citizens, compared to 11.2%

with fixed effects can lead to biased coefficients, we do not include a lagged dependent variable in our models.

⁶As a result, when we estimate models with these control variables, we drop state-years with nonpartisan legislatures.

⁷We also estimated the model using the percentage of the state’s population that identifies as nonwhite. The results are nearly identical.

in 2010. Mississippi boasts the highest percentage of black citizens, with 49.3% in 1940 as the all-time high.

6 Results

We discuss our results in four stages. First, we examine the results for a series of bivariate regressions. Second, we account for a series of time-varying, within-state factors that might confound our analysis, demonstrating that our results hold. Third, we probe whether the effects of party competition on policy liberalism have remained constant since the Great Depression. Finally, to account for the fact that the effects of competition on policy liberalism may not be linear, we present the results of a nonparametric regression.⁸

6.1 Bivariate Relationship

We begin by examining the bivariate relationship between party and social and economic policy liberalism. These results are shown in Figure 3.⁹ The y-axis refers to the level of aggregation (t number of years) used to calculate the measure of competition. Each point shows the coefficient for competition in a linear regression model with state and year fixed effects. The shape of the points shows the dependent variable—social or economic liberalism—in the model.

The clearest conclusion from Figure 3 is that the measures of competition relate differently to both dependent variables. Beginning with social liberalism (the triangles in Figure 3), the

⁸We include another analysis in the appendix that divides state-years based on the partisan control of their legislature. We find that, when that one party controls (holding at least 60% of the chamber) the chamber, party competition pulls both economic and social policy in a countervailing direction. Among chambers controlled by Democrats, higher levels of competition are associated with more conservative social and economic policy. Among chambers controlled by Republicans, competition has the effect of moving both baskets of policies in a more liberal direction.

⁹See Table A2 in the Appendix for the corresponding regression table.

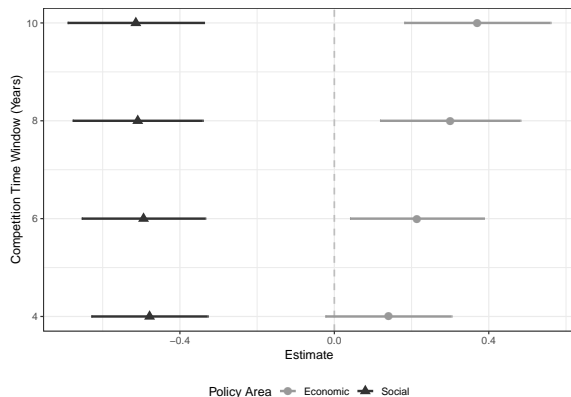


Figure 3: Results of bivariate linear regressions of party competition (the Folded Ranney index) on policy liberalism for 4-, 6-, 8-, and 10- year levels of aggregation. Each point corresponds to the coefficient estimate for competition in a linear regression model. The figure includes 95% confidence intervals for each estimate.

result of each linear regression model is unanimous: increased party competition is associated with *less* social liberalism. The size of these effects are moderate, with a change across the range in the 6-year competition measure resulting in a 0.25 unit decrease in social liberalism. This is comparable to living in Oklahoma versus Alabama in 2010. These findings stand in stark contrast to the conventional wisdom that competition leads to unambiguously more liberal state policies, suggesting that social conservatives are advantaged in times and places with high levels of party competition.

Next, we examine the relationship between economic liberalism and competition, plotted with circular points. Here, the evidence supports a positive relationship between between party competition and economically liberal policies, especially for those models that use a longer time aggregation to calculate competition. The effect sizes are again substantively important, with a change across the range of 6-year competition resulting in a 0.11 unit increase in economic liberalism—roughly the difference between the economic policies of Nevada versus Florida in 2010. In short, the results provide strong support for the hypotheses we have outlined and suggest that Key’s original theory holds for economic policy—which, admittedly, was the focus of Key’s original analysis—but not for social policy.

6.2 Accounting for Potential Confounding Influences

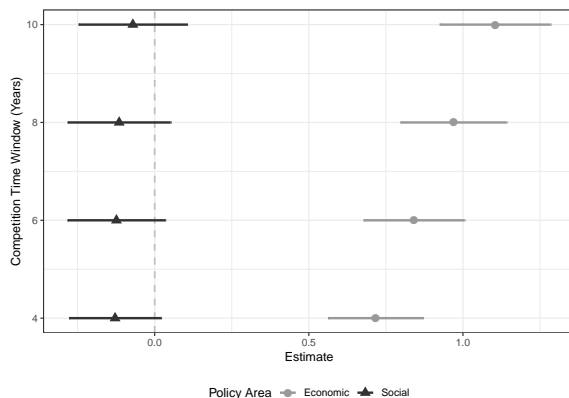


Figure 4: Results of linear regressions of party competition (the Folded Ranney index) on policy liberalism for 4-, 6-, 8-, and 10- year levels of aggregation. The models include lagged controls for public opinion, legislative control, gubernatorial control, and the percentage of black citizens, as well as state and year fixed effects. Each point corresponds to the coefficient estimate for competition in a linear regression model. The figure includes 95% confidence intervals for each estimate.

Of course, the results in Figure 3 do not account for any possible confounding influences.¹⁰ Figure 4 therefore reproduces the models in the previous figure, controlling for public opinion, gubernatorial partisan control, legislative partisan control, and the percentage of the state’s citizens that identify as black. Table 1 provides numeric regression results.

Looking at the lighter points in Figure 4, the relationships we observed in the previous section persist—and even strengthen—when accounting for the effects of public opinion, the composition of the legislature, the partisanship of the governor, and the racial makeup of the state’s residents. There is robust evidence of a positive relationship between party competition and economic policy liberalism once we control other factors. The size of these effects are substantial. For example, a change across the range of the 4-year Folded Ranney measure yields a 0.36 unit increase in policy liberalism—approximately the difference

¹⁰The results we present in this section do not account for the fact that our measures of state policy liberalism have their own measures of uncertainty. We account for this uncertainty in the Appendix, reaching conclusions that support the results presented here.

Table 1: Results of linear regressions of party competition (the Folded Ranney index) on policy liberalism for 4-, 6-, 8-, and 10-year levels of aggregation. The models include lagged controls for public opinion, legislative control, gubernatorial control, and the percentage of black citizens, as well as state and year fixed effects.

	<i>Dependent variable:</i>							
	Social Policy Liberalism				Economic Policy Liberalism			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Folded Ranney Index (4 Years)	-0.129** (0.076)				0.716*** (0.079)			
Folded Ranney Index (6 Years)		-0.124 (0.081)				0.841*** (0.083)		
Folded Ranney Index (8 Years)			-0.115 (0.085)				0.970*** (0.088)	
Folded Ranney Index (10 Years)				-0.071 (0.090)				1.104*** (0.092)
Mass Social Liberalism (t-1)	0.646*** (0.039)	0.636*** (0.039)	0.629*** (0.039)	0.624*** (0.039)				
Mass Economic Liberalism (t-1)					1.058*** (0.067)	1.055*** (0.068)	1.046*** (0.069)	1.049*** (0.070)
Gubernatorial PID (t-1)	0.022 (0.015)	0.020 (0.015)	0.019 (0.015)	0.024 (0.015)	0.044*** (0.016)	0.045*** (0.016)	0.045*** (0.016)	0.044*** (0.016)
Legislative Strength (t-1)	0.044 (0.060)	0.050 (0.062)	0.079 (0.063)	0.105 (0.065)	1.039*** (0.062)	1.042*** (0.063)	1.031*** (0.064)	1.021*** (0.066)
Percent Black (t-1)	0.040*** (0.004)	0.041*** (0.004)	0.040*** (0.004)	0.039*** (0.004)	0.022*** (0.004)	0.025*** (0.004)	0.026*** (0.004)	0.028*** (0.005)
Constant	0.091 (0.118)	0.089 (0.119)	0.070 (0.123)	0.092 (0.125)	-0.989*** (0.123)	-0.980*** (0.123)	-0.816*** (0.129)	-0.923*** (0.128)
State Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,443	3,347	3,251	3,155	3,443	3,347	3,251	3,155
R ²	0.804	0.808	0.812	0.816	0.823	0.827	0.832	0.839
Adjusted R ²	0.797	0.800	0.805	0.809	0.817	0.821	0.826	0.832

Note: *p<0.1; **p<0.05; ***p<0.01

between Texas and Florida in 2010.

The same is not true for social policy liberalism. While the estimated coefficients continue to be negative (in line with our theory), the uncertainty surrounding those estimates does not enable us to conclude that these effects are distinguishable from a null effect. Perhaps because of the weaker relationship between social policy preferences and social class or the fact that social policy liberalism is more slow-moving than economic policy liberalism, these results provide us with no evidence that social policy liberalism is related to party competition after accounting for a state's public preferences, racial make-up, and the partisan control of state government. While the presence of these control variables does not alter support for the first hypothesis, they do call into question the strength of the second hypothesized relationship.

The control variables generally perform as expected. Moreover, they provide additional evidence in support of the relationship between party competition and policy liberalism discussed above. More Democratic legislative strength is associated with more liberal social, and economic policies. Democratic governors are associated with liberal economic policy, though the relationship between gubernatorial control and social policy is less apparent. The same is generally true for public opinion: more liberal publics tend to get more liberal policies. Similarly, states with a greater proportion of black citizens tend to have more liberal social and economic policies.

6.3 Over-Time Effects

The history of party competition in America is inextricably linked to time. Key's (1949) analysis of southern politics that first motivated scholars to consider the relationship between competition and policymaking was based in a place and time that is remarkable for extremely low levels of party competition. As a result, it is reasonable to wonder whether the results we have presented to this point are time-bound.

To investigate whether the relationship between competition and policy liberalism is constant over time, we subsetting our sample repeatedly to include any one year and the 7 years before and after it. This procedure yields a number of datasets each covering a

moving 15-year window of time. For each dataset, we estimated the multivariate specification mirroring that shown in Table 1. Of course, subsetting the data so severely drastically reduces the sample size for any one regression quite heavily. This, in turn, increased the amount of uncertainty around our regression estimates and their corresponding confidence intervals.

Figure 5 plots the over-time effect of party competition on economic (left-hand panel) and social (right-hand panel) policy liberalism. The value for any one year is the coefficient on party competition for the dataset using that year as its midpoint. The shaded parts of the plot correspond to the side of the plot that provides support for our hypothesis (positive effect of competition on economic policy, negative effect on social policy).

There is a considerable amount of over-time variation in the direction and magnitude of the effect of competition on policy liberalism. Party competition appears to have a positive effect on economic policy liberalism (left-hand panel) for the 1930s, 1980s and 1990s. By contrast, increased party competition was associated with *less* economic liberalism during part of the 1950s and 1970s. While our expectations are supported for part of the time-series, there are also periods where there is either insufficient—or even contrary—evidence regarding our hypothesis.

The effect of party competition on social policy liberalism (right-hand panel) is not statistically significant for large portions of the time series. During the late 1930s and early 1940s, there is a positive effect, which goes against our expectations. This largely corresponds to our the results of the previous section, where we also find no statistically significant effect of party competition on social policy liberalism. However, this figure suggests that the relationship has grown stronger—and in line with our hypothesis—in recent years. Since 2000, the effect is indeed negative and statistically significant, as predicted by our theory.

In conclusion, this analysis suggests that the relationship between competition and policy liberalism may not be as straightforward as Key and others expected, even when economic policy liberalism is concerned. Rather than an unambiguous linear, positive effect of party competition on policy liberalism, there is a considerable over-time vacillation in the effect.

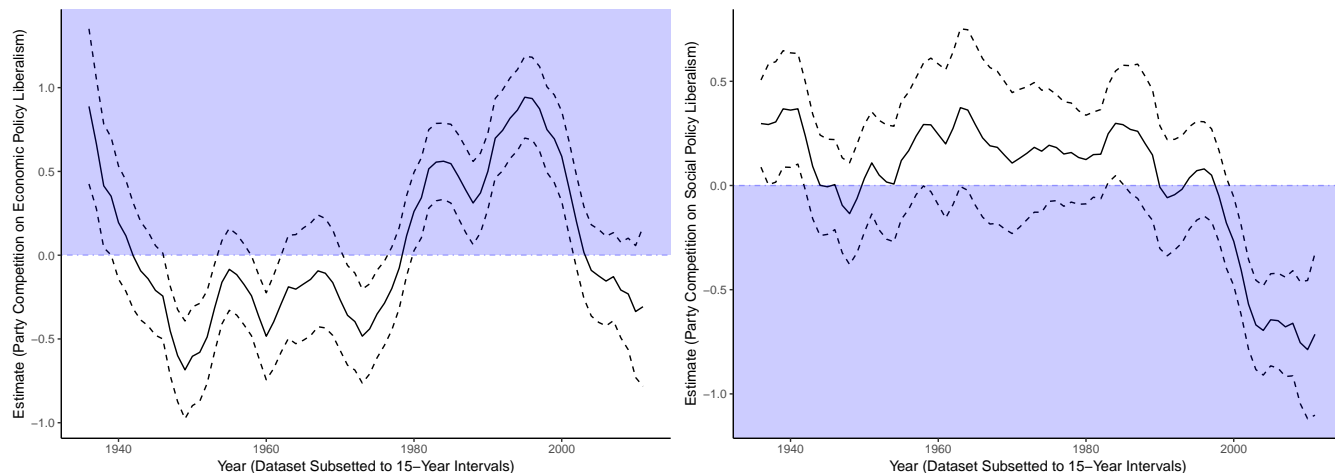


Figure 5: Over-time analysis of the effect of party competition on policy liberalism. The shaded parts of the plot correspond to the side of the plot that provides support for our hypothesis (positive effect of competition on economic policy, negative effect on social policy). The values for any single year are the results of a model conducted on that year and the 7-years to either side. The figure shows that there is a considerable amount of variation in the results over time, but that more often than not, they conform to our main model.

These nonlinearities suggest one reason why the multivariate models in the previous section, which are essentially an aggregation of these time-based models, presented a null result for the relationship between social policy liberalism and party competition.

6.4 Accounting for Possible Nonlinearities

All of the regression models presented so far require a strict assumption: the effect of party competition on policy liberalism is linear. Put differently, these models require us to assume that the effect of competition on liberalism remains constant regardless of whether the amount of party competition is small, medium, or large.¹¹ There are reasons to doubt this assumption. For example, the results of the previous section suggest that the relationship between competition and policy liberalism has changed dramatically over recent U.S. history.

¹¹To put it differently, in a linear model, the effect of an increase in the independent variable from 0.5 to 0.6 produces the same change in the dependent variable as an increase in the independent variable from 0.6 to 0.7. This assumption makes for a more concise model, but it does not necessarily match reality.

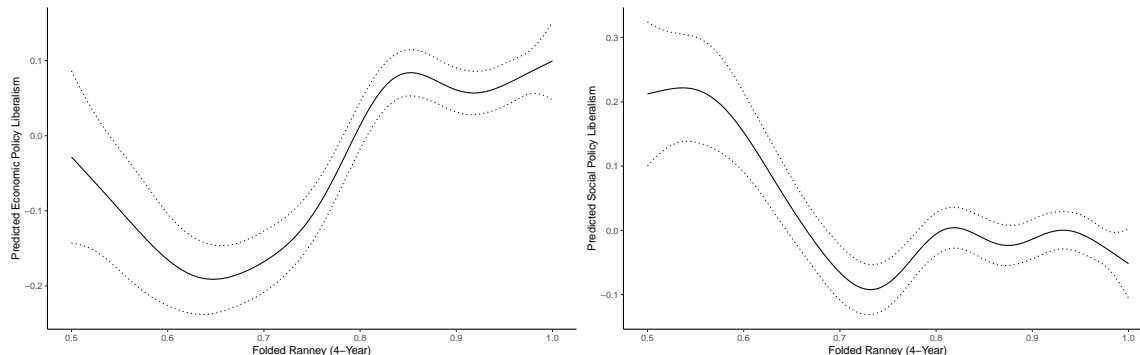


Figure 6: Predicted values of economic (left-hand panel) and social (right-hand panel) policy liberalism, given a certain level of party competition (Folded Ranney Index), from a generalized additive model with a smoothed competition term. The figure includes 95% confidence intervals. Full regression results are provided in Tables A6 and A7.

Or, one might think that there are hidden threshold effects: party competition only has an effect up to a certain point or competition only begins to affect policy liberalism once a state reaches a certain amount of competition. To investigate the possibility of a nonlinearities such as a threshold or even a direction change (which Figure 5 suggests may be possible), we rely on a nonparametric regression – a model which does not assume a linear relationship between competition and the outcome variable.

Specifically, we fit a generalized additive model (GAM) with a smoothing function for the competition term (Wood 2011).¹² Compared to other approaches to nonparametric regression, such as local regression (Cleveland, Grosse and Shyu 1992) or Kendall-Theil regression (Siegel 1982), this method allows us to include all constituent terms, including the fixed effects for state and year. We smooth only the competition term, while all other terms are estimated parametrically. We do so because we have no theoretical reason to expect that their relationships with the dependent variable might be nonlinear.¹³

Figure 6 shows the predicted values of economic (left-hand panel) and social (right-hand panel) policy liberalism (y-axis), given a specific level of party competition (x-axis).¹⁴ It is

¹²We implement the GAM using the R package `mgcv` (Wood 2019).

¹³Empirically, we have also found that smoothing these terms makes little difference.

¹⁴The corresponding regression tables, Tables A6 and A7, are included in the appendix.

evident that strong nonlinearities are in fact present in both relationships.

The general trend for economic policy liberalism (left-hand panel) is positive, in line with our theory: as party competition increases, there is generally an increase in predicted policy liberalism. However, there are important exceptions for this trend. For example, there is an unexpected negative relationship between party competition for Folded Ranney Index values below 0.6: when one party completely dominates and then cedes a small amount of control to the opposition, economic policy is expected to become more conservative.¹⁵ As party competition increases further, economic policy becomes more liberal. For values between 0.65 and 0.85 on the Folded Ranney index, this relationship is almost linear and fully in line with our predictions. As competition reaches its highest level, the effect levels off.¹⁶ Still, the highest level of party competition is in fact associated with the most liberal economic policies, as our theory predicts.

For the social policy (Figure 6, right-hand panel), we observe an overall negative relationship between social policy liberalism and party competition, just as our theory predicts. Policy liberalism is predicted to be at its highest when party competition is extremely low (values below 0.6), and social policy liberalism is predicted to be much lower for higher values of competition than for lower values of competition. When one party enjoys complete

¹⁵Such extreme levels of one-party domination predominantly occur in the mid-century South. Of the state-years with a Folded Ranney Index of less than 0.6, 95% are from the South, and 99% occur prior to 1980. At this range of the party competition variable, the model is also at its most uncertain, as indicated by the larger confidence interval.

¹⁶In 2010, a Folded Ranney value of 0.7 or slightly above, might for example, be found in Arkansas, North Dakota or West Virginia. Values around 0.8 would be in Colorado, Illinois or South Carolina, whereas Indiana, Maine or New Jersey are examples for a Folded Ranney index of about 0.9. The highest values of the Folded Ranney index in 2010 are Montana, Alabama and Mississippi, whose legislatures flipped from Democratic to Republican control in 2006, 2010, and 2011, respectively.

dominance, so do its elites, who tend to hold socially liberal values. There is a slight uptick in social policy liberalism for values of competition between 0.7 and 0.8; for values above .08, the effect it levels off. Evidently, it makes a much bigger difference to go from a state with complete one-party domination to one in which one party *tends* to win, than going from a reasonably competitive one to a state with razor-thin margins and frequent changes of power (to a lesser extent, this is also true for economic policy liberalism). This figure illustrates the advantage of the nonparametric regression: While the linear model finds no evidence of a relationship between competition and policy liberalism because it has to calculate a linear trend across the entire range of the competition variable, the GAM model shows a strong negative trend in predicted social policy liberalism as party competition moves from its lowest to its highest values. This is the relationship our theory predicts.

7 Conclusion

Competition—between parties and in the electoral arena—is one of the most widely-invoked concepts in the study of political science, especially the comparative study of state politics. Understanding the relationship between this concept and the ideological direction of state policymaking is essential for a full understanding of state politics. In this paper, we reexamined the relationship between party competition and state policy liberalism.

This relationship has a long history in the literature, dating back to Key’s (1949) suggestion that “A loose factional system lacks the power to carry out sustained programs of action, which almost always are thought by the better element to be contrary to its immediate interests. This negative weakness thus redounds to the benefit of the upper brackets” (308). With this in mind, scholars have long claimed a positive relationship between party competition and policy liberalism. Our results—drawing upon a longer time period and more expansive set of state policies than any existing study of this relationship—both confirm and challenge Key’s intuition.

First, to the extent that Key’s hypothesis was carefully limited to *economic* policy, we

have found robust evidence that higher rates of Democratic control of legislatures is positively associated with more liberal economic and social policies. The amount of competition between the parties seeking power in a state matters, in part, because it shapes the ideological valence of the legislation that emerges from government institutions.

At the same time, we have uncovered some evidence of a *negative* relationship between social liberalism and party competition. This relationship seems to be clearest in recent years and in a model that allows the effect of party competition on policy liberalism to be nonlinear. Given that society's have-nots tend to have cross-cutting preferences on social and economic liberalism, our results extend Key's theory beyond the economic realm. These results provide further evidence for the mechanism stated by Key and additionally suggest that enhanced party competition is particularly beneficial for those individuals who support *both* socially conservative and economically liberal policies.

As our over-time and nonparametric results plainly show, the relationship between party competition and policy liberalism is far more complicated than the simple theory that has animated so much research on state politics and policy. In many ways, our results truly do raise more questions than they provide answers, particularly with regard to social policy and the temporal dynamics of these relationships. We hope that our findings spark a new wave of research on this storied hypothesis.

Finally, we must also acknowledge research demonstrating some of the most marginal members of Congress to be among the least responsive (Miller 1970; Fiorina 1974; Deckard 1976; Ansolabehere et al. 2001). Comparing the roll call votes of congresspersons to the opinions of their districts, Miller (1970) finds a strong positive relationship on social welfare and civil rights issues; however, when examining the votes of members from marginal districts, there is no relationship between the two. This is further validated in Gulati (2004), who shows legislators from safe seats to be more responsive to the ideological center of their constituencies than those in who ran more competitive races. Members running in competitive races face an incentive to increase their base of support to ensure access to the resources

necessary to mount successful campaigns in the future. Our results—which aggregate competition across time—stand in stark contrast to these studies that examine responsiveness at the level of the individual legislator. Future research should examine how the process of aggregation from the legislator to the state level affects the relationship between competition and responsiveness.

In sum, however, our results provide an important theoretical and empirical extension of our existing understanding of the relationship between competition and policy liberalism. By demonstrating party competition impacts both economic and social policymaking, our results help to broaden our understanding of the connection between the electoral and policy realms of state government, providing further evidence that the obstacles politicians face to keep their jobs affect the types of policies they enact.

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Appendix

Accounting for Uncertainty

Since our measures of state policy liberalism are themselves model estimates with their own associated uncertainty, there is a degree of error around the point estimates we employ. Readers may be concerned that this uncertainty leads the results presented in the body of the paper are crisper than they would be if they accounted for this additional source of error. We therefore reestimated the models to incorporate this error by resampling from the posterior distribution of the state policy economic/social liberalism measure 1000 times and using these samples as our outcome variables. This means that the new, re-sampled measure of state-year policy liberalism is a draw from a normal distribution, with its mean the Caughey and Warshaw measure for that state-year, and its standard deviation the standard error of that measure. Effectively, this means that we create 1000 datasets, which differ randomly on Y . Each of these draws is then regressed on our measure of competition—the Folded Ranney index—as well as the same control variables used in the previous section. Again, the models employ state and year fixed effects. We combined the results of these 1000 regressions through the multiple imputation method developed by Rubin (1987) and used by Schnakenberg and Fariss (2014) in a similar context.¹⁷

The results of the uncertainty regression are shown in Figure A1. To enable easier comparison with the original results, the confidence interval from the regular version of the

¹⁷The coefficient estimates of the m (in our case 1000) datasets and therefore regressions are averaged, whereas the standard errors are calculated according to the following formula:

$$\sqrt{\frac{1}{m} \sum_{k=1}^m s_k^2 + \left(1 + \frac{1}{m}\right) \sigma_\beta^2}$$

where s_k^2 is the within-dataset variance in standard errors, and σ_β^2 is the between-dataset variance in coefficients.

regression is represented as a solid bar. The point estimate itself does not change in an uncertainty regression. The confidence interval of the uncertainty regression is represented as a dotted line.

Figure A1 shows that controlling for uncertainty has very little impact on our findings. For economic policy, the dotted line is only marginally longer than the solid one, representing only a moderate increase in the confidence intervals. This is owed to the fact that the economic state policy measure contains relatively little uncertainty. The confidence intervals for economic policy do not overlap with zero at any point. This means that our finding of an increase in party competition leading to an increase in state economic policy liberalism remains statistically significant.

The social policy liberalism measure, on the other hand, is less reliable, resulting in a larger increase of the confidence intervals.¹⁸ However, given that the coefficient is already not statistically significant in the regular version of the regression, the uncertainty regression changes little.

Overall, the positive and significant correlation between economic policy liberalism and competition still supports Hypothesis 1. Hypothesis 2—competition causes state social policy liberalism to move in the conservative direction favored by the have-nots—is still not supported. The results of the uncertainty analysis can also be found in Table A4.

Party Control

We also test whether the relationship between competition and policy outcomes works differently in states where the legislature is overwhelmingly controlled by either party. This

¹⁸This increased uncertainty exists, in part, because the social policy estimates are created entirely using categorical variables. Empirically, the social policy measure for a given state can vary much more widely between years, and it sometimes changes even without any actual changes in policy for that year (to account for overall trends across states). These factors all lead to greater uncertainty.

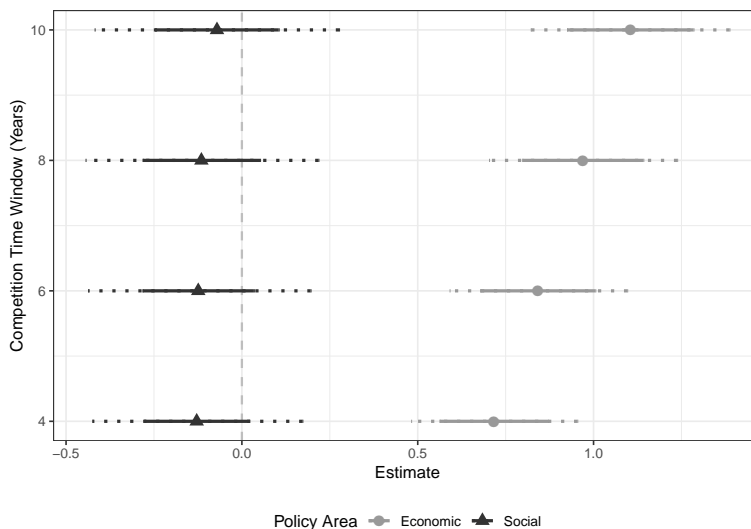


Figure A1: Results of an uncertainty regression, wherein the dependent variable, Caughey & Warshaw’s state social/economic policy liberalism measure, is regressed on the Folded Ranney index. The confidence interval from the regular version of the regression, as shown in Figure 4, is represented as a solid bar. The dotted line shows the larger confidence interval from the uncertainty regression. The findings are robust to the use of an uncertainty regression. Full regression results are provided in Table A4.

allows us to determine whether Democrats and Republicans react differently to challenges to a beneficial status quo. To this end, we divide the sample into three parts: States that are either solidly Republican (>60% Republicans in the legislature), solidly Democratic (>60% Democrats), or competitive (neither party controls more than 60% of seats). Then we estimate a multivariate model.

The results (see Figure A2) are as expected: In Democratic states, more competition leads to more conservative policy, which is true to a similar extent for both economic and social policy. In states in which neither party dominates the legislature, greater competition has no effect on social policy, and only a very small and positive effect on economic policy in the 8 and 10-year aggregations. Given that these states are already competitive, a further increase in competitiveness does not have much of an effect.¹⁹ In states that are solidly Republican,

¹⁹See also Figure 6 for the nonparametric regression, which shows that once competition reaches a certain point, further increases do not lead to corresponding changes in policy.

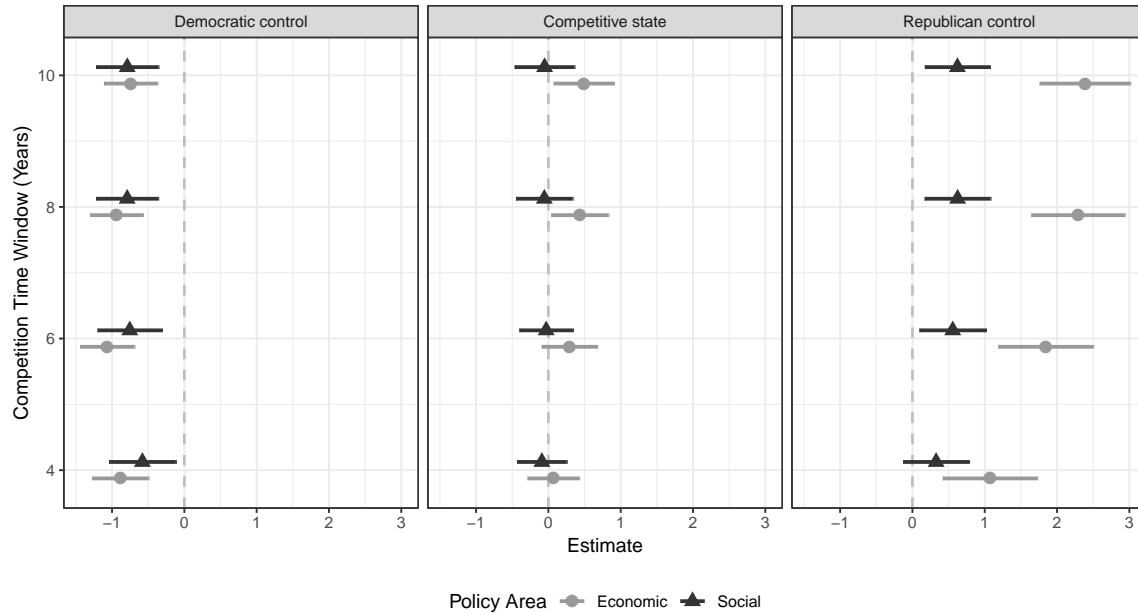


Figure A2: Results of three multivariate models of party competition on policy liberalism, on subsets of the dataset, including state-years in which the legislature is controlled by more than 60% Democrats, Republicans, or neither. When Democrats control a large portion of the legislature, greater competition leads to more conservative policy. Under Republicans control, greater competition leads to more liberal policy. When neither party enjoys a large majority, even greater competition has little effect.

the effect is more complicated. Greater competition leads to moderately more liberal social policy (except for the 4-year aggregation, where the effect is not statistically significant), but a much greater increase in economic policy liberalism. Ergo, when Republicans control a state legislature and are then confronted with a threat to their power, they countersteer much more heavily in the economic rather than the social domain.

Even so, Figure A2 tells a consistent story: When one party enjoys controls a large part of the legislature, greater competition leads to policy changes in the other direction. Evidently, parties favor placating their detractors over risking the loss of their favorable position. This finding is to be expected and demonstrates that with respect to party control, our model works as intended.

Electoral Competition

Comparing Party and Electoral Competition

The theory and discussion presented in the body of the paper focuses on *party competition* as measured with the Folded Ranney Index. However, the literature on competition in the American states varies in the emphasis it places on competition in individual electoral contests versus competition for a party's control of government. One might expect that the same mechanism might connect electoral competition and policy liberalism. It is electoral competition, after all, that motivates party leaders to expand their base of support and extend an olive branch to those who traditionally do not participate in the political process, the have-nots. Indeed, in their classic work on electoral competition in the U.S. states Holbrook and Van Dunk (1993) suggest:

[E]lected officials in competitive areas will be highly responsive to constituency needs, due to the risk of electoral defeat. . . [D]ue to higher overall levels of voter participation in competitive environments, lower socioeconomic class interests will constitute a greater share of the electorate in competitive states than in non-competitive states. Therefore, in striving to represent the interests of their constituents, elected officials in competitive states will provide benefits to lower socioeconomic interests to a greater degree—and will display a greater propensity to support liberal policies (955).

However, because *parties* (and not individual legislators) control the passage of legislation in the states, we expect the results to be less pronounced for this measure of competition; this is one reason why the analysis in the paper focuses on party competition.

Still, we also examined the effect of electoral competition on policy liberalism. Holbrook and Van Dunk (1993) (HVD) developed a measure of district-level electoral competition, incorporating the percent of the vote received by the winning candidate, their margin of victory (to account for more than two candidates), if the seat is considered safe (was won

by more than 55%), and if the race was contested by the two major parties (Holbrook and Van Dunk 1993). Like the Ranney index, each of these variables is averaged over time and across districts to produce a single summary measure of the state’s competitiveness. However, while the Folded Ranney index captures competition between parties for control of government, the HVD index captures competition to retain an average seat in the state legislature. Moreover, because the data necessary to calculate the HVD index is available only in recent decades, the use of the HVD index to test our hypotheses has the consequence of drastically reducing the number of observations available to estimate our models.

The HVD and Folded Ranney indices are distinct, both conceptually and empirically. Conceptually, the two measures tap different ways in which competition could impact policy liberalism (Shufeldt and Flavin 2012). The Folded Ranney Index captures the effect of competition in government for legislative power. If parties exist to advance the goals of their members by crafting policies that increase their chances of reelection (Aldrich 2011), we would expect greater levels of competition to be associated with expansionism. This measure does not, however, examine how the electoral environment influences party leaders in government. By contrast, the Holbrook and Van Dunk measure provides us with a district-level measure of electoral competition that better accounts for the context of the race, the presence of another major party candidate or a credible third party challenger. In this way, the Holbrook and Van Dunk index provides race-specific information that can be useful for district-level applications. We again employ indicators of competition at 4-, 6-, 8-, and 10-year levels of aggregation (Klarner 2013).²⁰

The empirical relationships among these measures is also telling. The HVD measure is only correlated with the Folded Ranney index at $r = 0.46$. Figure A3 shows the median value of both measures of competition over time; there is a downward trend in district-level competition according to the HVD index, though competition has been relatively stable by the Folded Ranney Index.

²⁰All discussion of the summary statistics for these measures uses a 6-year aggregation.

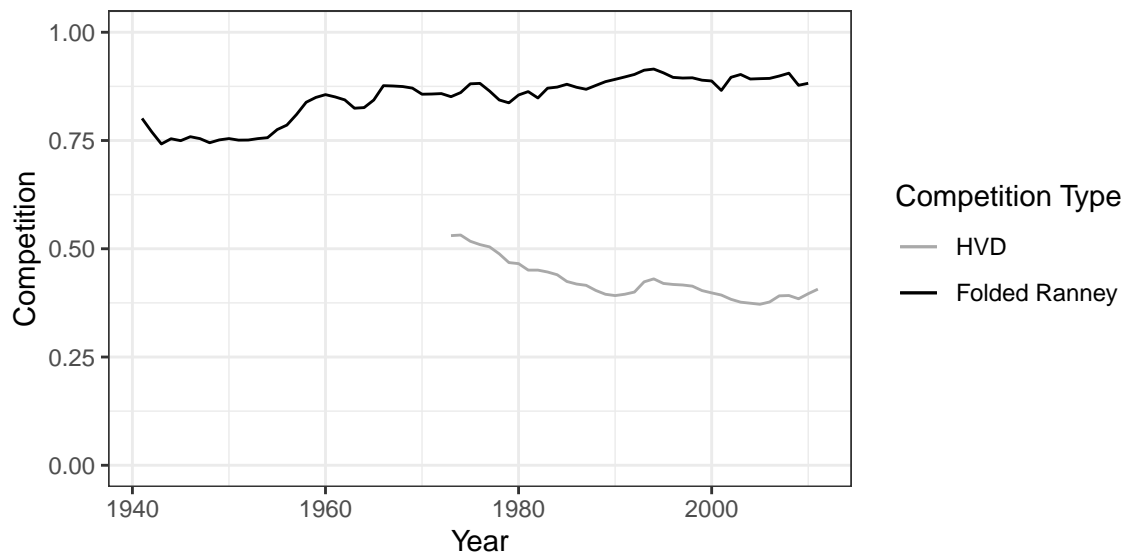


Figure A3: Median values of competition, by year. Data from Klarner (2013)). The range of the Folded Ranney Index is 0.5-1, the range of the HVD index is 0-1.

We begin by examining the bivariate relationship between the concepts using linear regressions that also include state and year fixed effects. The results of that procedure are shown in Figure A4 and Table A3. The results of this analysis provide some evidence that electoral competition has a similar relationship with the two types of policy liberalism: more electoral competition is associated with a higher degree of economic liberalism but a lessened degree of social liberalism. This relationship holds for all four time aggregations. As an example, a change across the range of the 4-year HVD index results in a 0.5 unit decrease in social liberalism—the difference between Florida and Tennessee in 2010—and a 0.54 unit increase in economic liberalism, a margin that is roughly equivalent to going from Maryland to California.

Figure A5 presents the results of multivariate models that include lagged controls for public opinion, legislative control, and gubernatorial control (see Table A1 for the corresponding regression table). The results for economic liberalism are fully robust: more electoral competition is associated with a greater degree of economic liberalism. The effect size is 0.72—comparable to the difference between Wisconsin and California. However, all of the 95% confidence intervals cross the zero line in the social policy regressions. We therefore

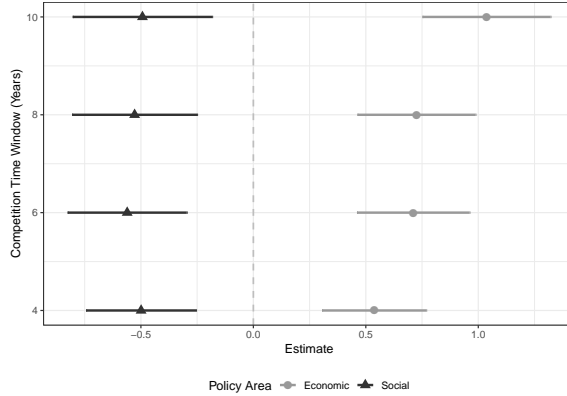


Figure A4: Results of bivariate linear regressions of electoral competition (the HVD index) on policy liberalism for 4-, 6-, 8-, and 10- year levels of aggregation. Each point corresponds to the coefficient estimate for competition in a linear regression model. The figure includes 95% confidence intervals for each estimate. Full regression results are provided in Table A3.

are unable to conclude that there is a relationship between electoral competition and social policy liberalism.

This same conclusion can be drawn from the uncertainty analysis, the results of which are shown in Figure A6 (as well as Table A5). Again, there is a robust relationship between electoral competition and economic policy liberalism. This relationship holds across time aggregations. Again, there is no evidence of a relationship between electoral competition and social policy liberalism; this conclusion also holds across time aggregations in the uncertainty regression.

The over-time analysis of the HVD-based model (see Figure A7) yields a similar conclusion as the version based on the Folded Ranney index. For most of the time periods under investigation, the findings conform to the results of the main model. If anything, the results for the HVD model are a bit cleaner in the sense that periods where the evidence points against our hypotheses are shorter. That being said, the HVD measure is available only since the 1970s (ranging until 2011, compared to 2010 for the Folded Ranney index), so the period of observation is shorter. Furthermore, the confidence intervals, especially for the social policy model, are larger.

The results of the nonparametric regression for the electoral competition model can be

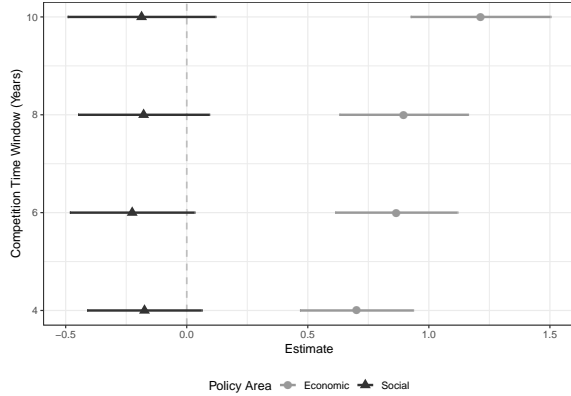


Figure A5: Results of linear regressions of electoral competition (the HVD index) on policy liberalism for 4-, 6-, 8-, and 10- year levels of aggregation. The models include lagged controls for public opinion, legislative control, and gubernatorial control. Each point corresponds to the coefficient estimate for competition in a linear regression model. The figure includes 95% confidence intervals for each estimate. Full regression results are provided in Table A1.

found in Figure A8 and Tables A8 and A9. For economic policy (Figure A8, left-hand panel), the effect of competition is almost linear (apart from a few bumps) and in the expected direction. For social policy, the nonlinearities are so strong that no clear trend is apparent. The extremely large confidence intervals at both ends add to this problem. That being said, this means that the overall finding from from the body of the paper – that there is no significant (and negative) effect of competition on social policy liberalism – is also repeated here.

With respect to party control (see Figure A9), the findings largely conform to those for party competition (see Figure A2), with a few small changes: One, under strong Democratic control, competition has a greater effect (while the direction remains the same). Under Republican control, there is no difference in the magnitude of the effect on the two policy areas (whereas in the Folded Ranney model, more competition leads to more liberal economic than social policy). For states that aren't controlled by a large one-party majority, greater competition does lead to more liberal economic policy, while social policy remains unaffected.

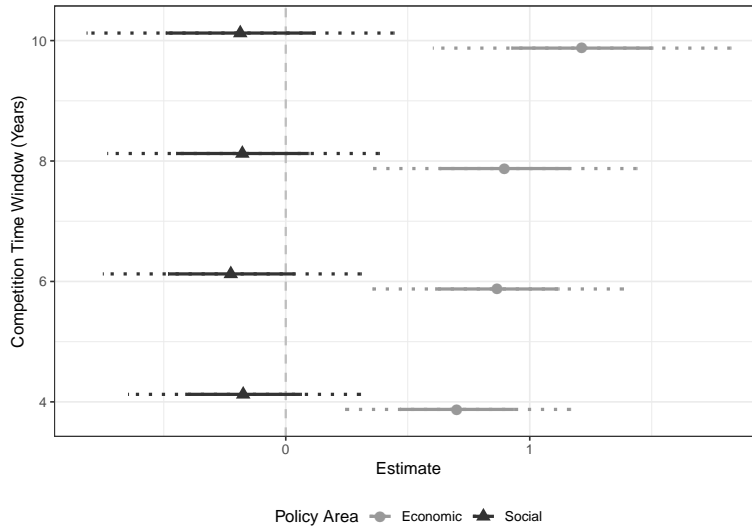


Figure A6: Results of an uncertainty regression wherein the dependent variable, Caughey & Warshaw’s state social/economic policy liberalism measure, is regressed on the HVD index. The confidence interval from the regular version of the regression, as shown in Figure A5, is represented as a solid bar. The dotted line shows the larger confidence interval from the uncertainty regression. The findings are robust to the use of an uncertainty regression. Full regression results are provided in Table A5.

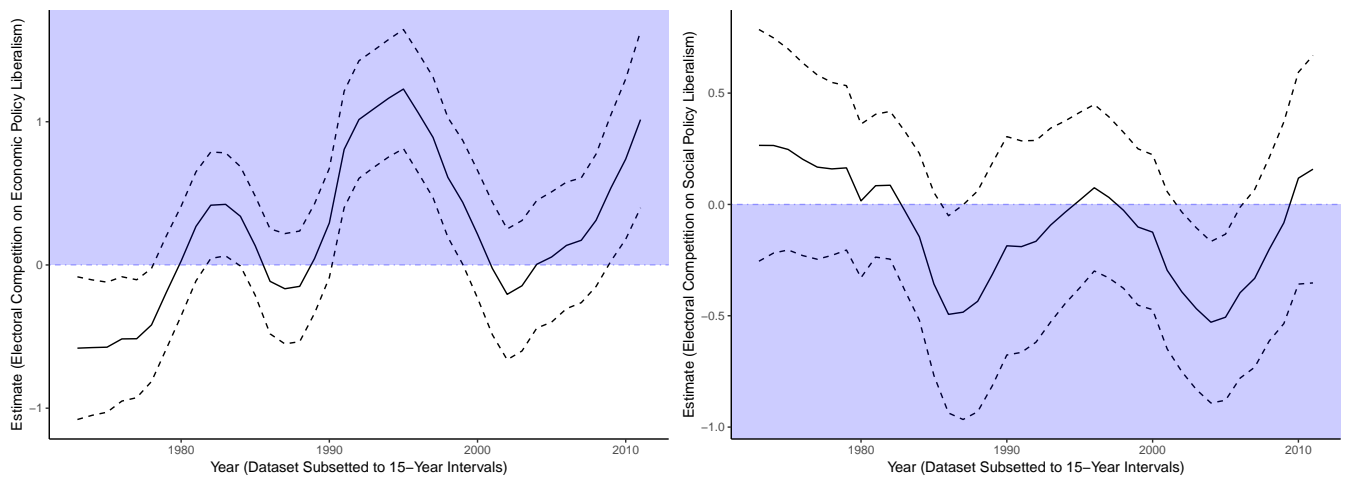


Figure A7: Over-time analysis of the effect of electoral competition on policy liberalism. The values for any single year are the results of a model conducted on that year and the 7-years to either side. The figure shows that there is a considerable amount of variation in the results over time, but that more often than not, they conform to our main model.

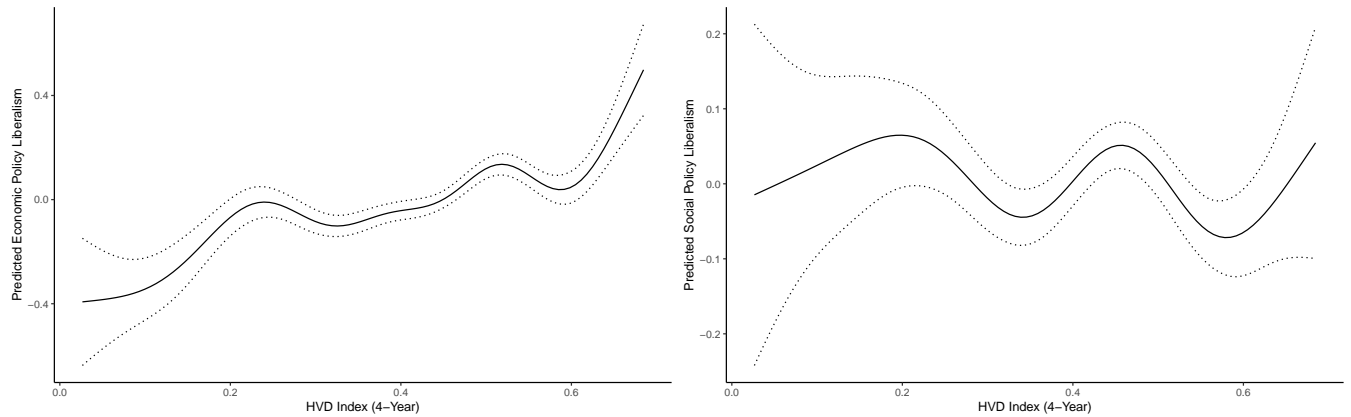


Figure A8: Predicted values of economic (left-hand panel) and social (right-hand panel) policy liberalism, given a certain level of electoral competition (HVD Index), from a generalized additive model with a smoothed competition term. The figure includes 95% confidence intervals. Full regression results are provided in Tables A8 and A9.

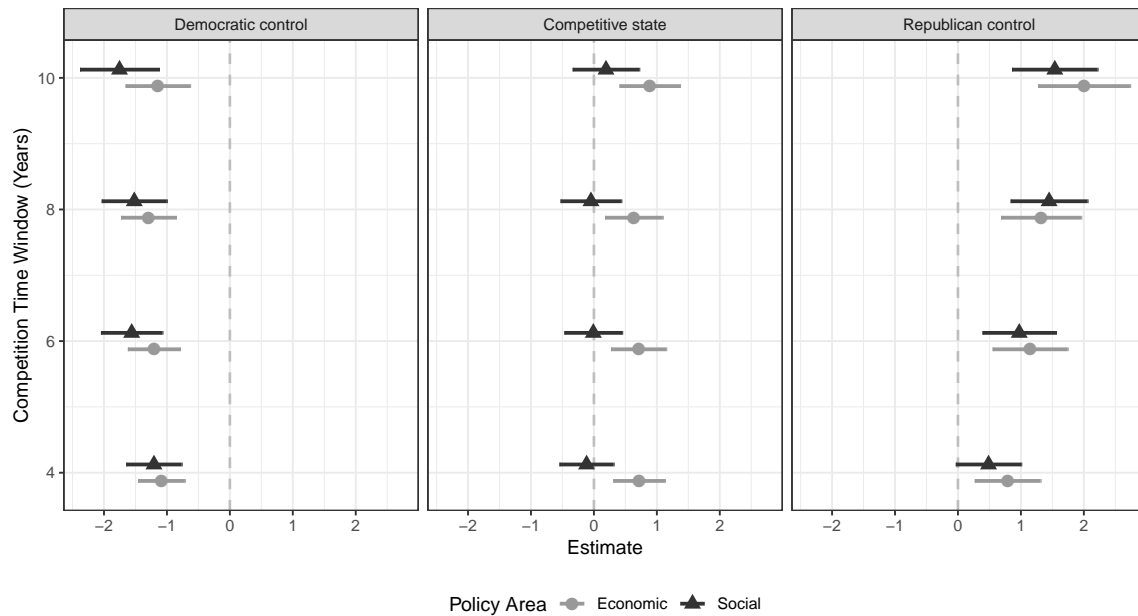


Figure A9: Results of three multivariate models of electoral competition on policy liberalism, on subsets of the dataset, including state-years in which the legislature is controlled by more than 60% Democrats, Republicans, or neither. When Democrats control a large portion of the legislature, greater competition leads to more conservative policy. Under Republicans control, greater competition leads to more liberal policy. When neither party enjoys a large majority, even greater competition only leads to marginally more liberal economic policy.

Tabular Regression Results

This section provides tabular regression results for the analyses presented in the body of the paper and in this appendix.

Table A1: Results of linear regressions of electoral competition (the HVD index) on policy liberalism for 4-, 6-, 8-, and 10- year levels of aggregation. The models include lagged controls for public opinion, legislative control, gubernatorial control, gubernatorial control, and the percentage of black citizens, as well as state and year fixed effects.

	<i>Dependent variable:</i>							
	Social Policy Liberalism				Economic Policy Liberalism			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HVD Index (4 Years)	-0.174 (0.121)				0.701*** (0.119)			
HVD Index (6 Years)		-0.225* (0.131)				0.866*** (0.129)		
HVD Index (8 Years)			-0.178 (0.138)				0.896*** (0.136)	
HVD Index (10 Years)				-0.186 (0.156)				1.214*** (0.147)
Mass Social Liberalism (t-1)	0.620*** (0.047)	0.601*** (0.048)	0.602*** (0.048)	0.596*** (0.052)				
Mass Economic Liberalism (t-1)					-0.133 (0.085)	-0.227*** (0.087)	-0.219** (0.087)	-0.384*** (0.090)
Gubernatorial PID (t-1)	0.011 (0.015)	0.020 (0.015)	0.020 (0.015)	0.015 (0.015)	0.060*** (0.015)	0.070*** (0.015)	0.072*** (0.015)	0.072*** (0.015)
Legislative Strength (t-1)	0.275*** (0.091)	0.279*** (0.094)	0.285*** (0.094)	0.313*** (0.103)	0.397*** (0.086)	0.368*** (0.088)	0.374*** (0.088)	0.445*** (0.092)
Percent Black (t-1)	0.015 (0.010)	0.020* (0.010)	0.020** (0.010)	0.032*** (0.012)	0.074*** (0.009)	0.080*** (0.010)	0.080*** (0.010)	0.081*** (0.011)
Constant	0.130 (0.112)	0.095 (0.120)	0.060 (0.121)	0.071 (0.140)	-0.288*** (0.110)	-0.430*** (0.117)	-0.426*** (0.117)	-0.846*** (0.131)
State Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,975	1,877	1,877	1,681	1,975	1,877	1,877	1,681
R ²	0.902	0.908	0.908	0.916	0.922	0.928	0.928	0.937
Adjusted R ²	0.898	0.904	0.904	0.911	0.918	0.924	0.924	0.934

Note: *p<0.1; **p<0.05; ***p<0.01

Table A2: Results of bivariate linear regressions of party competition (the Folded Ranney index) on policy liberalism for 4-, 6-, 8-, and 10- year levels of aggregation. The models include lagged controls for public opinion, legislative control, and gubernatorial control as well as state and year fixed effects.

	<i>Dependent variable:</i>							
	Social Policy Liberalism				Economic Policy Liberalism			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Folded Ranney Index (4 Years)	-0.479*** (0.077)				0.140* (0.083)			
Folded Ranney Index (6 Years)		-0.494*** (0.082)				0.214** (0.089)		
Folded Ranney Index (8 Years)			-0.509*** (0.086)				0.300*** (0.093)	
Folded Ranney Index (10 Years)				-0.514*** (0.090)				0.371*** (0.097)
Constant	0.644*** (0.115)	0.654*** (0.118)	0.674*** (0.120)	0.733*** (0.123)	0.188 (0.124)	0.207 (0.128)	0.107 (0.130)	0.128 (0.132)
State Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,445	3,349	3,253	3,157	3,445	3,349	3,253	3,157
R ²	0.774	0.778	0.783	0.789	0.776	0.780	0.787	0.796
Adjusted R ²	0.766	0.770	0.775	0.781	0.767	0.772	0.780	0.788

Note: *p<0.1; **p<0.05; ***p<0.01

Table A3: Results of bivariate linear regressions of electoral competition (the HVD index) on policy liberalism for 4-, 6-, 8-, and 10-year levels of aggregation. The models include lagged controls for public opinion, legislative control, and gubernatorial control as well as state and year fixed effects.

	<i>Dependent variable:</i>							
	Social Policy Liberalism				Economic Policy Liberalism			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HVD Index (4 Years)	-0.499*** (0.125)				0.537*** (0.118)			
HVD Index (6 Years)		-0.561*** (0.135)				0.711*** (0.128)		
HVD Index (8 Years)			-0.528*** (0.142)				0.725*** (0.134)	
HVD Index (10 Years)				-0.493*** (0.158)				1.037*** (0.145)
Constant	0.557*** (0.099)	0.578*** (0.103)	0.543*** (0.103)	0.622*** (0.112)	0.209** (0.094)	0.105 (0.097)	0.119 (0.097)	-0.108 (0.103)
State Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,016	1,916	1,916	1,716	2,016	1,916	1,916	1,716
R ²	0.887	0.894	0.894	0.902	0.917	0.922	0.922	0.932
Adjusted R ²	0.881	0.889	0.888	0.897	0.913	0.918	0.918	0.928

Note: *p<0.1; **p<0.05; ***p<0.01

Table A4: Results of uncertainty regressions of party competition (the Folded Ranney index) on policy liberalism for 4-, 6-, 8-, and 10- year levels of aggregation. The models include lagged controls for public opinion, legislative control, and gubernatorial control, and the percentage of black citizens, as well as state and year fixed effects. In these models, the Caughey & Warshaw standard errors are at their full size.

	<i>Dependent variable:</i>							
	Social Policy Liberalism				Economic Policy Liberalism			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Folded Ranney Index (4 Years)	-0.126 (0.152)				0.718*** (0.121)			
Folded Ranney Index (6 Years)		-0.121 (0.161)				0.843*** (0.129)		
Folded Ranney Index (8 Years)			-0.114 (0.169)				0.970*** (0.136)	
Folded Ranney Index (10 Years)				-0.071 (0.177)				1.104*** (0.144)
Mass Social Liberalism (t-1)	0.644*** (0.078)	0.635*** (0.078)	0.629*** (0.078)	0.624*** (0.078)				
Mass Economic Liberalism (t-1)					1.056*** (0.103)	1.053*** (0.105)	1.044*** (0.107)	1.047*** (0.109)
Gubernatorial PID (t-1)	0.021 (0.030)	0.020 (0.030)	0.019 (0.030)	0.023 (0.030)	0.044* (0.024)	0.045* (0.024)	0.044* (0.025)	0.043* (0.025)
Legislative Strength (t-1)	0.046 (0.125)	0.051 (0.128)	0.079 (0.131)	0.105 (0.134)	1.040*** (0.094)	1.043*** (0.097)	1.032*** (0.099)	1.023*** (0.102)
Percent Black (t-1)	0.040*** (0.008)	0.041*** (0.008)	0.040*** (0.009)	0.039*** (0.009)	0.022*** (0.006)	0.025*** (0.006)	0.026*** (0.007)	0.028*** (0.007)
Constant	0.089 (0.250)	0.088 (0.252)	0.070 (0.253)	0.096 (0.256)	-0.992*** (0.188)	-0.982*** (0.191)	-0.817*** (0.199)	-0.922*** (0.199)
State Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,443	3,347	3,251	3,155	3,443	3,347	3,251	3,155
Average R ²	0.62	0.627	0.636	0.644	0.734	0.738	0.743	0.749
Average Adjusted R ²	0.605	0.613	0.622	0.631	0.724	0.728	0.733	0.739

Note: *p<0.1; **p<0.05; ***p<0.01

Table A5: Results of uncertainty regressions of electoral competition (the HVD index) on policy liberalism for 4-, 6-, 8-, and 10- year levels of aggregation. The models include lagged controls for public opinion, legislative control, gubernatorial control, and the percentage of black citizens, as well as state and year fixed effects. In these models, the Caughey & Warshaw standard errors are at their full size.

	<i>Dependent variable:</i>							
	Social Policy Liberalism				Economic Policy Liberalism			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HVD Index (4 Years)	-0.171 (0.243)				0.704*** (0.235)			
HVD Index (6 Years)		-0.221 (0.270)				0.869*** (0.262)		
HVD Index (8 Years)			-0.175 (0.284)				0.898*** (0.275)	
HVD Index (10 Years)				-0.187 (0.321)				1.213*** (0.311)
Mass Social Liberalism (t-1)	0.619*** (0.097)	0.602*** (0.100)	0.603*** (0.100)	0.597*** (0.108)				
Mass Economic Liberalism (t-1)					-0.139 (0.168)	-0.234 (0.176)	-0.225 (0.176)	-0.392** (0.192)
Gubernatorial PID (t-1)	0.011 (0.030)	0.019 (0.030)	0.019 (0.030)	0.015 (0.031)	0.060** (0.029)	0.070** (0.030)	0.071** (0.030)	0.071** (0.031)
Legislative Strength (t-1)	0.278 (0.184)	0.282 (0.194)	0.287 (0.195)	0.314 (0.214)	0.400** (0.168)	0.373** (0.178)	0.378** (0.178)	0.449** (0.196)
Percent Black (t-1)	0.016 (0.019)	0.020 (0.021)	0.020 (0.021)	0.032 (0.024)	0.074*** (0.018)	0.080*** (0.019)	0.080*** (0.019)	0.081*** (0.023)
Constant	0.124 (0.226)	0.091 (0.246)	0.056 (0.246)	0.070 (0.285)	-0.293 (0.217)	-0.435* (0.237)	-0.429* (0.238)	-0.851*** (0.276)
State Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,975	1,877	1,877	1,681	1,975	1,877	1,877	1,681
Average R ²	0.787	0.796	0.796	0.809	0.829	0.834	0.834	0.844
Average Adjusted R ²	0.777	0.785	0.785	0.798	0.82	0.826	0.826	0.836

Note: *p<0.1; **p<0.05; ***p<0.01

A. parametric coefficients	Estimate	Std. Error	t-value	p-value
(Intercept)	-0.3652	0.0986	-3.7055	0.0002
Mass Economic Liberalism (t-1)	1.1038	0.0675	16.3553	< 0.0001
Gubernatorial PID (t-1)	0.0489	0.0159	3.0771	0.0021
Legislative Strength (t-1)	1.0003	0.0629	15.9045	< 0.0001
Percent Black (t-1)	0.0141	0.0045	3.1592	0.0016
B. smooth terms	edf	Ref.df	F-value	p-value
Folded Ranney Index (4 Years)	6.1644	7.3253	18.6671	< 0.0001

Table A6: Results of generalized additive model with a smoothed competition (4-year Folded Ranney index) term on economic policy liberalism. The model also includes linear lagged controls for public opinion, legislative control, gubernatorial control, and the percentage of black citizens, as well as state and year fixed effects.

A. parametric coefficients	Estimate	Std. Error	t-value	p-value
(Intercept)	0.0375	0.0948	0.3960	0.6922
Mass Social Liberalism (t-1)	0.6482	0.0384	16.8870	< 0.0001
Gubernatorial PID (t-1)	0.0152	0.0153	0.9939	0.3204
Legislative Strength (t-1)	-0.0202	0.0611	-0.3309	0.7408
Percent Black (t-1)	0.0302	0.0043	6.9868	< 0.0001
B. smooth terms	edf	Ref.df	F-value	p-value
Folded Ranney Index (4 Years)	7.1043	8.1561	5.7128	< 0.0001

Table A7: Results of generalized additive model with a smoothed competition (4-year Folded Ranney index) term on social policy liberalism. The model also includes linear lagged controls for public opinion, legislative control, gubernatorial control, and the percentage of black citizens, as well as state and year fixed effects.

A. parametric coefficients	Estimate	Std. Error	t-value	p-value
(Intercept)	-0.0686	0.0830	-0.8265	0.4086
Mass Economic Liberalism (t-1)	-0.1291	0.0843	-1.5312	0.1259
Gubernatorial PID (t-1)	0.0578	0.0145	3.9712	0.0001
Legislative Strength (t-1)	0.4350	0.0854	5.0912	< 0.0001
Percent Black (t-1)	0.0791	0.0091	8.6540	< 0.0001
B. smooth terms	edf	Ref.df	F-value	p-value
HVD Index (4 Years)	8.5223	8.9389	11.1107	< 0.0001

Table A8: Results of generalized additive model with a smoothed competition (4-year HVD index) term on economic policy liberalism. The model also includes linear lagged controls for public opinion, legislative control, gubernatorial control, and the percentage of black citizens, as well as state and year fixed effects.

A. parametric coefficients	Estimate	Std. Error	t-value	p-value
(Intercept)	0.0208	0.0861	0.2418	0.8090
Mass Social Liberalism (t-1)	0.6113	0.0488	12.5347	< 0.0001
Gubernatorial PID (t-1)	0.0074	0.0149	0.4992	0.6177
Legislative Strength (t-1)	0.2953	0.0904	3.2651	0.0011
Percent Black (t-1)	0.0194	0.0097	2.0014	0.0455
B. smooth terms	edf	Ref.df	F-value	p-value
HVD Index (4 Years)	6.5824	7.7827	4.2580	0.0001

Table A9: Results of generalized additive model with a smoothed competition (4-year HVD index) term on social policy liberalism. The model also includes linear lagged controls for public opinion, legislative control, gubernatorial control, and the percentage of black citizens, as well as state and year fixed effects.