Are U.S. State Tax Policies Increasingly Polarized?*

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Abstract

Using data on U.S. state tax policies from 1910 to 2022, we study to what extent political polarization permeates U.S. state tax policies. Our comprehensive analysis considers a variety of tax measures and definitions of "Democratic" vs. "Republican" states. We document a small increase in tax policy polarization in recent decades, particularly for personal and corporate income, as well as cigarette taxes, and among states with stable political regimes. However, we find that current levels of polarization are not unique relative to the past. Furthermore, the timing of polarization varies widely across tax policies, and is not consistent with measures of increasing political polarization from the literature.

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Keywords: Polarization, partisanship, state taxes, income tax, corporate tax, sales tax, cigarette tax, alcohol tax, gasoline tax.

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Political polarization in the U.S. has been widely documented: voters increasingly identify as Democrats or Republicans, and express stronger distaste for members of the other party (e.g., Bonica et al., 2013; Boxell et al., 2022), while politicians increasingly diverge in their choice of words and their roll call votes (e.g., Shor and McCarty, 2011; Gentzkow et al., 2019). However, less is known about the extent to which this political polarization translates into differences in actual policy. In this paper, we focus on one highly contested policy space – taxation. We study the degree to which political polarization permeates U.S. state tax policies, using novel data on U.S. state tax rates from 1910 until present, as well as data on tax revenues and expenditures from 1942 until present.

Voters consistently rank taxation among the most important issues in political campaigns and as a result, between 1% and 15% of all statements made during political campaigns relate to taxation (Dalager, 1996; Sigelman and Buell Jr, 2004). Several studies have documented increasing polarization in tax-related discussions (Jensen et al., 2012; Gentzkow et al., 2019). However, implementing a tax change is harder than talking about it, and requires legislators to balance state budgets, agree on policy specifics, and in the case of tax increases, actually make changes that hurt voters' (and their own) financial positions. As a result, studying tax outcomes allows us to evaluate whether politicians and the citizens that elect them put their money where their mouths are, as the saying goes. Tax policies can also be easily compared over long periods of time, thus allowing us to understand whether current differences in policies by party (if any) are a new phenomenon. Finally, understanding the tax policy setting process is of great interest in its own right, given taxes' critical role for redistribution and the provision of public goods.

Our goal is thus to establish, in a comprehensive and systematic way, whether states with Democrat-controlled governments enact tax policies that are substantially different from those enacted in states with Republican-controlled governments, and how tax policy polarization relates to political polarization. We study six tax policies – personal income, corporate income, sales, tobacco, motor fuel, and alcohol taxes – and use a variety of methods

for categorizing state political affiliation. Our tax outcomes include whether or not a state has a given tax type, tax rate levels (unconditional and conditional on being greater than zero), whether the state adopted a progressive or flat personal/corporate income tax, and the degree of income tax progressivity (measured by the ratio of top to minimum tax rates). To provide a broader view of the impact of polarization on state finances, we further examine tax revenue levels, tax revenue shares, and expenditures. In addition, we complement our state-level analysis with a corresponding analysis of federal tax policy polarization.

We break states into "Republican" and "Democrat" using an extensive set of definitions: based on the majority party of each legislative chamber, party of the governor, by state's pledges in presidential elections, by the party affiliation of state's U.S. Congress representatives and senators, or combinations of the above. We also use measures of legislators' political ideology – DW-NOMINATE scores for U.S. congressmen (Lewis et al., 2023) and ideological scores for state legislators (Shor and McCarty, 2011). We show that over the 113 year horizon, U.S. states cannot be permanently categorized as Republican or Democratic since nearly all states switched parties regardless of which definition we consider. In other words, polarization analysis of U.S. states necessitates considering ever-changing groups of states. Having said that, most of the measures we consider (with the exception of presidential pledges) yield similar qualitative conclusions about tax policy polarization.

Our analysis generates the following insights. First, consistent with the existing evidence on political polarization, we find an increase in tax policy polarization in recent decades, particularly for personal and corporate income taxes, and for cigarette taxes. However, we find that the degree of tax polarization in recent decades is not a unique phenomenon. At various moments in the past, tax policies of Republican and Democratic states differed substantially, in terms of tax types adoptions, tax rate choices, and tax revenue collected. For example, for many decades, Democratic states featured substantially higher adoption rates of personal and corporate income taxes, but lower tax rates (conditional on collecting a tax) than Republican states. Only for cigarette taxes do we find the current level of polarization

unprecedented – with rates more than twice as high in Democratic states in comparison to the Republican states.

Second, we show that the magnitude of polarization and its timing is sensitive to the choice of tax policy measure, and thus does not appear to consistently coincide or follow political polarization. For example, personal income tax revenue has been diverging since the mid-1970s, while average personal income tax rates, including extensive margin responses, diverged a decade later. On the other hand, if one focuses on states that collect a given tax, then the divergence occurred only recently – starting in the late 2000s.

Third, we show that polarization is most pronounced among states with stable political regimes, and we find no such divergence among states that frequently switch between parties. However, we also show that politically stable and unstable states make tax policy changes with equal frequency, and changes are of a similar magnitude. Thus, political instability appears to play an important role in impeding tax policy polarization, but through channels other than full legislative impasse.

Despite the discussed differences in tax rates and revenues over time, our analysis indicates that tax policies in Republican and Democrat states largely overlap, with the share of Democrat (resp. Republican) states with tax rates outside the minimum and maximum observed in Republican (resp. Democrat) states rarely exceeding 10-20% in a given year. Thus, states feature much greater *within-party* heterogeneity than *across-party* heterogeneity, a result that mimics the conclusions of (Kaplan et al., 2022a), who present evidence of dramatic spatial sorting along partisan lines. Nonetheless, they conclude that despite the increasing geographic clustering of like-minded individuals, "differences across communities tend to be significantly smaller than differences within."

Our paper contributes to a sizable literature that studies polarization in the U.S. A large number of studies document and measure *political* polarization – among politicians and individuals in various settings and using various measures.[1] In contrast, we contribute

[1]See: roll call votes (McCarty et al., 2016; Shor and McCarty, 2011; Bonica et al., 2013), interest group ratings (Groseclose et al., 1999), speech patterns (Jensen et al., 2012; Lauderdale and Herzog, 2016; Gentzkow

to the literature that studies the consequences of political polarization, focusing on *policy* outcomes. Our results suggest that tax policy polarization is different from both tax speech polarization (Jensen et al., 2012; Gentzkow et al., 2019) and ideological polarization (Lewis et al., 2023), and therefore polarization in preferences does not always translate into actionable policy changes, even in the long run.

Overall, evidence on policy polarization is mixed, both at the federal level (McCarty, 2007; Brady et al., 2008; Lee, 2015; McCarty et al., 2016), and at the state level (Caughey and Warshaw, 2016; Caughey et al., 2017; Grumbach, 2018; DellaVigna and Kim, 2022). The closest work, Caughey and Warshaw (2016) and Grumbach (2018), study the extent of policy polarization across states by studying a wide range policy outcomes, which include a limited set of tax measures and over a shorter time period.[2] In contrast, we focus exclusively on tax policy, providing a comprehensive account of U.S. state tax policies over a 113 year period. The former allows us to establish that the extent of polarization is sensitive to the choice of tax measure used, while the latter provides a historical perspective to present-day developments. Relatedly, DellaVigna and Kim (2022) study diffusion of a large set of new policies across the U.S. states. They show that prior to 2000, diffusion was largely influenced by geographic proximity, but that since 2000, political alignment plays a larger role. Similarly, we find a much stronger relationship between the strength of party's majority in state legislatures and tax policy outcomes since 2000 than prior to that.

Previous research linked political polarization to delays in crises responsiveness (Mian et

et al., 2019), campaign contributions measures Bonica (2014), individuals' beliefs (Alesina et al., 2020; Stantcheva, 2021; Coibion et al., 2020), individuals' tastes (Fiorina and Abrams, 2008; Bertrand and Kamenica, 2023), self-reported voter preferences towards policies (Abramowitz and Saunders, 2008; Gentzkow, 2016; Caughey et al., 2016; Stantcheva, 2021) and self-reported voter preferences towards voters with opposing views (Glaeser and Ward, 2006; Iyengar et al., 2019; Boxell et al., 2022), top executives and corporations (Fos et al., 2022; Kaplan et al., 2024). A smaller literature studies the causes of polarization: whether these are driven by changes in preferences versus changes of party control (Canen et al., 2020, 2021), the role of spatial sorting (Kaplan et al., 2022a), and whether polarization is exacerbated by factors including economic shocks (Mian et al., 2014; Autor et al., 2020), media bias (DellaVigna and Kaplan, 2007), and exposure to education and peers (Kaplan et al., 2022b; Coriale et al., 2023; Firoozi, 2023; Kaplan et al., 2023).

[2]Relatedly, Bjørnskov and Potrafke (2013) and Rigby and Wright (2015) demonstrate the importance of party ideology on the size of government and tax structure, both focusing on years between 1980 and 2010, while Hankins et al. (2017) and Garand (1988); Carlino et al. (2023) show the importance of intergovernmental transfers for government growth.

al., 2014), policy uncertainty (Pastor and Veronesi, 2012; Baker et al., 2016), and legislative gridlock (Binder, 2004). Our work complements this evidence by showing that political polarization is more likely to translate into policy polarization (rather than gridlock) in states with stable political regimes. This shows that having temporary legislative control may be insufficient to make sizeable policy changes.

Our analysis is descriptive in nature and does not try to measure a causal effect of partisanship on policy outcomes as in Caughey et al. (2017). While this has obvious disadvantages, the upside is that our analysis is able to identify all shifts in tax outcomes over the studied period, even if such shifts occur without party control changes. Our results further suggest that studies that focus on narrow episodes around party control switches may incorrectly conclude that party control has no effect on policy outcomes. Our work thus complements Caughey and Warshaw (2018) who show that policy changes gradually in response to changes in preferences, and that many of these changes occur without changes of party control.

1 Empirical Question, Approach, and Data

1.1 Why Study Polarization of Tax Policies?

Rising political polarization in the U.S. has been detected in a variety of settings: congressional roll call votes and speeches, candidate survey responses, campaign contributions, and more. However, it has not been established whether tax policy – one of the most controversial topics – has followed suit. Previous work hints at such a possibility: Jensen et al. (2012) document polarization of *tax-related phrases* in Google Books, while Gentzkow et al. (2019) document divergence in U.S. senators' and representatives' *choice of vocabulary* when discussing taxes (Appendix Figure B.1 reproduces the relevant results). Gentzkow et al. (2019) show that tax-related speech began to polarize in the early 1990s, and has remained at roughly the same level of polarization since 1995. They further show that while Democrats

use such terms as "tax increases," "raising taxes," and "tax relief," Republicans often talk about "tax breaks." Overall, Gentzkow et al. (2019) results suggest that Democrats advocate for higher tax liabilities while Republicans advocate for lower tax liabilities, and voters' preferences appear to be aligned with such proposals (Stantcheva, 2021). In this paper we study whether these differences in verbal discussions and self-reported preferences translate into actual differences in tax policies, either at the state or federal level.

Understanding tax policy polarization is interesting for several reasons. First, the tax policy setting process is of great interest in its own right, given taxes' critical role for redistribution and public good provision, and has been the focus of a large literature in public finance (see Robinson and Tazhitdinova, 2023b, for a partial review). Second, tax policies directly affect economic outcomes for all individuals. In this regard, tax policy contrasts with much of the previous work that studies polarization in non-committal manifestations of individuals' preferences (e.g., speeches, self-reported policy preferences, sympathy/aversion towards other individuals). If these measures capture "cheap talk," while actual tax changes are costly or difficult, then tax policy may be less polarized than prior work suggests. Changes in tax policy may even be particularly costly, as they impact all voters (and legislators themselves), as compared to policies that may have a stronger moral appeal but affect fewer individuals (e.g., abortion rights, civil rights). Third, tax policies are multi-faceted and are the result of collective decision-making. As such, even if a legislative majority favors a tax decrease, legislators may disagree on the magnitude of a tax decrease or other details of implementation, and as a result fail to reach a compromise. Thus, our question differs from previous work focusing on polarization in the actions or preferences of individuals, as we focus on the results of collective decision-making. Finally, tax policies can be compared over long periods of time, and do not suffer from the high-dimensionality problem highlighted by Gentzkow et al. (2019). The long time series of our data will allow us to understand whether current differences in policies (if any) are a new phenomenon, and whether the timing of tax policy polarization matches the polarization of tax-related speech and political polarization

in general.

1.2 Defining Political Groups

In order to assess the degree of polarization in state tax policy, we must sort states into Democratic-leaning and Republican-leaning groups. The optimal method of categorizing states is not obvious in our setting, as voters in each state elect a wide range of officials (governor, state legislative chambers, representatives to both chambers of the U.S. Congress, presidential electors, etc.), and there are no requirements that these officials be of the same political party. For conciseness, we include in the main text only one measure of political leaning, and we include results for a wide variety of other definitions in the Appendix.

In the main text, we consider states Republican if both the state house and the state senate have a Republican majority, and Democrat if both the state house and the state senate have a Democratic majority. All other states are included in the "Other" category and thus omitted from the analysis for that year.[3] We further break down Democratic states into two groups: Southern Democrats and all others. The following states are categorized as Southern Democrat in any year where the Democratic party controls both chambers: AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV.[4][5]

We select state legislative majority as our preferred measure for two reasons. First, tax policy is ultimately determined by the legislatures: therefore, having a majority in both legislatures is highly deterministic of one's ability to influence tax policy outcomes. While

[3] See Appendix A for more details on the political data used.

[4] Southern support for *federal office* Democrats began to decline in the 1950s: based on the majority party of representatives to U.S. Congress, these states average at 90% Democratic for 1910-1962, 48% Democratic for 1963-1992, and 9% Democratic for 1993-2022. While some such as McCarty et al. (2016) argue that this shift was driven by changing economic conditions in the region, other such as Kuziemko and Washington (2018) find that conservative racial attitudes among whites (and reaction to the civil rights movement) explains the decline. However, *state* Democratic candidates dominated the South for much longer: legislative majorities in these states were 97% Democratic throughout 1910-1992 (and 91% Republican from 2012-2022). This patterns are consistent with the appearance of a distinct identity for state-level Democrats in the South, possibly but not necessarily aligned with Democratic views on tax policy in other states. For this reason, we treat Southern Democrat as a separate category.

[5] In Appendix J.4, we show results considering the Southern states separately in all years, regardless of the party in majority.

the governor can veto proposed tax legislation, legislatures can override the veto with a super-majority. Focusing on the majority in both legislatures provides a more conservative measure than focusing on the majority in the state house or the state senate alone.

Second, this legislative majority measure provides the most stable assignment over time, with the fewest number of party switches among the alternative options. Our party groupings are not stable over time, meaning that a state included in the Republican group in one year may be included in the Democrat group in other years. This flexibility is necessary because during our period of study (1910-2022), no state remained in the same group during the entire period, regardless of the political measure used. However, political measures that shift too rapidly may be capturing idiosyncratic variation (i.e., related to an individual candidate or year) that is unlikely to represent true polarization of views. As Appendix Figures J.32 and J.33 demonstrate, governor party affiliation changes rather frequently, as do presidential pledges and the party of a state's representatives to U.S. Congress, while state legislative majorities change least frequently.[6]

Figure 1(a) shows the number of states that belong to each group in each year based on state legislative majority. The Southern Democrat states show the highest levels of stability – until the early 1990s, nearly all 14 states had a Democratic majority in the state senate and house. By 2015, all of these states had switched from Southern Democrat to Republican or Other. The number of Republican states fluctuated between 5 and 33 using our preferred measure (with an average of 20 states), while the number of Democratic states ranged between 1 and 23 (average of 11). Appendix Figure J.31 shows the number of states in each group for other polarization measures. The number of observations for other political measures of polarization are in similar ranges and are equally or more volatile.

Figure 1(b) shows that if we ignore "Other" episodes, switches from a Republican to Democratic (incl. Southern) legislative majority and vice versa are not very common. Many

[6]State legislatures could move from Republican to Other to Republican over a short period e.g., if one of the chambers changes party temporarily. However, these short changes do not appear to be driving our results, as our findings remain almost identical if we smooth our measure of party such that any 2-year "Other" period that is surrounded by a specific party is instead counted as that party.

states switched majorities only once or twice during the 113 years. However, some states – notably, CO, IA, ID, MI, OH, UT switched majorities 8 times or more. (As a point of comparison, the corresponding majority in the U.S. Congress switches 11 times during the studied period.) Figure 1(c) shows the share of years each state spent in each group. The only three states that never switched between Democrat/Republic majorities are HI and MD (always Democrat/Other), and ND (always Republican/Other). Appendix Figures J.32–J.34 provide equivalent statistics for other polarization measures.

Finally, Figures 1(d)-(e) demonstrate how other measures of political party relate to our preferred choice. Figure 1(d) shows the percent of observations in which the majority of both state legislatures matches that of the state house, state senate, governor, state's pledge in most recent presidential election, the majority of the state U.S. Congress representatives and/or senators, or the U.S. Congressional ideological score. Two key observations emerge. First, as one were to expect, the smallest mismatch is with the state house/senate (30% or less). The mismatch with the party of governor and the majority of state U.S. congressmen is larger – up to 70% of observations in some years. The largest mismatch and the highest level of variation is observed for presidential pledges – the mismatch rates exceed 80% in some years. Second, the mismatch rates appear to increase for all measures starting approximately in the 1950s, but decrease somewhat since 2000.

Since our analysis will compare tax policies in Republican states to those in Democratic states, and will omit states that do not fall into either category, it is useful to understand whether the mismatch observed in Figure 1(d) is due to states switching from being considered Republican to being considered Democratic, or simply due to exiting the sample (i.e., falling into the Other category). Figure 1(e) repeats the exercise in Figure 1(d) but only accounts for mismatches that are due to switches from Republican to Democrat or vice versa.[7] We see that state legislatures typically have the same party majority as states' U.S. congressional delegates, but that the party of the governor frequently mismatches the

[7]By construction, this eliminates mismatches between our preferred measure and state house/senate and state legislature+governor measures.

majority party of the state legislatures (up to 40% of observations) as do state's pledges in the presidential elections. Nonetheless, together Figures 1(d)-(e) suggest that the various political measures we consider primarily vary in how restrictive they are, i.e., whether a given state is included in the analysis or not, rather than whether they assign a given state to the Republican versus to the Democratic group, with the exception of assignments based on the party of the governor or based on state's pledges in presidential elections.

In Appendix Figure J.35, we also remove the mismatches arising from Southern states that are Democratic under our preferred measure and Republican in an alternative measure, or vice versa. We find that this further reduces the mismatch rate, particularly after the 1950s, to 15% or less for congressional delegates, 30% or less for the governor, and 50% or less for presidential elections. In other words, the choice of political measure matters a great deal for Southern states during the period when support for federal Democrats was falling dramatically but state Democrats remained dominant, and the way party is measured matters less in the remaining time periods and regions. Whenever we compare tax policies in Republican states to those in Democratic states, we show Southern Democrats separately.

In Appendix J we show our main results using these alternative polarization measures, i.e., the party in the majority for: state senate, state house, delegation to U.S. Congress overall, delegation to U.S. Senate, delegation to U.S. Congress, governor, governor plus state legislatures, and presidential pledge. Beyond these political affiliations, we also use measures of legislators' political ideology. In particular, we use DW-NOMINATE scores for U.S. congressmen (Lewis et al., 2023) and ideological scores developed by Shor and McCarty (2011) for state congressmen. DW-NOMINATE scores, developed by Keith T. Poole and Howard Rosenthal, use votes in Congress to place the ideology of political actors along two numerical dimensions (where the first tends to correspond to economic matters and the second to social issues). Shor and McCarty (2011) extend the methodology to state legislators.

We complement our analysis of state tax policy polarization, with corresponding anal-

ysis of federal tax policy polarization. To do so, we consider years when the Republicans/Democrats had the majority in the U.S. House, U.S. Senate, or both, and/or when the president was a Republican/Democrat. To match our state analysis, our preferred measure defines episodes based on the majority of both U.S. House and U.S. Senate. We then study the extent to which federal tax policies differ when both chambers of U.S. Congress have a Republican majority versus a Democratic majority.

1.3 Tax Policy Outcomes

Tax policies are complex, multi-faceted, and hard to summarize. Our analysis focuses on tax revenues and tax rates. The former account for both tax rates and base rules, while the latter are most salient to voters, subject to extensive media coverage, and are directly changed by policy.

We use tax rate data from Robinson and Tazhitdinova (2023a). The data includes information on state and federal tax rates from 1910 to 2022 for the following tax rates: minimum and top personal income, minimum and top corporate income, sales, cigarette per pack, gasoline per gallon, and alcohol spirit per gallon tax rates, as well as the corresponding federal tax rates. We inflation-adjust nominal rates of cigarette, gasoline, and alcohol excise taxes using the BLS CPI series to 2020.

To account for the differences in tax bases, we complement tax rate data with information on state and federal tax revenues from 1942 to 2022, also from Robinson and Tazhitdinova (2023a) and expenditures from the U.S. Census Bureau Annual Survey of State Government Finances. Since revenues and expenditures grow systematically both with population and GDP, when comparing states to each other and across time, we use revenue/expenditure per capita as percent of U.S. GDP per capita as our outcome variables. This measure accounts for state-specific population trends as well as the overall U.S. GDP growth trend. Alaska tax revenues are exceptionally volatile and reach extreme highs; for consistency, we omit Alaska from all figures showing revenues or expenditures.

Our data thus allows us to consider the following tax outcomes: tax revenue levels (per capita as a percent of U.S. GDP per capita), tax revenue shares (as percent of total state tax revenue), tax rate levels (unconditional and conditional on collecting a given tax type), share of states that adopted a given tax type, share of states that adopted a progressive personal and/or corporate income tax, and the degree of tax progressivity (proxied by the ratio of top to minimum tax rates). For a broader view of state finances, we further account for total revenue (including non-tax revenue) as well as expenditures (total and by broad categories).

Finally, since our focus is on tax policy, we treat each state-year observation as equal and do not weight by population. Each state is included in our analysis once it joins the union; as a result, AZ and NM are included starting in 1912 and AK and HI starting in 1959.

1.4 Empirical Strategies

Our main empirical strategies focus on measuring the extent of polarization in U.S. state tax policies. We begin by comparing average tax outcomes in Republican states to average tax outcomes in Democratic and Southern Democratic states. We begin with tax rates in all states, including zero tax rates, to assess the degree of polarization overall. We then look separately at whether states have adopted any non-zero tax, as well as tax rates conditional on being greater than zero, in order to study how polarization is driven by extensive vs. intensive margin policy choices. For income taxes, we include the choices by states of whether to adopt a flat vs. progressive tax rate, as well as the degree of progressivity. Finally, we compare average tax revenues, thus accounting for both tax rates and base rules; we conduct an equivalent analysis for federal tax rates as a comparison; and we extend to total revenues and expenditures, in order to provide a comprehensive view of polarization in state finances.

We then move beyond *average* tax rates to more broadly measure how the *distribution* of tax rates differs between Republican and Democratic states. Figure E.15 illustrates several

ways that polarization could impact these distributions. To start, we may find no differences between Democratic and Republican average tax rates and revenues over time. Yet, the variance may change over time, particularly, if states have been slowly converging within each political group. We test for this possibility by comparing dispersion (e.g., coefficient of variation – the standard deviation divided by the mean) as well as percentiles (e.g., 25th, median, and 75th). Next, if we do find differences in means, these can either be driven by systematic shifts in the entire distributions of tax policies, or instead be driven by extreme outliers (Autor et al., 2020). To distinguish between the two cases, we calculate the amount of non-overlap in the distributions of tax rates by legislative majority (see Appendix E.2). Our measure ranges from 0% (if the Republican range and Democratic range are identical) to 100% (if the Republican range and Democratic range do not overlap at all). Thus, changes in means that are driven by a small proportion of states will result in only a small degree of non-overlap.

In order to extend and provide context for our main results, we address the following three questions. First, how does the timing of tax policy polarization compare to other measures of political polarization? We compare the differences between Republican and Democratic states in tax rates and revenues to differences in roll-call votes (measured with DW-NOMINATE scores from Lewis et al., 2023), policy liberalism (Caughey and Warshaw, 2016), and speech patterns (Gentzkow et al., 2019). This analysis allows us to evaluate whether the two forms of polarization are related, and if yes, how far tax policy polarization lags behind.

Second, what is the impact of gridlock on tax policy polarization? Polarization among individuals (e.g., in votes or speech) may not translate to polarization in policy if the former is more likely to lead to legislative impasse. Furthermore, unstable political environments may make gridlock a larger challenge for majority parties (at risk for losing their majority sooner), or a more appealing strategy for minority parties (if they expect to return to power shortly). To address this question, we repeat our main analysis separately for states with

stable political environments vs. unstable political environments. Relatedly, previous work has found evidence in support of gridlock in the federal government, and (Mian et al., 2014; Binder, 2004) policy proponents frustrated at a national level may turn to states to advocate for more achievable or durable policies. We explore this mechanism by studying the relationship between federal political outcomes and state tax policy.

Third, to what extent can our main results be interpreted causally? Our main empirical approach is descriptive in nature, and the differences we see in tax policy may or may not have been caused by political changes. While establishing a causal link is beyond the scope of this paper, we provide evidence on this issue in several ways. We first examine what happens when states switch from (long-held) Democratic to Republican majority or vice versa. Second, we examine how tax rates differ among states with a stronger vs. weaker majorities in each party. We bin states into eleven groups based on the strength of Republican/Democratic control, and then compare the average tax rate across groups.

2 Measuring Tax Policy Polarization: Results

2.1 Tax Adoptions and Tax Rates

Comparing Averages. Figure 2 shows the time series of average top personal income, top corporate income, and sales tax rates in Republican vs. Democratic states. Panel A shows tax rates for all states included in each group, counting a tax rate of zero for states that have not adopted a given tax. Panel B focuses on extensive margin responses, and shows the share of states in each group that have adopted a given tax type. Finally, Panel C focuses on the intensive margin, and shows the average tax rate in each group, but only including states with non-zero tax rates.[8] In each panel, the time series for Republican states uses hollow red circle markers. For the Democrat and Southern Democrat time series, we use a solid marker if the average for that group in that period is statistically different from the Republican

[8]Panel D is discussed next in Section 2.2, but included in Figure 2 to aid comparison.

average in that period at the 95% confidence level, and a hollow marker otherwise. Finally, for each tax type the vertical gray line marks the year after which no state adopted this tax type. Thus, polarization to the right of the gray line always excludes extensive margin changes, reflecting only intensive margin changes and changes in the political party of states.

Overall, we see sustained periods of large, statistically significant differences between Republican, Democratic, and Southern Democratic states. In particular, there are striking differences in the average top personal income and top corporate income tax rates (Figures 2(a) and (b)), where tax rates in Democratic states have been consistently and substantially higher than Republican states since the 1970s/1980s. However, at other times, and for other dimensions of tax policy, Republican and Democratic states have been indistinguishable from one another. We can see shared trajectories over time across groups, during periods of relative stability and of rapid change (such as with the adoption of tax rates pre-1940), suggesting some similarities across states in revenue pressures and changes in redistributive preferences over time.

At first blush, the results in Panel A suggest that tax policy shifted from low to notable levels of polarization during the 1970s and 1980s. However, the absence of income tax differences prior to the 1980s *on average* masks highly heterogeneous patterns for Democratic and Republican states. As we see from Panels B and C, throughout the 113 years we study, Democratic and Southern Democratic states were more likely to have a personal and/or corporate income tax than Republican states. However, the tax rates conditional on adopting a tax were lower in Democratic and Southern Democratic states than in Republican states for many years. Thus, prior to 1980, Democratic and Republican states differed significantly on both the extensive and intensive margin, but in opposite directions, such that tax rates overall were similar. In addition, the relatively sharp and sustained divergence in tax rates overall in Panel A is not mirrored in either Panels B or C, but rather is driven by shorter and more gradual changes in both. Emerging differences in conditional tax rates can explain the gap between Republican and Democratic states since the mid-2000s, but not before. From

the mid-1980s to the mid-2000s, only differences along the extensive margin are statistically significant. Furthermore, to the extent that we see polarization in recent decades along the extensive or intensive margin, the magnitude is not historically unique.

For sales taxes, the polarization pattern over time is opposite from that of income taxes: we see statistically significant differences in the past, but similar tax rate levels in the most recent 10-15 year period. Once again, Democratic and Southern Democratic states show higher levels of tax adoption, but lower tax rates than Republican states. However, the Democratic states dramatically increased sales tax rates in the 1970s, while Southern Democratic states followed a tax rate path similar to that of the Republican states.

Figure 3 repeats the above exercise for excise taxes. We see differences for cigarette tax rates starting in the late 1980s and increasing dramatically in the 200s: Democratic states now have more than 2 times higher tax rates than Republican states and 3 times higher rates than Southern Democratic states. However, prior to 1960, we see that Southern Democratic states introduced the tax faster than other states and had higher tax rates. This pattern reversed gradually, between 1960 and 1980.

In contrast, gasoline taxes are very similar, albeit slightly higher in Democratic states than in Republican states in recent years. In the past, Democratic and Southern Democratic states had higher tax rates, and there was no differences in the speed of adoption. Finally, Democratic states have been more likely to have an alcohol tax in most years after 1950; alcohol tax rates were substantially higher among Southern Democratic states until they converged in the 1990s, and have been similar for Democratic and Republican states until 2010, where they have diverged a small amount.

To summarize, Figures 2 and 3 thus suggest that polarization indeed permeates state tax policies, but not in a persistent way. We see increasing differences in recent years for some tax rates such as personal and corporate income. However, the timing of this divergence is highly sensitive to the measure used (e.g., including or excluding tax rates of zero), and the magnitude these differences are often not unique from a historical perspective. For other tax

types, we see very small (or no) differences in tax rates. Only the differences in cigarette tax rates in recent decades can be seen as unprecedented from historical perspective.

Alternative Definitions of Republican and Democratic States. The results seen in Figures 2-3 are robust to alternative definitions of political party. Appendix Figures J.36-J.41 show unconditional average tax rates, while Appendix Figures J.42-J.47 show conditional averages (i.e., tax rates in states that have adopted a given tax types). While time series are not identical, the patterns of divergence and convergence in tax rates over time are similar. The only definition that generates dramatically different results is the one that breaks states along the second dimension of DW-NOMINATE – the dimension that "picks up differences within the major political parties over slavery, currency, nativism, civil rights, and lifestyle issues" (Lewis et al., 2023). In contrast, a breakdown based on the first DW-NOMINATE dimension – which breaks states into "liberal" vs. "conservative" ones yields nearly identical results.

Appendix Figure J.57 shows results when considering the Southern states separately regardless of the party in majority (rather than a combination of Southern Democratic and Republican). The time series prior to 1992 are essentially identical, as these states were 97% Southern Democratic during that period. After 1992, the time series remain very similar – if anything, the Southern state averages more consistently overlap with the Republican averages. The one exception is sales taxes, where (non-Southern) Democratic and Republican states have statistically indistinguishable rates after the mid-2000s, while Southern states have higher tax rates.

Federal Taxes. Appendix Figure C.2 provides an equivalent analysis but for federal tax rates. To match the state-level analysis, we color each year as Republican or Democrat if the corresponding party held a majority in both the U.S. Senate and the U.S. House of Representatives. At the federal level, the time series suggest that it does not appear to be the case that Republicans always lower taxes while Democrats always raise them. However, starting from the 1990s (once the tax speech polarization began), we do see that the personal

and corporate income tax increases are generally implemented by the Democrats, while the tax decreases are implemented by Republicans. However, we do not observe a similar pattern for excise taxes.

Comparing Distributions of Tax Rates. As discussed in Section 1.4, by focusing on averages, we cannot observe which part of the tax distribution is changing over time: are the entire distributions shifting away from each other, or are the changes happening only at the extremes of the distributions? In the appendix, we compare several other points of the distribution – the 25th percentile (Figure E.10), 50th percentile (Figure E.11) and 75th percentile of tax rates (Figure E.12) within each party. The results generally follow the pattern seen for average rates in Figures 2-3, suggesting that the differences in averages are driven by the entire distributions rather than outliers.

We also explore whether tax rates exhibit similar levels of dispersion in Democratic versus in Republican states in Figures E.13. For most tax types, we see higher coefficients of variation (standard deviation divided by the mean) in Republican states than in Democratic states. But the overall dispersion pattern appears to be similar for all groups. For all tax types, we see a gradual reduction in dispersion over time until the adoption process completes. Once completed, we see an approximately flat pattern, with the exception of gasoline taxes which saw a notable increase in variation from the 1970s on. This suggests that party affiliation accounts for only a small share in tax rate variation seen throughout the years, and that there is no convergence of rates within each party.

Next, in Appendix E.2, we examine the extent to which the studied tax outcomes do or do not overlap between Republican and Democratic states over time. We calculate the amount of non-overlap in the distributions of tax rates by legislative majority, where non-overlap between Republican and Democratic states is measured as the percent of Democratic states that are excluded from the Republican range (i.e., have tax rates above the Republican maximum or below the Republican minimum), plus the percent of Republican states that are excluded from the Democratic range, divided by 2. This measure ranges from 0 (if the

Republican range and Democratic range are identical) to 100% (if the Republican range and Democratic range do not overlap at all). As Figure E.15 illustrates, changes in means that are driven by the shifts of the overall distributions will result in larger non-overlaps than changes that are driven by a small number of extreme states.[9]

Our analysis generates two insights. First, Figure E.16 shows that the tax rates in Republican and Democratic states overlap in most years, with less than 20% of states exceeding the other group's range in most years. With the exception of cigarette taxes that show a dramatic increase in non-overlap since 2000, the non-overlap measure does not show a well-defined pattern. This suggests that, in most years, Republican and Democratic states draw rates from the same tax rate pool. Second, we show that once we exclude states with tax rates below the 10th/15th and above the 90th/85th percentiles within each group in Figures E.17-E.18, we observe an increase in non-overlap for top personal and corporate tax rates in recent years. This suggests that most of the polarization in recent years is driven by distributional shifts rather than by outliers, consistent with evidence from Figures E.10-E.12.

2.2 Tax Revenues and Expenditures

Since tax policies are complex, states may differ in tax aspects other than tax rates – e.g., the breadth of the tax base, availability of tax avoidance and tax evasion opportunities, and more. All of these factors will affect the amount of tax revenue a given state generates and the composition of state revenues. For this reason we explore differences in tax revenues and tax revenue shares next.

Panel D of Figures 2-3 provides time series for state tax revenues measured as revenues per capita as a percent of U.S. GDP per capita. This revenue measure accounts for state-specific population growth and for the overall U.S. GDP growth over time. We see that since 1950, Democratic states derived higher levels of revenue from personal and corporate income taxes than Republican states. The sales tax revenues have also been higher since

[9] Appendix Figure E.14 illustrates in greater detail how the non-overlap measures are calculated.

1940 but converged to Republican levels since the mid-2000s. For excise taxes, we see higher levels of tobacco tax revenues since the mid-1970s, but small or no differences for motor fuel and alcohol taxes. Importantly, the timing of tax revenue divergence does not match that of tax rate – with personal and corporate income tax revenues diverging about 10 years earlier than the average tax rates in Panel A. [10]

Next, we turn to compare overall revenue collections, in Panel A of Figure 4. We see that Democratic states collect higher revenues overall than Republican states, consistently since 1970 with the gap widening somewhat in the 2010s. Approximately 60% of the gap today is explained by higher tax revenues, with personal income tax revenues alone accounting for about 30% of the total gap. The remainder is explained by Democratic states collecting higher non-tax revenues, distributed widely across a variety of categories, including intergovernmental revenue (Figure 4(b)), as well as current charges, miscellaneous revenue, and insurance trust revenues. We do not consider property tax rates in this paper: due to the importance and variability of the tax base, the statutory tax rate alone provides little information about the true tax burden, However, in Figure 4(c) we include the time series for property tax revenues. We see that while property taxes are higher in Democratic states since the mid-2000s, the difference is not always statistically distinguishable from zero, and can explain only a small proportion of the difference in overall revenues (where the gap is an order of magnitude smaller than the gap in personal income tax revenues).

To further understand potential differences across state budgets, we explore state expenditures in Panel B of Figure 4. We see that total expenditures closely track total revenues, with Democratic states demonstrating higher expenditures, and Southern Democratic states showing lower expenditures until the late 1990s.[11] These differences in spending appear to be primarily driven by direct expenditures, though intergovernmental transfers also diverse slightly since 2010. Democratic and Republic states also vary in their focuses: we

[10] Appendix Figure D.4 shows time series of tax revenues as shares of total.

[11] The one exception we see is during the Great Recession in 2009, when Democratic revenues reduced sharply (driven primarily by insurance trust revenue), relative to both Republican revenues and total expenditures.

see that Democratic states have higher expenditures associated with health & hospitals and public welfare since the 1970s, and lower expenditures associated with highways. We also see differences in education and public safety, albeit smaller in magnitude and shorter in duration.[12]

Appendix Figure C.3 presents an equivalent analysis for federal tax revenues. Even in the post-1990 period, we see that Republican governments often collect higher levels of personal and corporate income tax revenue than Democrat governments. However, this evidence is difficult to interpret since revenues are likely to be highly influenced by economic conditions.

2.3 Tax Progressivity

One aspect of the tax base that we can study is the progressivity of the income tax schedules. Since most states do not feature a progressive corporate tax, we limit our discussion to personal income taxes, but equivalent analysis for corporate income taxes is available in Appendix D.2.

Appendix Figure D.6 compares differences in top personal income tax rates to differences in minimum rates. While the time series show similar patterns, the differences in rates are smaller in absolute terms. Once again, the timing of polarization does not match, suggesting that tax polarization may affect different groups of individuals differently.

Appendix Figure D.7 considers how the choices related to tax progressivity vary for Republican versus Democratic states, but focusing on the states that have adopted a personal income tax. Figure D.7(a) shows that all Southern Democrat states have chosen a progressive personal income tax system. In contrast, only 80% of Democrat states did so, and somewhere between 70% and 100% of Republican states did, also converging to 80% in recent years. In terms of the degree of progressivity, as measured by the ratio of the top to minimum tax rate, Figure D.7(b) shows that the differences across groups are largely statistically insignificant. For several decades between 1940 and 1970, Republican states featured

[12] Appendix Figure D.5 shows time series of expenditures as shares of total.

significantly more progressive schedules than Democrat or Southern Democrat states. However, since approximately 2000, the top income tax rate in both Republican and Democrat states is approximately 4 times higher than the minimum rate. Focusing on tax rates next, in Figure D.7(c) and (d) we see that the tax rate pattern observed in Figure 2(g) holds for Republican and Democrat states with progressive and with flat rates. In other words, Democratic states with progressive income schedules had lower rates than Republican states in the past, but have higher rates in recent years. While Southern Democratic states were more likely to adopt a progressive tax schedule, the top rate has been lower than or equivalent to the top rate in Republican states. Among states with flat income tax schedules, Democratic tax rates have typically been higher, though the amount of divergence today is small relative to the past.

Overall, the results in Appendix D.2 suggest that while Republican and Democratic states diverged in tax rates and revenues they collect from personal income taxes in the past 20 years, the progressivity of the income tax systems has actually converged, at least based on our measures.

3 Understanding Tax Polarization: Timing, Stability of Political Structures and Causality

In this section, we address three issues: the timing of political vs. policy polarization, the role of gridlock, and to what extent our findings have a causal interpretation.

3.1 Timing of Polarization

How does the timing of tax polarization relate to political polarization and polarization of tax-related speech? To answer this question, Figure 5 plots the time series of the differences between Republican and Democratic taxes (right axis) against several measures of political polarization (left axis). For political polarization, we first use the first dimension of

DW-NOMINATE scores (Lewis et al., 2023), plotting the difference between the average in Democrat vs. in Republican states. Second, we use the posterior estimates from Gentzkow et al. (2019) for all tax-related speech (i.e., the posterior that a neutral observer expects to assign to a speaker's true party after hearing a single phrase). Third, we plot the policy liberalism index from Caughey and Warshaw (2016), derived from 148 distinct policies.[13] The tax outcome variables measure the difference in rates/revenues between Republican and Democrat states divided by the all-state average rate/revenue in that year, times 100%.

Figure 5 shows that political polarization, measured by roll-call votes and speech patterns, has increased sharply beginning in 1990. However, despite this ideological gap, state tax policies do not show the same pattern. Intuitively, one would expect the political polarization to precede or coincide with tax policy polarization. But to the extent that tax policy has diverged, it appears to mostly precede political polarization – divergence in the average personal income tax rate begins in the 1980s, and divergence in income tax revenues begins even earlier in the 1970s. Somewhat the opposite is observed for corporate income taxes, which show a recent divergence of revenues but a flat tax rate gap. Overall, the time pattern for income taxes aligns better with the policy liberalization index, rather than roll-call votes or speech patterns. This index accounts for a variety of economic and social policies, and shows that after a flat trend between 1935 and 1960, the U.S. state policies gradually became increasingly liberal. Meanwhile, sales taxes exhibit convergence across a variety of tax measures. Only cigarette taxes show a pattern of divergence that aligns well with roll-call votes and speech.

3.2 Policy Polarization vs. Policy Gridlock

Political polarization may affect policy outcomes in one of two ways: it may lead to gridlock and legislative impasse, or on the opposite, divergence of policy outcomes. Since gridlock

[13] To match the DW-NOMINATE scales, we divide the Democrat-Republican difference of the Policy Liberalism index by 4, while for speech posteriors, we plot the overall average (including Republican and Democrat states) of $(posterior - 0.5) * 10$.

preserves the status quo, it may help either party's agenda, generally depending on the prevailing policy at the onset of the gridlock. Previous research has documented evidence consistent with gridlock at the federal level (Mian et al., 2014; Binder, 2004). Our results for federal tax policies suggest that these indeed appear to be largely gridlocked (see Appendix C). Intuitively, states are less likely to suffer from gridlock because many states feature more stable political environments. Furthermore, if policy activists are unable to implement their preferred policies at the federal level (either because of gridlock or because such policies would be quickly reversed by the next government), they may direct their efforts towards states ("venue-shopping"), where their preferred policies may be implemented quicker, cheaper, and with greater permanence. Overall, this suggests that political polarization may translate to policy polarization in states with stable political environments, and to gridlock in states with unstable political environments.

Figure 6 provides support for this hypothesis. We break states into two groups, depending on the stability of their political structure. States that switched the majority party in both state legislatures only once or twice since 1910 are considered stable, while states that saw 5 or more switches are considered unstable. Otherwise, each state is assigned to the Republican/Democrat/Southern Democrat group following the same rules, i.e. by having a majority in both state legislatures. The time series shown in Figure 6 provide clear evidence: tax rates in stable states diverged in recent years, while tax rates in unstable states remained rather similar. Only for cigarette taxes do we see a clear divergence in tax rates between Republican and Democrat states both in stable and unstable states.

Figure 6 suggests that in order to dramatically change policy, it is not sufficient to have a majority in both state legislatures over a short period of time – rather, the party needs a majority over a prolonged period of time. Our results thus correspond to findings of Caughey and Warshaw (2018) who show that while policies change in response to preference changes, they do so gradually and often without partisan changes. There are several potential explanations for this finding. One possibility for this is that the legislative process simply

takes time. Another possibility is that activist groups are not willing to engage in the legislative process if the outcome can be easily overturned in the following years, and for this reason, only pursue policy changes in states with stable political regimes. Unstable political environments may make gridlock a more appealing strategy for minority parties, if they expect to regain the majority shortly. Or, states with unstable political environments may represent voters who have policy preferences that are not particularly liberal or conservative, whereas polarization is concentrated among states with stable political environments because these voters have more extreme policy preferences.

To shed light on these possibilities, we compare the frequency and magnitude of tax changes in stable and unstable states in Tables I.1 (all tax changes) and I.2 (only intensive margin changes). Interestingly, we see that states with unstable political environments change their tax rates slightly *more* frequently, and the average magnitude of the tax change is mostly comparable between the groups (though about 30% smaller for personal income taxes). Thus, the lack of stable majority does not preclude states from making policy changes. However, we can see from Figure 6 that tax policies changes do not map directly to changes with the legislative majority, suggesting that political stability nonetheless plays an important role.

Do states implement policies to counteract federal policies or lack of such? Figure 7 explores to what extent presidential elections affect states' tax policies. Specifically, we break states into two categories based on whether the state is "happy" or "upset" about the most recent election outcome (i.e., whether the winning presidential candidate won in the state or lost). The top row summarizes the share of years a given outcome occurs, which then can be compared to shares when given tax rate increases or decreases occur. Figure 7 shows two notable patterns: states that vote for a Republican candidate that ultimately loses are significantly less likely to pass a tax increase of any tax type in the following four years. We see the opposite pattern for states that vote for Democratic candidates: they are more likely to pass tax increases when their preferred candidate loses. The observed pattern

is thus consistent with a state response to anticipated federal tax policies or lack of such.

3.3 Evidence on Causality

Our analysis is descriptive in nature: as a result, the observed differences in policies may or may not have been caused by political alignments. While establishing causality is outside the scope of this paper, we provide two pieces of evidence both in support and against such causal interpretation.

First, we study how the strength of majority affects tax policy outcomes in Figure 8. Specifically, we examine how tax rates differ among states with a stronger vs. weaker majorities in each party. To study this, we bin states into eleven groups by Republican/Democratic control and then calculate the average tax rate within each group. We repeat this exercise for varying time periods. We see a strong linear negative pattern between average income and sales tax rates and the share of Democratic legislators in the state house or in the state senate in the most recent 30-year period, 1991-2022. However, in the other years the relationship is significantly less pronounced or absent. Figure 8 thus suggests that political control appears to have a stronger influence on tax policies in most recent years as compared to the past. In this regard, tax policies follow the general trend: Caughey and Warshaw (2016) also found an increasingly strong relationship between state policy liberalism (measured over 148 policies) and the conservatism of median member of the state legislature, while DellaVigna and Kim (2022) show that, since 2000, policy diffusion is increasingly driven by political alignment rather than geographic proximity, as was the case in the earlier periods.

Second, we study what happens to tax policy outcomes when the control of state legislatures changes. We focus on states that had stable political structures, and thus switched majorities at most twice during the studied period. Figure 9 shows coefficient estimates from event studies around majority switches, with state and time fixed effects included. Overall, we do not see a dramatic change in rates as a result of switches of majority control. These results are consistent with evidence in Figure 6 and again show that tax changes happen

gradually over time and not sharply around changes of political control.

Overall, the results from Figures 6, 8 and 9 together with related evidence from Caughey and Warshaw (2016); DellaVigna and Kim (2022); Caughey and Warshaw (2018) suggest that most recent divergence of tax policies across states is likely to be driven by political polarization, but this may not be the case for earlier periods.

4 Conclusion

In this paper, we study the extent of polarization of the U.S. state tax policies. Our results provide mixed evidence: on the one hand, we see clear divergence of personal income, corporate income, and cigarette taxes between Republican and Democratic states in recent decades. However, the magnitude of polarization is sensitive to the measure used (i.e., whether including or excluding tax rates of zero), and is often similar to magnitudes in earlier time periods. In addition, we see no differences for other excise taxes, and even convergence for sales tax rates.

Furthermore, the *timing* of polarization is difficult to define. Depending on whether one focuses on average tax rates, average positive rates, or on tax revenues, polarization started as early as 1975 or as late as 2005. Moreover, this tax policy polarization generally precedes the polarization found using political measures, suggesting that political polarization in roll-call votes and speech patterns is not the main driver of polarization in tax policy.

Divergence in tax rates is clear in states with stable political environments, but not in states with unstable political environments, suggesting that gridlock may play an important role in impeding tax polarization. However, we find that states with unstable political environments make just as many tax changes, of nearly the same magnitude, so legislative impasse cannot fully explain this heterogeneity.

Finally, larger party majorities correlate with more extreme tax rates in recent decades. However, this pattern is weaker in prior periods, and we find no evidence that switching

from long periods of a Democratic majority to a Republican majority (or vice versa) leads to large changes in tax policy. Overall, while the most recent divergence of tax policies may be driven by political polarization, other factors will likely be required to explain prior patterns of similar magnitudes.

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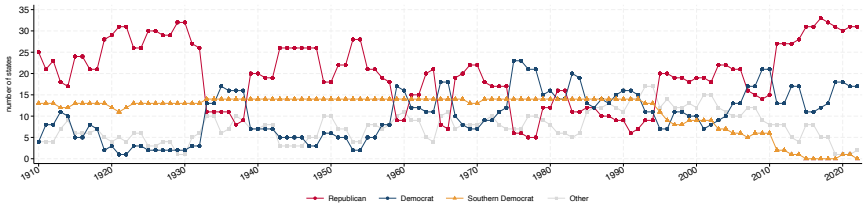
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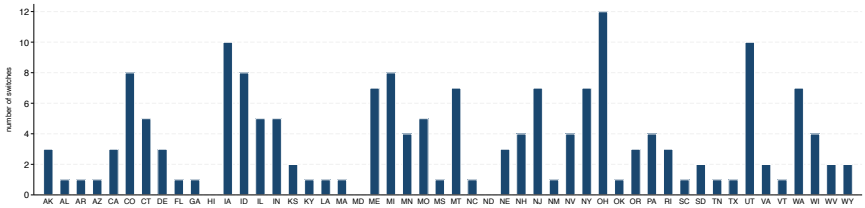
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Figure 1: Comparison of Political Measures

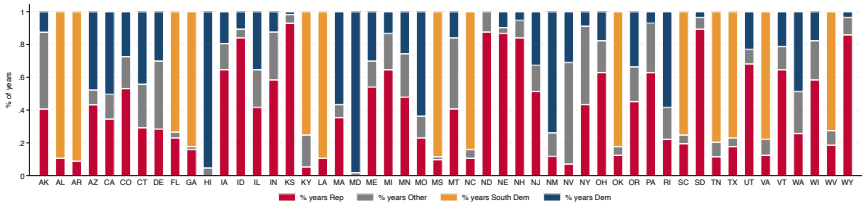
(a) Number of Observations



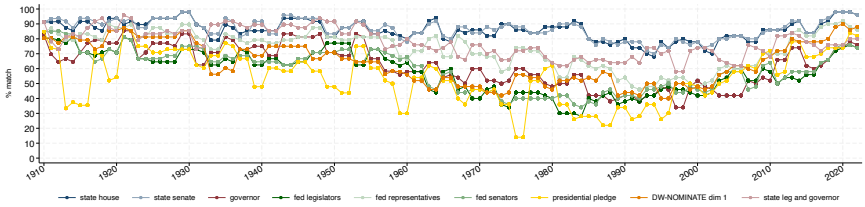
(b) Number of Republican ↔ Democrat Switches



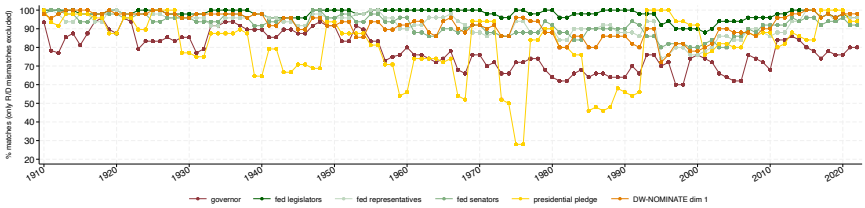
(c) Party Composition for Each State



(d) Percent of Matches



(e) Percent of Matches (Excluding Other)

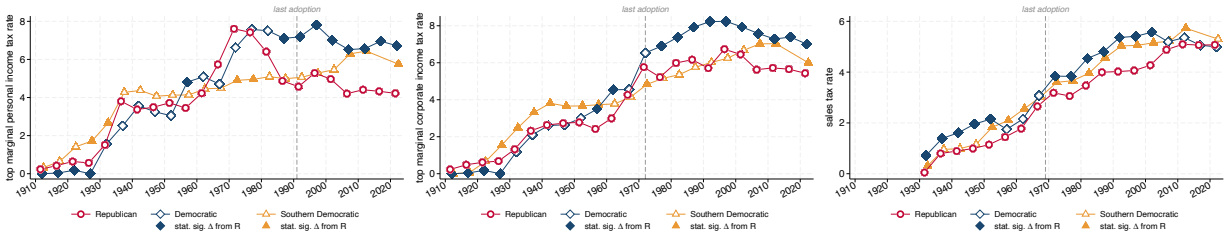


Notes: Figure (a) shows the number of states that are considered Republican, Democrat, or Southern Democrat in a given year. A state is considered Republican (Democrat) if both state house and state senate have Republican (Democratic) majority, and Southern Democrat if both state house and state senate have a Democratic majority and the state is AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, or WV. Figure (b) shows, for each state, the number of switches from Republican to Democratic majority and vice versa (while at the same time disregarding "Other" episodes). Figure (c) shows, for each state, the proportion of years spent in each party group. Figure (d) shows the percent of observations for which various alternative polarization measures match the value of our main measure, and Figure (e) repeats the exercise but excludes observations in the "Other" category. See Appendix J.1 for more comparisons.

Figure 2: Income/Sales Taxes in Republican vs. Democratic States

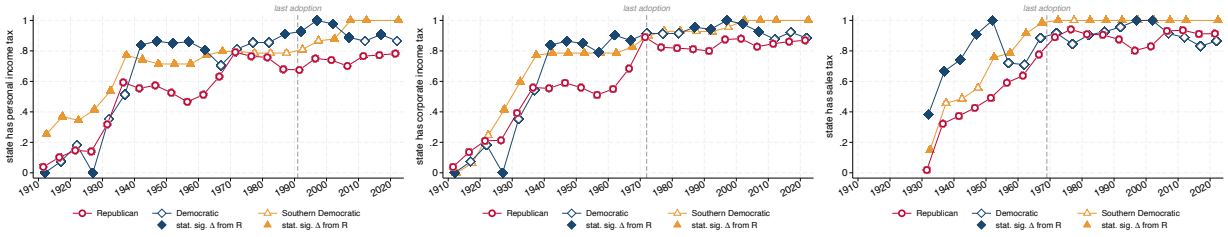
Panel A: Tax Rates

(a) Top Personal Income (b) Top Corporate Income (c) Sales



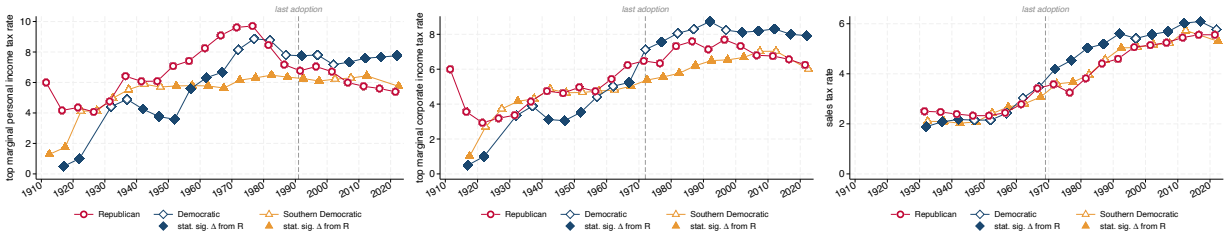
Panel B: Share of States with Non-Zero Rates (Extensive Margin)

(d) Top Personal Income (e) Top Corporate Income (f) Sales



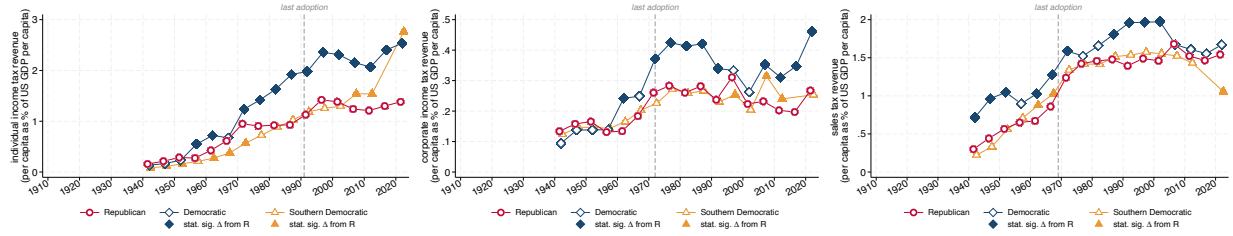
Panel C: Only Non-Zero Rates Included (Intensive Margin)

(g) Top Personal Income (h) Top Corporate Income (i) Sales



Panel D: Tax Revenues

(j) Personal Income (k) Corporate Income (l) Sales

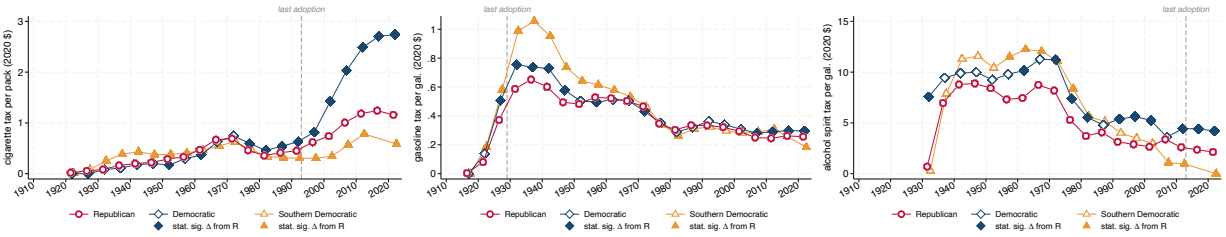


Notes: These figures show average tax rates and tax revenues in 5-year intervals among states that lean Republican or Democratic, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. See Appendix J for alternative definitions of Democratic and Republican states. Tax revenues in Panel D are measured per capita as a percent of GDP per capita. We omit Alaska tax revenues as these are exceptionally volatile.

Figure 3: Excise Taxes in Republican vs. Democratic States

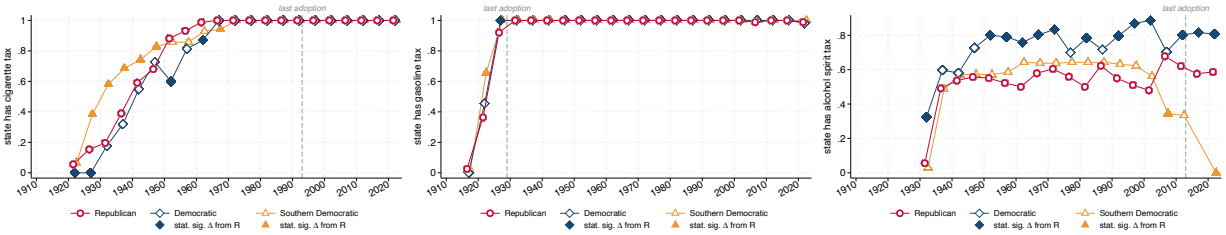
Panel A: Tax Rates

(a) Cigarette (b) Gasoline (c) Alcohol Spirit



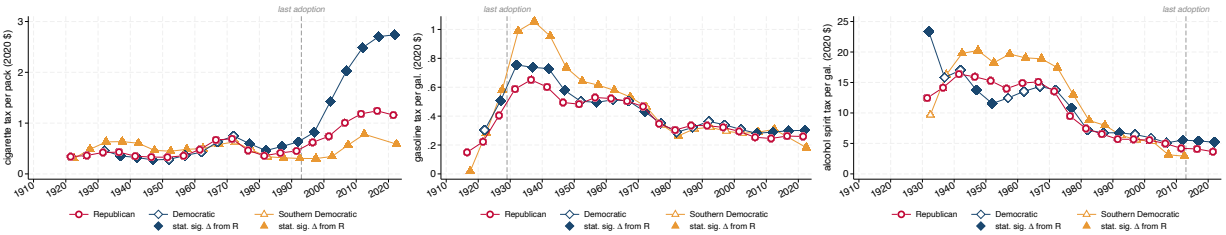
Panel B: Share of States with Non-Zero Rates (Extensive Margin)

(d) Cigarette (e) Gasoline (f) Alcohol Spirit



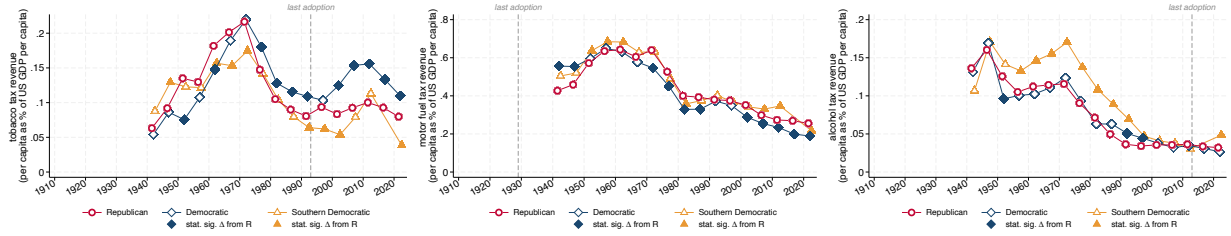
Panel C: Only Non-Zero Rates Included (Intensive Margin)

(g) Cigarette (h) Gasoline (i) Alcohol Spirit



Panel D: Tax Revenues

(j) Tobacco (k) Motor Fuel (l) Alcohol

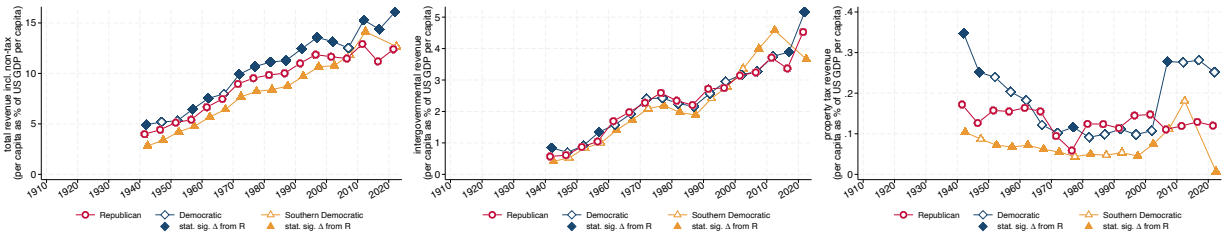


Notes: These figures show average tax rates and tax revenues in 5-year intervals among states that lean Republican or Democratic, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. See Appendix J for alternative definitions of Democratic and Republican states. Tax revenues in Panel D are measured per capita as a percent of GDP per capita. We omit Alaska tax revenues as these are exceptionally volatile.

Figure 4: Other Revenues and Expenditures in Republican vs. Democratic States

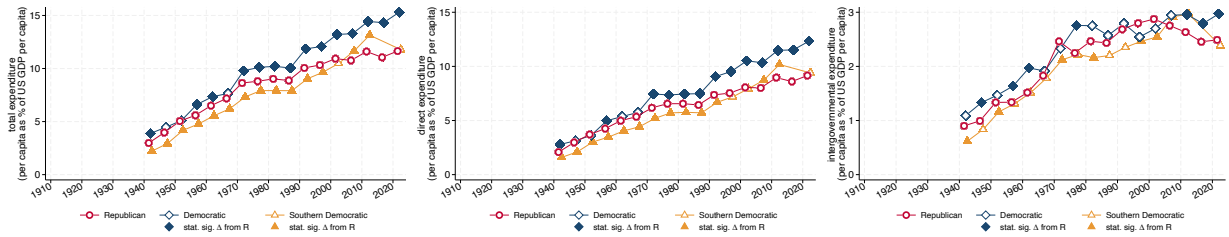
Panel A: Other Revenues

(a) Total Including Non-Tax (b) Intergovernmental (Non-Tax) (c) Property

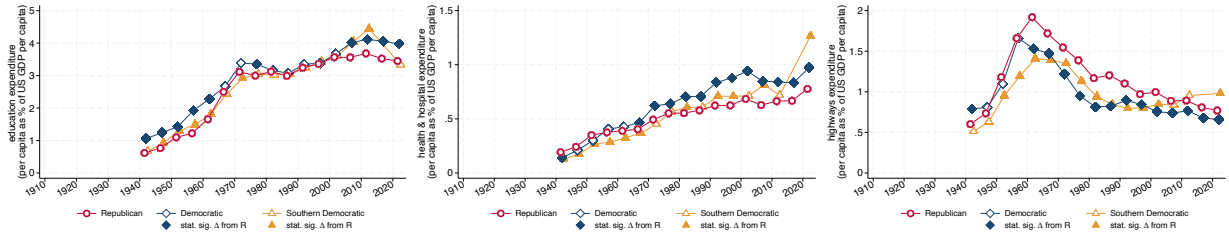


Panel B: Expenditures

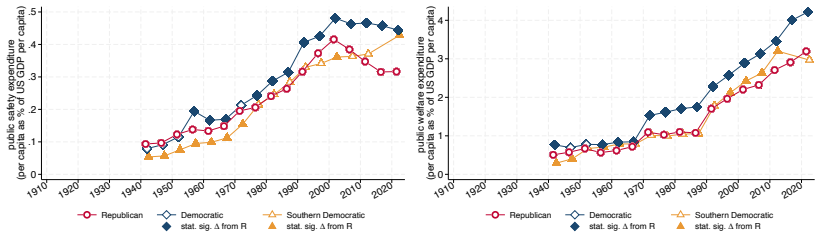
(d) Total (e) Total Direct (f) Total Intergovernmental



(g) Education (h) Health & Hospitals (i) Highways



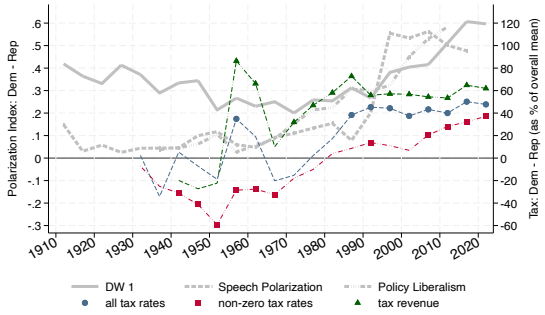
(j) Public Safety (k) Public Welfare



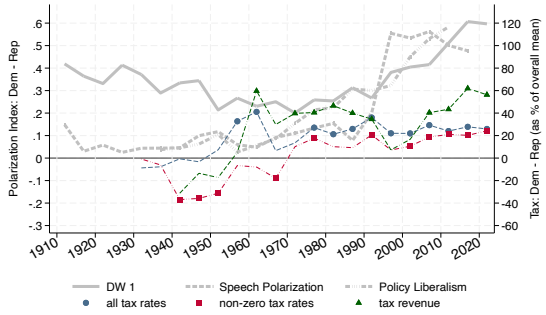
Notes: These figures show average revenues and expenditures (measured per capita as a percent of GDP per capita) in 5-year intervals among states that lean Republican or Democratic, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. Figures (g)-(k) include both direct and intergovernmental expenditures. We omit Alaska revenues and expenditures due to exceptional volatility. See revenue and expenditure categories as shares of total in Appendix Figures D.4 and D.5.

Figure 5: Democratic-Republican Differences in Tax Policy, Ideology and More

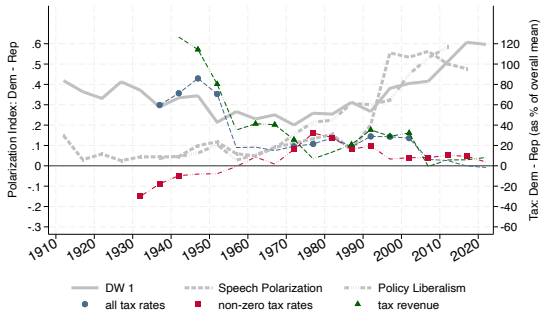
(a) Personal Income Tax



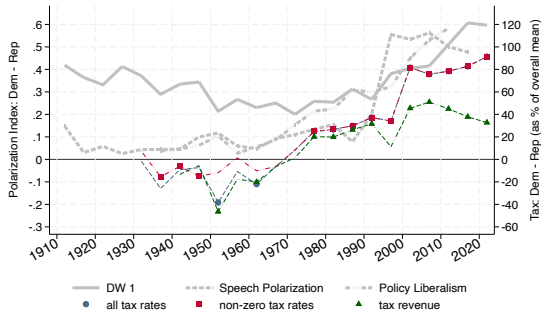
(b) Corporate Income Tax



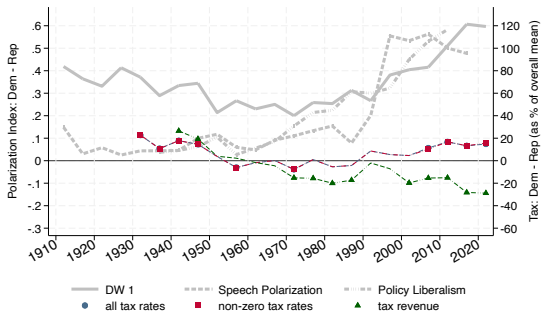
(c) Sales Tax



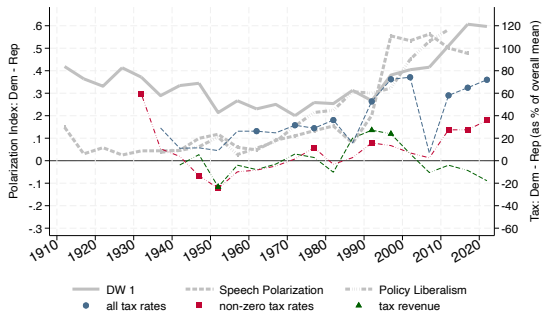
(d) Cigarette Tax



(e) Gasoline Tax



(f) Alcohol Tax

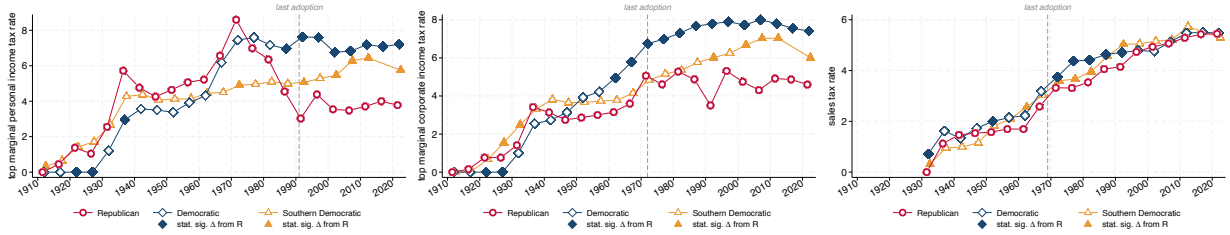


Notes: These figures show differences in average tax rates and tax revenues in 5-year intervals between Democratic and Republican states, alongside differences in measures of political ideology. State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. The right y-axis, for tax outcomes, measures the difference in means divided by the mean value across all parties. The left y-axis measures the difference in means for the DW-NOMINATE Dimension 1 score for each state's U.S. Senators and Representatives, and for the policy idealism index from Caughey and Warshaw (2016), the latter divided by 4 for comparable scale. In addition, the figure includes the posterior estimates from Gentzkow et al. (2019) for tax-related speech. Here we plot the overall average (for both Republican and Democrat states), after subtracting 0.5 and multiplying by 10, again for comparable scale. These posterior estimates measure how likely a neutral observer expects to guess a speaker's true party after hearing a single phrase. Periods in which the differences in means are statistically different from zero at the 95% level are shown with a solid marker.

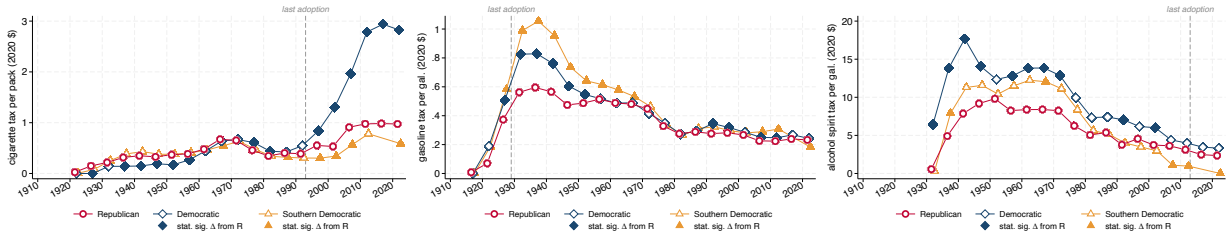
Figure 6: Tax Rates in Politically Stable vs. Unstable States

Panel A: Stable States (0-2 Party Switches)

(a) Top Personal Income (b) Top Corporate Income (c) Sales

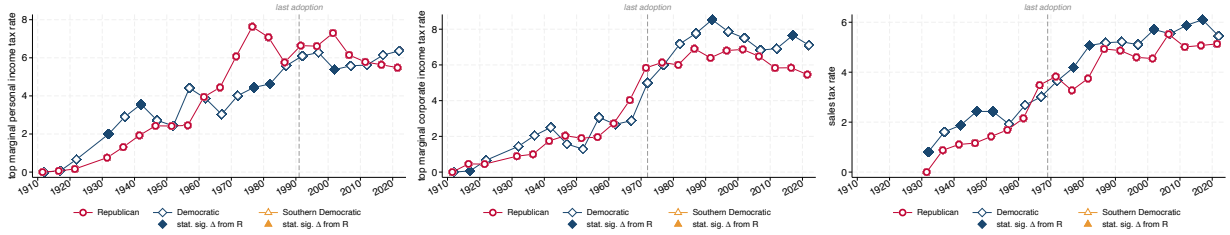


(d) Cigarette (e) Gasoline (f) Alcohol Spirit

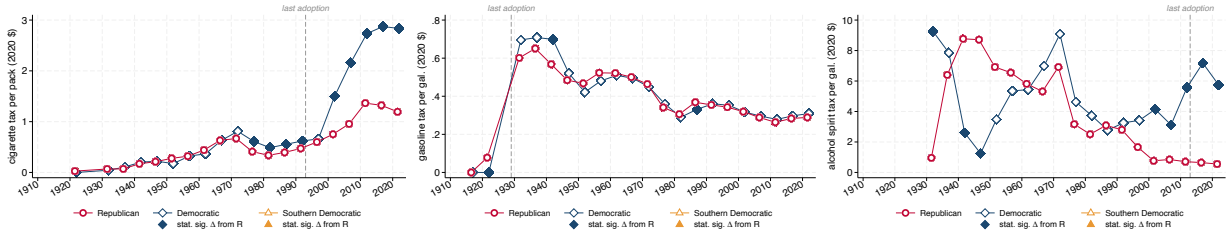


Panel B: Unstable States (5+ Party Switches)

(g) Top Personal Income (h) Top Corporate Income (i) Sales



(j) Cigarette (k) Gasoline (l) Alcohol Spirit



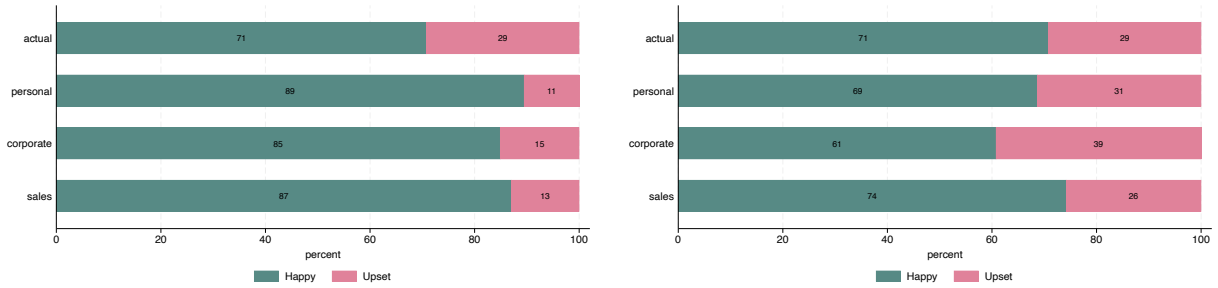
Notes: The sample in Panel A is limited to states that switched majorities at most twice during 1910-2022, while states that switched majorities 5 or more times during the studied period are included in Panel B (see Figure 1(b) for switches by state). These figures show average tax rates in 5-year intervals among states that lean Republican or Democratic, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. See Appendix Figure I.28 for similar analysis with non-zero tax rates only, and Figures I.29 and I.30 for revenues.

Figure 7: Presidential Elections and State Policies

Panel A: States That Voted for Republican Presidential Candidate

(a) Tax Increases

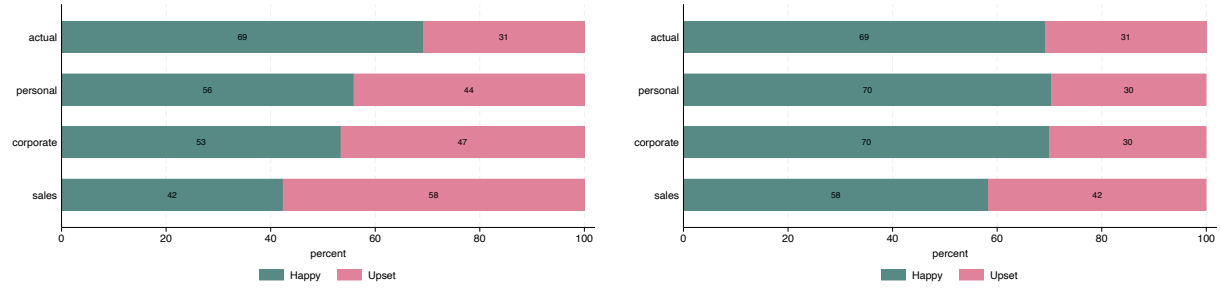
(b) Tax Decreases



Panel B: States That Voted for Democratic Presidential Candidate

(c) Tax Increases

(d) Tax Decreases

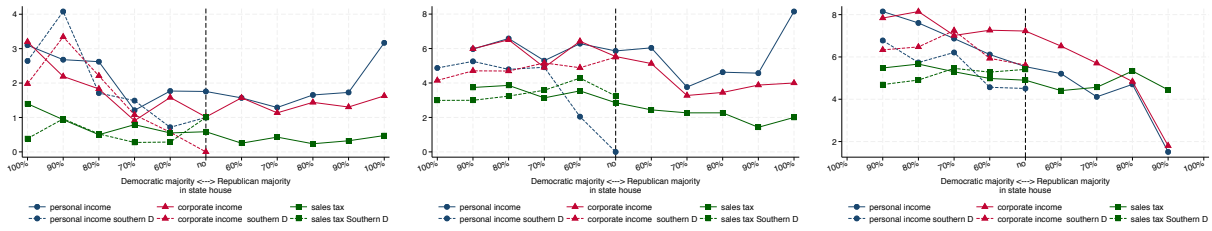


Notes: The sample in Panel A is limited to states that voted for the Republican candidate in the most recent presidential election, while states with more votes for the Democratic candidate are included in Panel B. The top row of each figure shows the proportion of years where the state's preferred candidate won ("Happy") vs. lost ("Upset"). The remaining rows show the proportion of tax increases or tax decreases that occurred during happy vs. upset periods. The extent to which the tax change proportions differ from the actual proportions of years captures the degree to which states react to federal politics. All years and states with non-zero rates are included. See also Appendix Figure H.27 for results separately pre- and post-2000.

Figure 8: Tax Rates by Strength of Majority

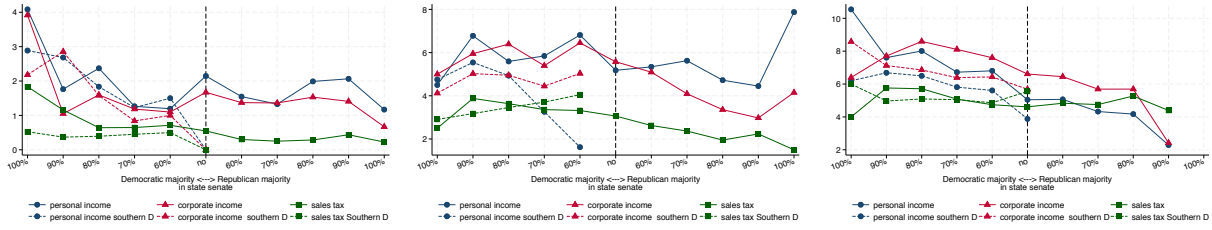
Panel A: Strength of State House Majority

(a) 1910-1950 (b) 1951-1990 (c) 1991-2022



Panel B: Strength of State Senate Majority

(d) 1910-1950 (e) 1951-1990 (f) 1991-2022

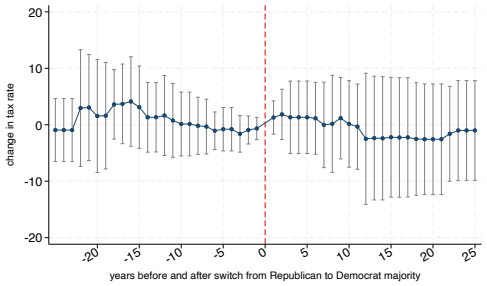


Notes: These figures show average tax rates by the strength of Democratic or Republican majority within the state house and senate. For each legislative chamber, we bin states into eleven groups of Republican control (i.e., where 80% means that 75-85% of the seats are held by Republicans), and then calculate the average tax rate within each group. States with Democratic majorities are further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. See Appendix F for additional results.

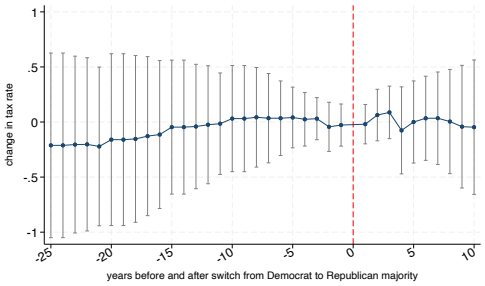
Figure 9: Switching from Republican to Democratic Majority and Vice Versa

Top Personal Income Tax Rate

(a) R → D Switch

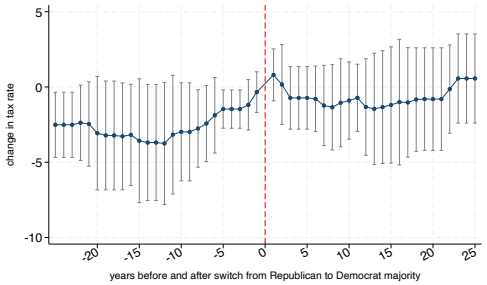


(b) D → R Switch

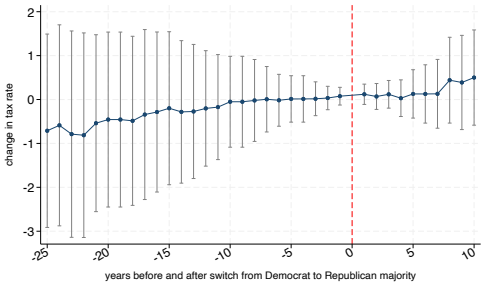


Top Corporate Income Tax Rate

(c) R → D Switch

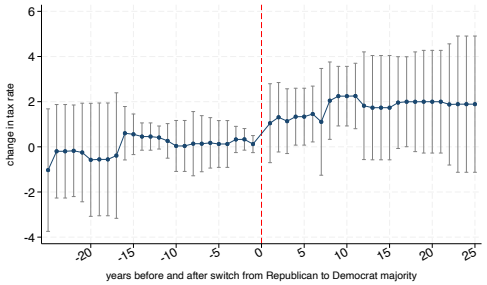


(d) D → R Switch

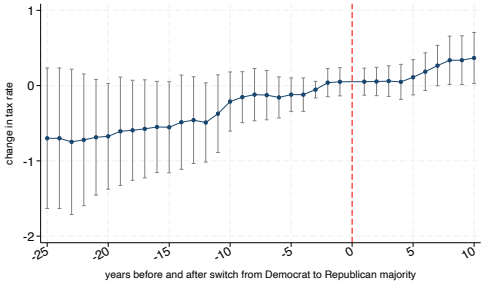


Sales Tax Rate

(e) R → D Switch



(f) D → R Switch



Notes: Five states switched from having a Republican majority to a Democratic majority in their state house and senate: CA in 1957-1959, MA in 1955-1959, NM in 1931-1933, VT in 1985-2005, and WV in 1931-1933. Fifteen states switched from having a Democratic majority to a Republican majority in their state house and senate: AL in 2011, AR in 2013, AZ in 1967, FL in 1993-1997, GA in 2003-2005, KY in 1997-2017, LA in 2011, MS in 2011-2012, NC in 2011, OK in 2005-2009, SC in 1995-2001, TN in 2005-2010, TX in 1997-2003, VA in 1996-2000, and WV in 2015. In all figures, year zero identifies the year in which Democrats/Republicans no longer had a majority in either senate or house, while year one identifies the first year the opposite party secured majorities in both chambers. In other words, the period of divided government (if any) is omitted. HI, ND, WY, MD, SD, and KS are included as control states. Figures plot coefficients from the following specification: $tax_{st} = \sum_t 1_t + \gamma_t + \delta_s + \varepsilon_{st}$, which includes state and 5-year fixed effects. We do not employ a log-specification in order to include states with zero tax rates. Standard errors clustered at the state level. See Appendix G for alternative specifications.

APPENDIX FOR ONLINE PUBLICATION

"Are U.S. State Tax Policies Increasingly Polarized?"

by Sarah Robinson and Alisa Tazhitdinova

A Political Data

We collected information on state legislative majorities and governor's party affiliation from Wikipedia, between April 22 and May 2, 2024. The entries are occasionally updated, however, the vast majority of updates do not change the party in majority, only the relative strength of majority.

For state legislatures that include members of the Republican and Democratic parties, as well as other party affiliations (e.g. "Independent-Democrat" or "Silver Republican"), these other members are counted as "Other" and therefore are not included in the count of Republican/Democratic legislators. With the exception of the two states discussed next, the number of these members is very small and does not affect the calculation of majority. The exceptions to these rules are: Minnesota and Nebraska.

Between 1915 and 1973, the Minnesota Legislature was non-partisan. However, legislators still caucused as "conservatives" or "liberals," with categories roughly equivalent to Republicans and Democrats. We assign majorities based on these categories. For years 1915-1950, majorities do not feature exact counts of conservative/liberal legislators. For completeness, in these years the party with majority was assigned 75% of the seats.

Similarly, the Nebraska legislature has been non-partisan since 1936. Furthermore, the state's legislature is the only unicameral legislature among U.S. states. Nonetheless, approximate party affiliation can again be determined based off of state party endorsements, and once again we use these to assign majorities. For years 1910-1936, we obtain information on actual counts of conservative/liberal legislators from Dubin (2007). To match other states, we format the data *as if* Nebraska had a senate and a house, by assigning the same majority

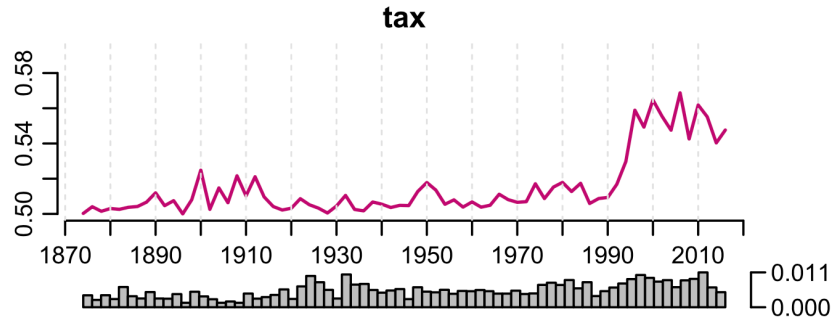
to each chamber.

In cases where a governor left before their term was up and was replaced with a governor from the opposite political party, the party is recorded based on the governor who was in the office for the majority of that year. Governor vacancies are assigned to the "Other" category.

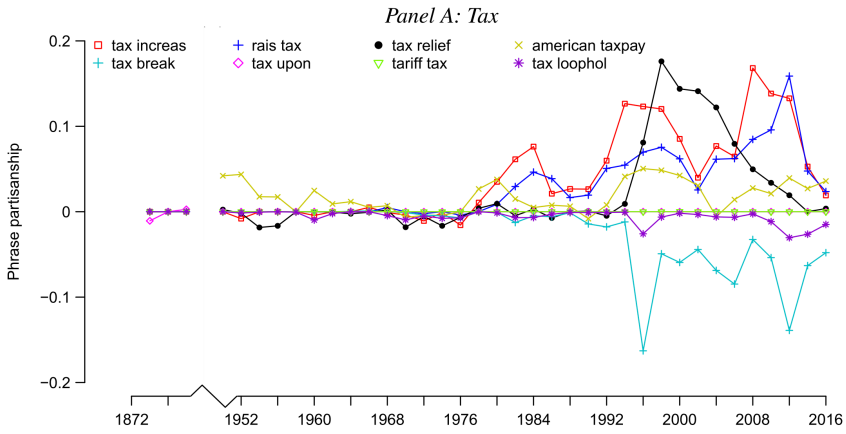
B Suggestive Evidence on Tax-Related Speech Polarization from Gentzkow et al. (2019)

Figure B.1: Polarization of Tax-Related Speeches: Gentzkow et al. (2019)

(a) Polarization in Speech Related to Taxes



(b) Examples of Polarized Words Related to Taxes

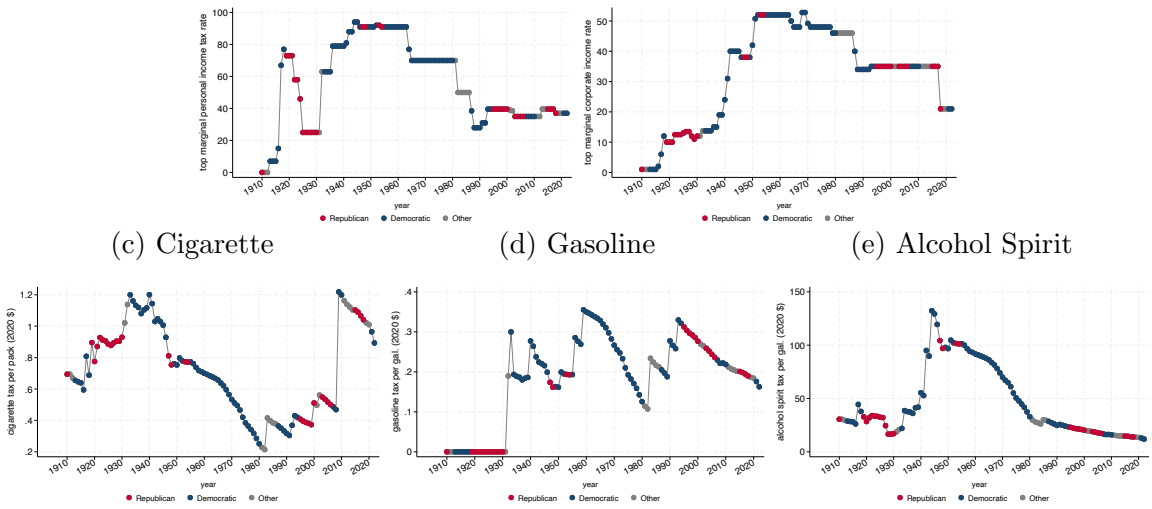


Notes: These figures reproduce Figure 6 and Figure 7A from Gentzkow et al. (2019).

C Federal Tax Policy

Figure C.2: Federal Tax Rates

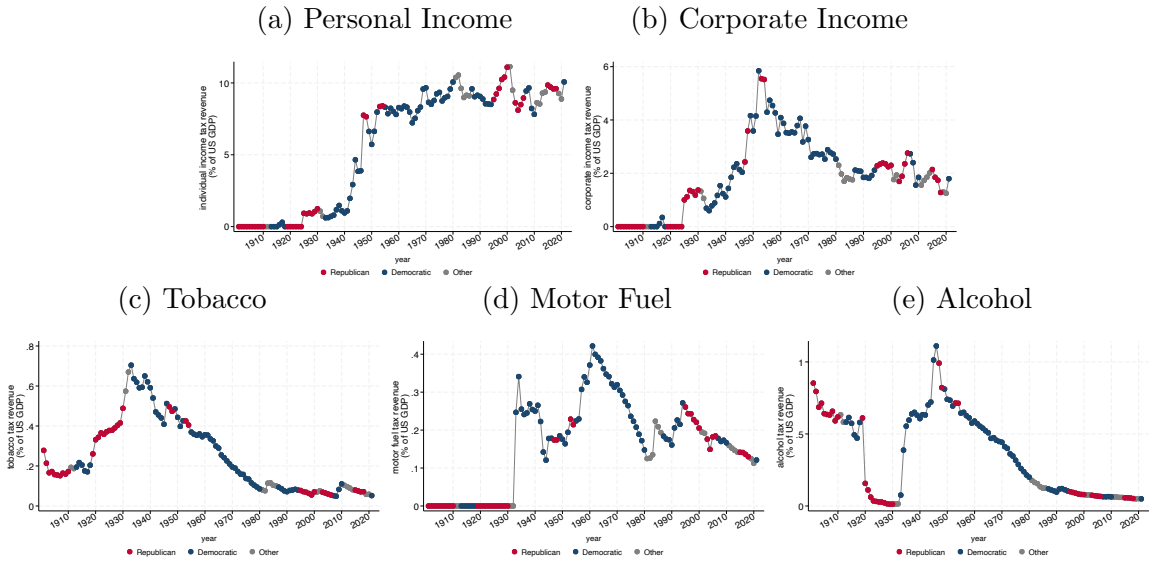
(a) Top Personal Income (b) Top Corporate Income



(c) Cigarette (d) Gasoline (e) Alcohol Spirit

Notes: These figures show federal tax rates by party control of U.S. Congress. Each year is considered Democratically- (Republican-) controlled if both the U.S. Senate and the U.S. House have a Democratic (Republican) majority. See Appendix J.5 for alternative definitions of Democratic and Republican years.

Figure C.3: Federal Tax Revenues

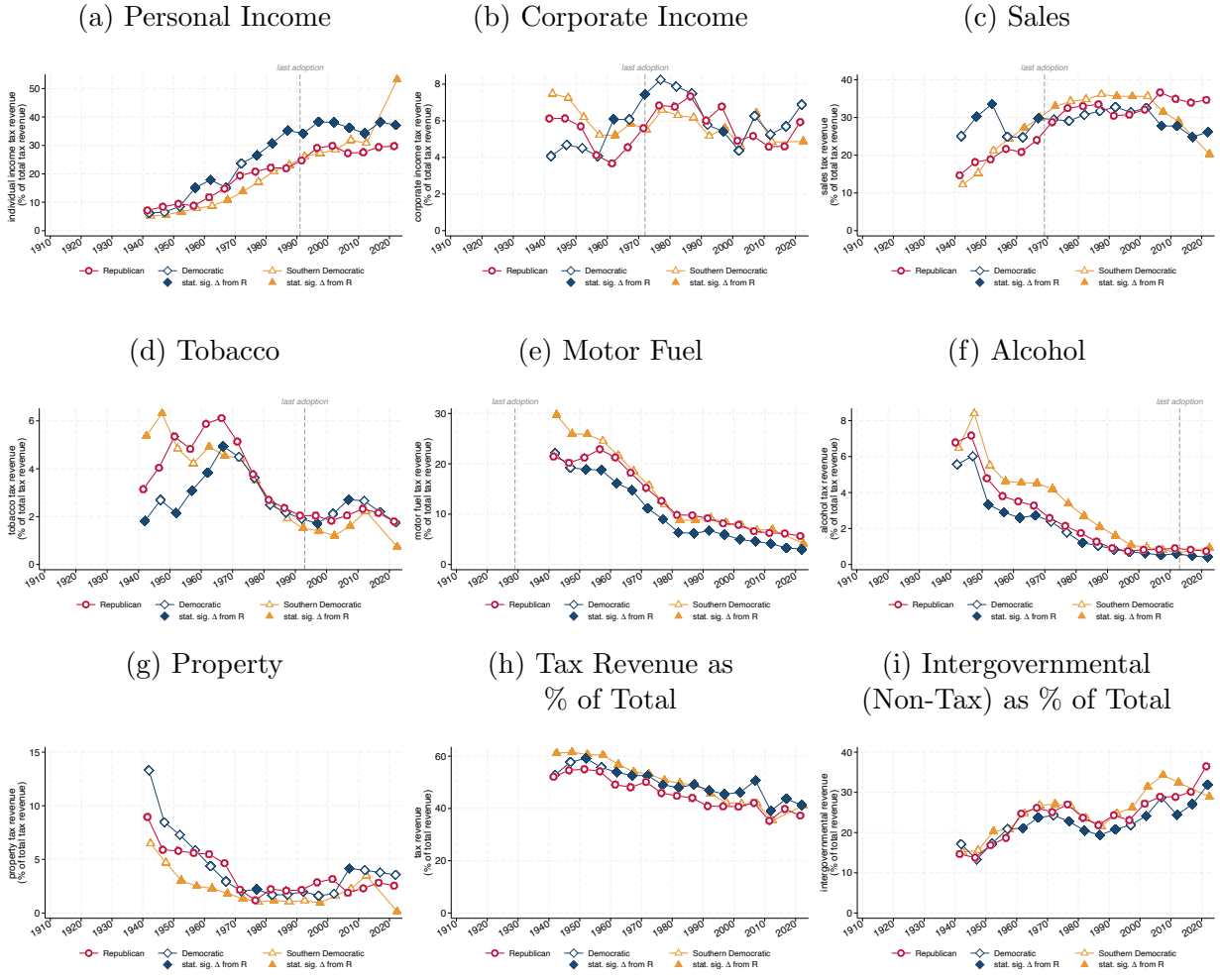


Notes: These figures show federal tax revenues (measured as a percent of US GDP) by party control of U.S. Congress. Each year is considered Democratically- (Republican-) controlled if both the U.S. Senate and the U.S. House have a Democratic (Republican) majority. See Appendix J.5 for alternative definitions of Democratic and Republican years.

D Other Tax Outcomes

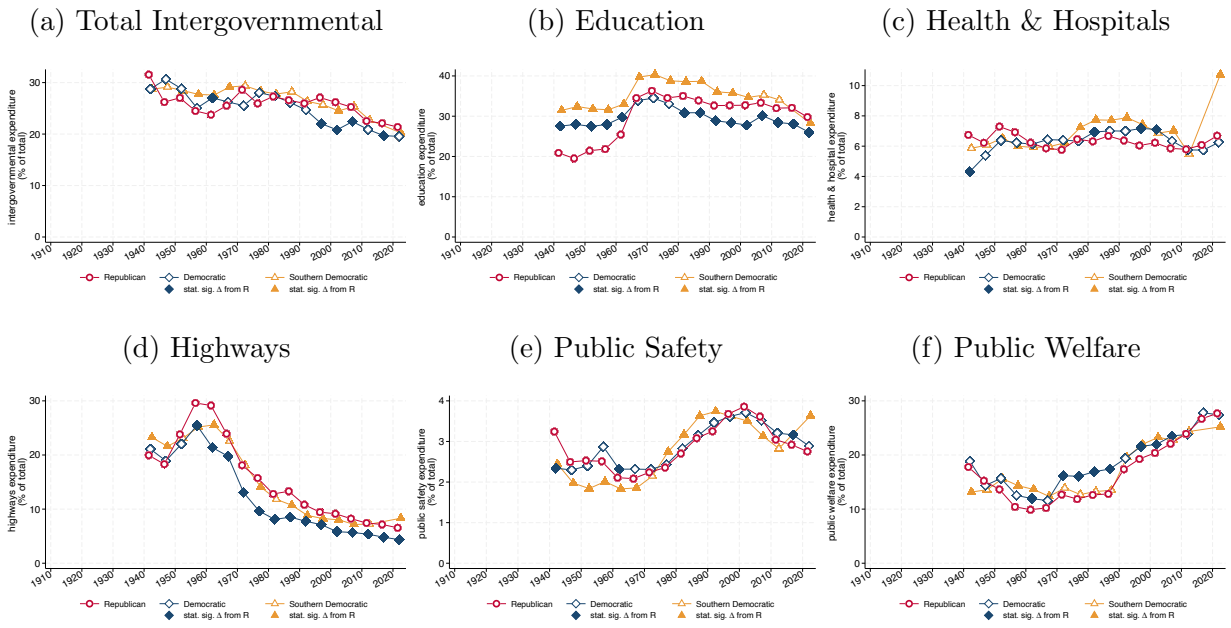
D.1 Revenue and Expenditure Shares

Figure D.4: Revenue Shares



Notes: These figures show average revenues (measured as share of total) in 5-year intervals among states that lean Republican or Democratic, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. We omit Alaska revenues and expenditures due to exceptional volatility.

Figure D.5: Expenditures Shares



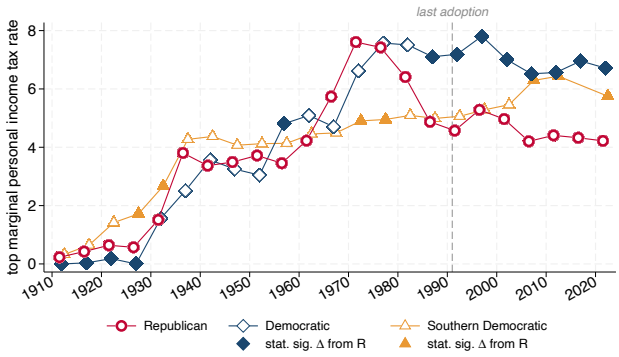
Notes: These figures show average expenditures (measured as share of total) in 5-year intervals among states that lean Republican or Democratic, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. Figures (b)-(f) include both direct and intergovernmental expenditures. We omit Alaska revenues and expenditures due to exceptional volatility.

D.2 Income Tax Progressivity

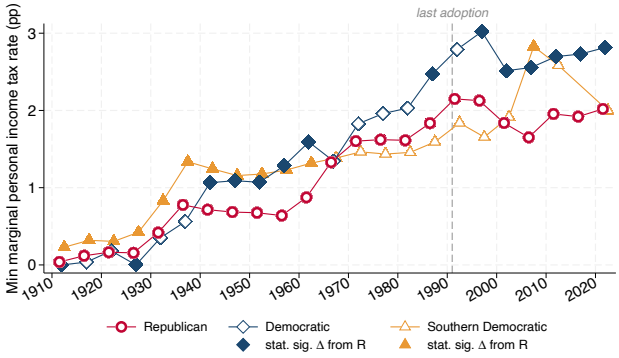
Figure D.6: Top & Minimum Personal Income Tax Rates

Panel A: All Tax Rates Included

(a) Top Personal Income

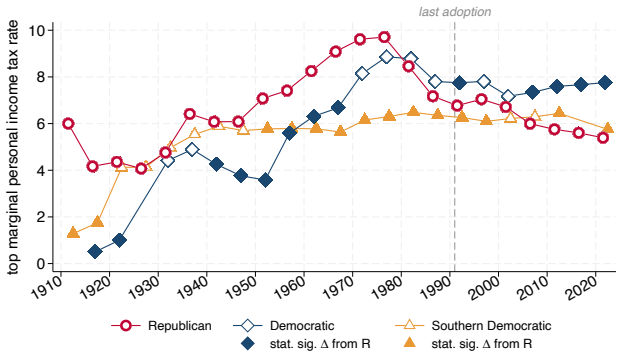


(b) Min Personal Income

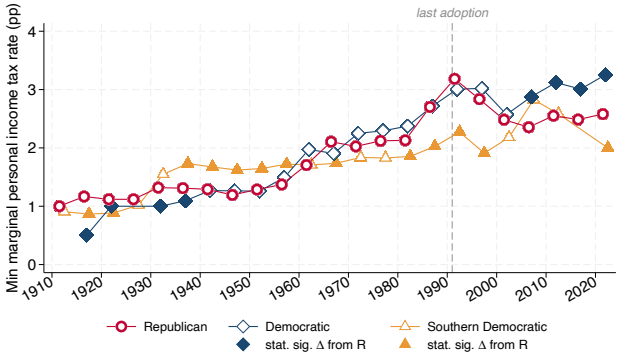


Panel B: Only Non-Zero Rates Included (Intensive Margin)

(c) Top Personal Income



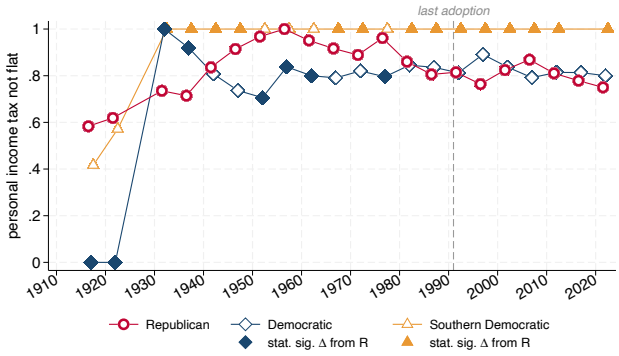
(d) Min Personal Income



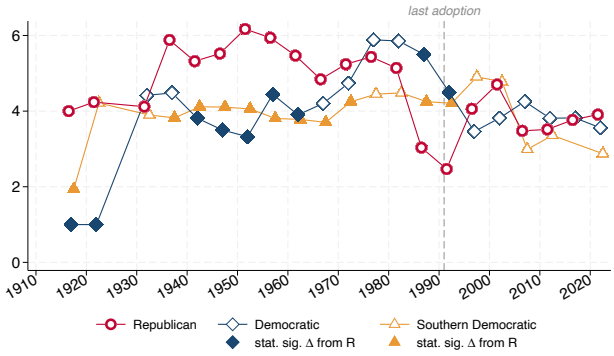
Notes: These figures show average tax rates in 5-year intervals among states that lean Republican or Democratic, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown.

Figure D.7: Personal Income Tax Progressivity in Republican vs. Democratic States

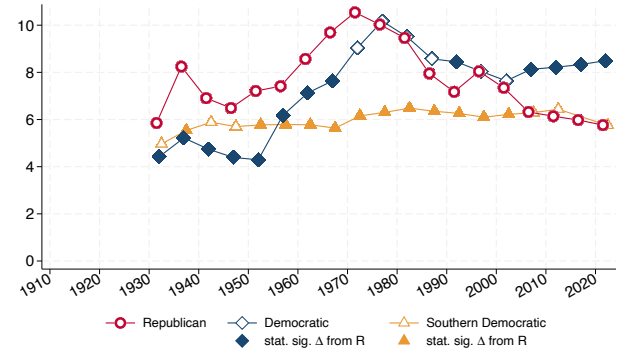
(a) Share with Progressive Tax Schedule



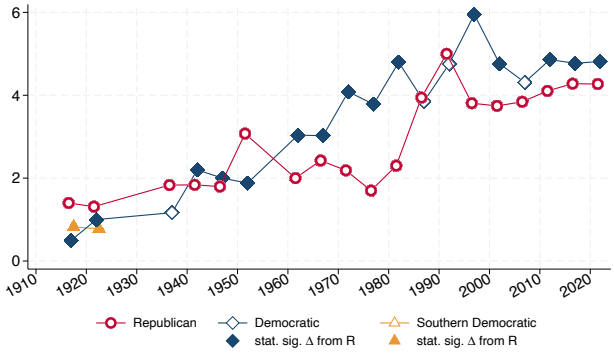
(b) Ratio of Top/Min Tax Rates



(c) Top Personal Income Tax Rate



(d) Flat Personal Income Tax Rate

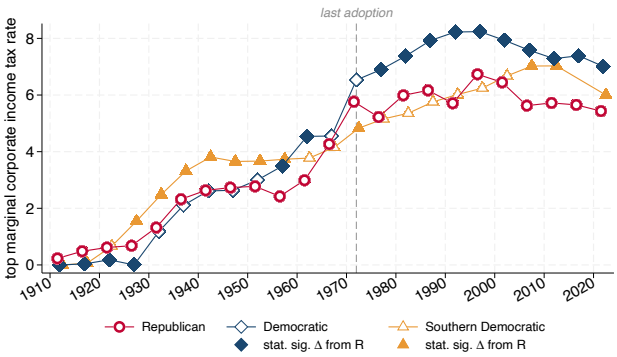


Notes: These figures show average tax rates in 5-year intervals among states that lean Republican or Democratic, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. Only states with non-zero tax rates (i.e. those who have adopted a given tax type) are included in each group.

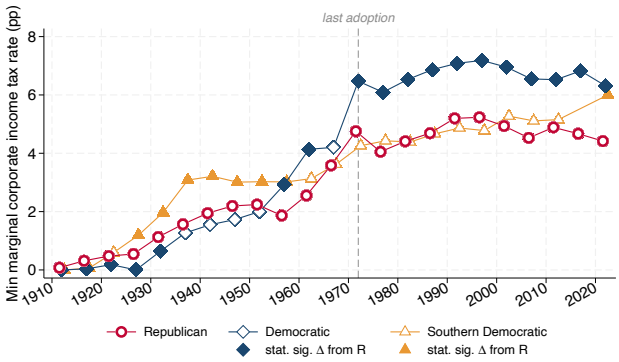
Figure D.8: Top & Minimum Corporate Income Tax Rates

Panel A: All Tax Rates Included

(a) Top Corporate Income

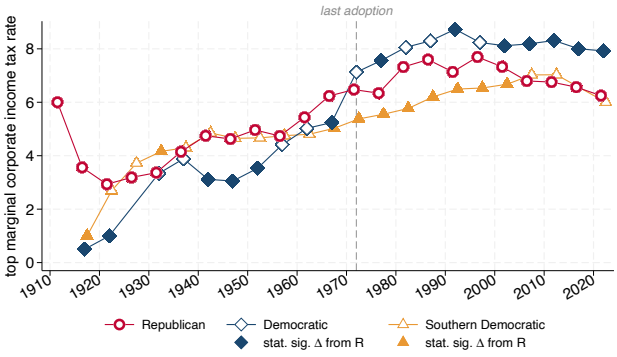


(b) Min Corporate Income

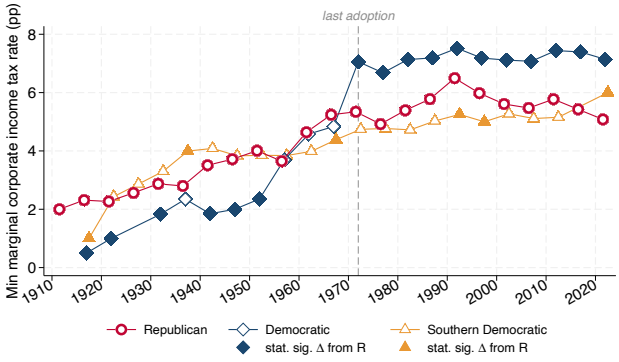


Panel B: Only Non-Zero Rates Included (Intensive Margin)

(c) Top Corporate Income



(d) Min Corporate Income

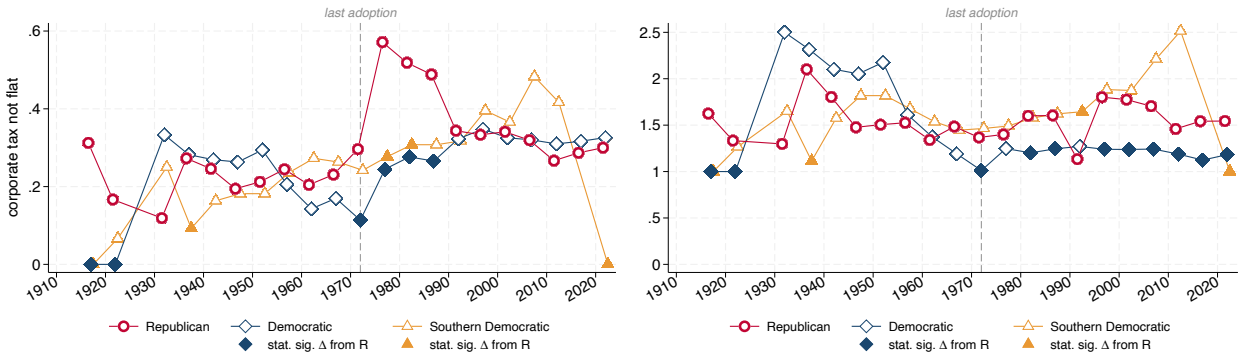


Notes: These figures show average tax rates in 5-year intervals among states that lean Republican or Democratic, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown.

Figure D.9: Corporate Income Tax Progressivity in Republican vs. Democratic States

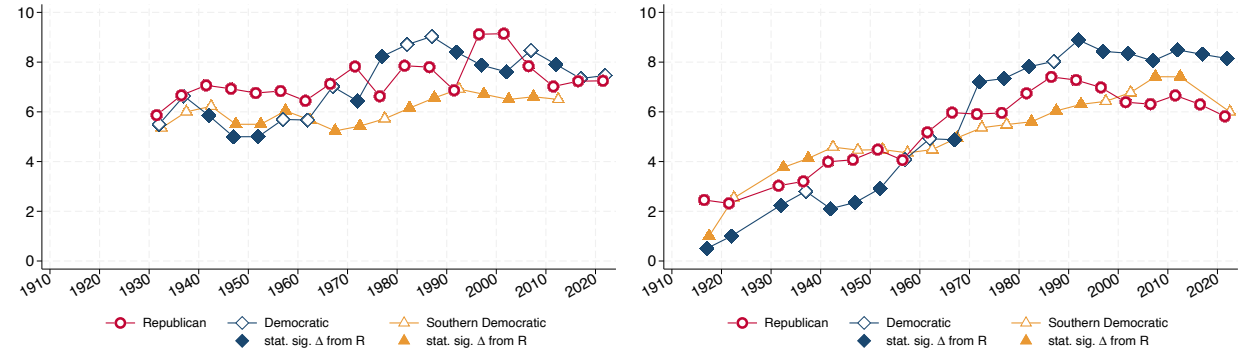
(a) Share with Progressive Tax Schedule

(b) Ratio of Top/Min Tax Rates



(c) Top Corporate Income Tax Rate

(d) Flat Corporate Income Tax Rate



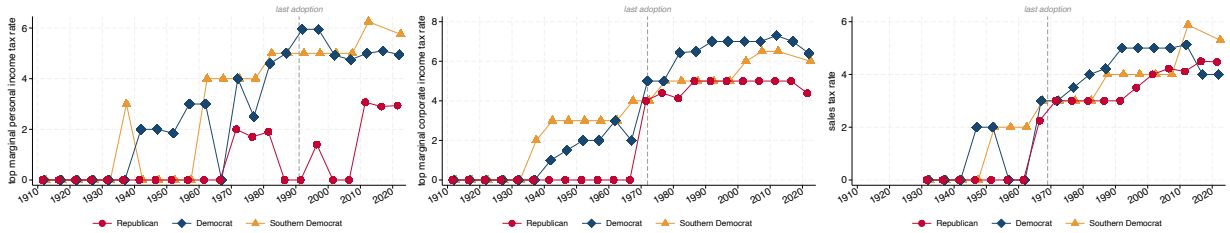
Notes: These figures show average tax rates in 5-year intervals among states that lean Republican or Democratic, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. Only states with non-zero tax rates (i.e. those who have adopted a given tax type) are included in each group.

E Comparing Distributions of Tax Rates

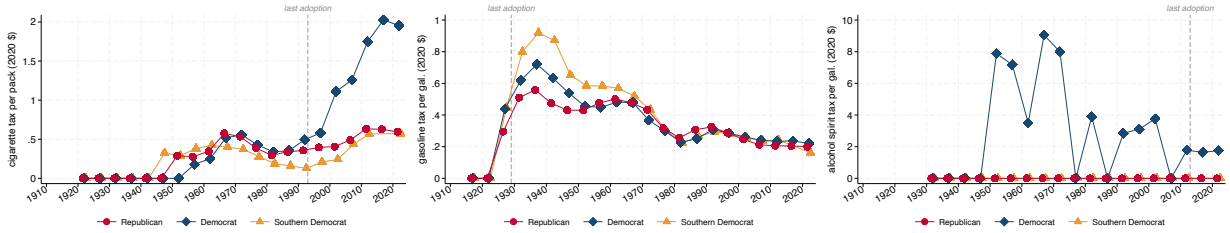
E.1 Percentiles and Dispersion

Figure E.10: 25th Percentile of Tax Rates

(a) Top Personal Income (b) Top Corporate Income (c) Sales



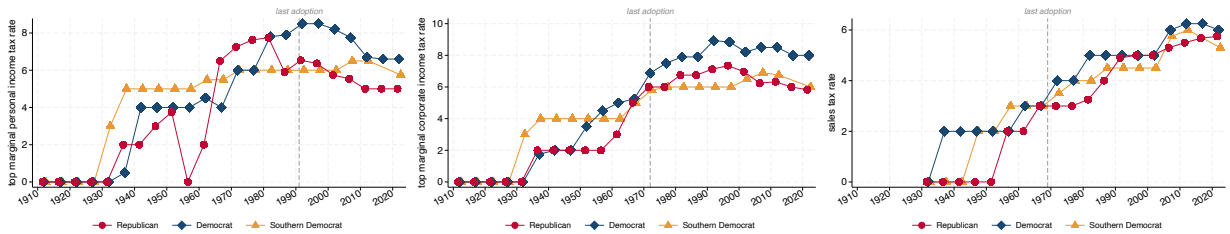
(d) Cigarette (e) Gasoline (f) Alcohol Spirit



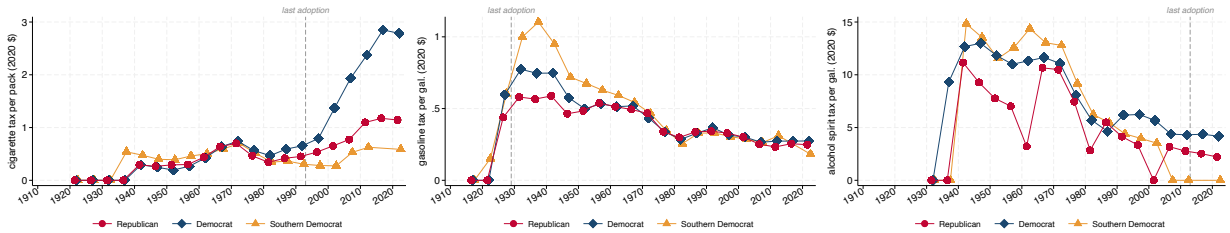
Notes: These figures show the 25th percentile of tax rates (including rates of zero) in 5-year intervals among states that lean Republican or Democratic, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority.

Figure E.11: Median of Tax Rates

(a) Top Personal Income (b) Top Corporate Income (c) Sales



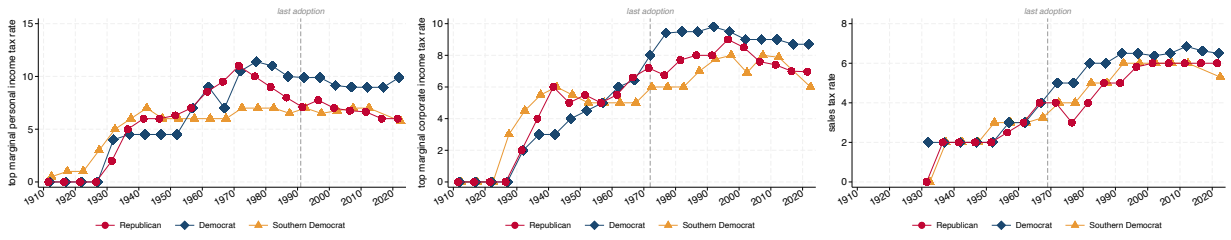
(d) Cigarette (e) Gasoline (f) Alcohol Spirit



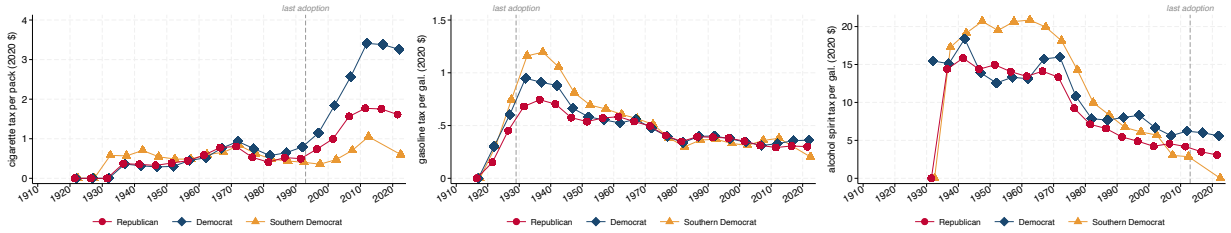
Notes: These figures show median tax rates (including rates of zero) in 5-year intervals among states that lean Republican or Democratic, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority.

Figure E.12: 75th Percentile of Tax Rates

(a) Top Personal Income (b) Top Corporate Income (c) Sales



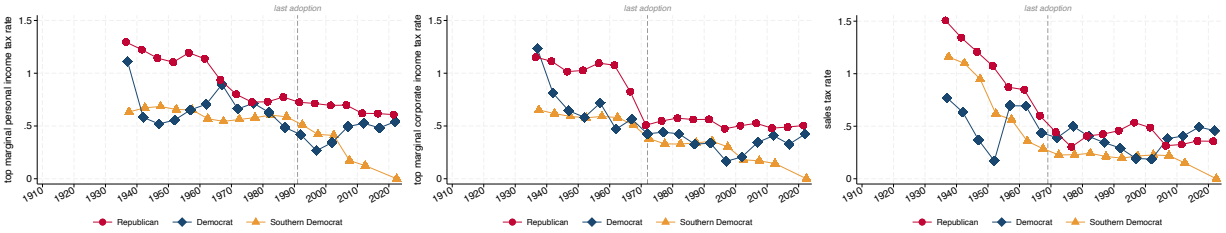
(d) Cigarette (e) Gasoline (f) Alcohol Spirit



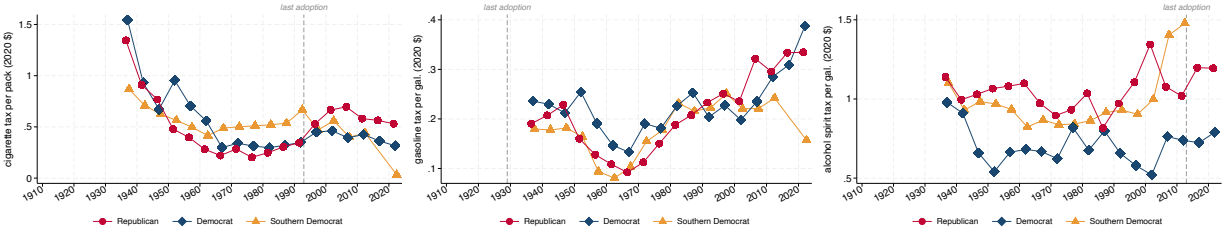
Notes: These figures show the 75th percentile of tax rates (including rates of zero) in 5-year intervals among states that lean Republican or Democratic, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority.

Figure E.13: Coefficient of Variation

(a) Top Personal Income (b) Top Corporate Income (c) Sales



(d) Cigarette (e) Gasoline (f) Alcohol Spirit



Notes: These figures show the coefficient of variation (standard deviation divided by the mean) for tax rates (including rates of zero) in 5-year intervals among states that lean Republican or Democratic, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. Years prior to 1935 are excluded due to low rates of tax adoption.

E.2 Non-Overlap in Tax Rate Distributions

In this section, we examine the extent to which the studied tax outcomes do or do not overlap between Republican and Democrat states over time. We calculate the amount of non-overlap in the distributions of tax rates by legislative majority, where non-overlap between Republican and Democratic states is measured as the percent of Democratic states that are excluded from the Republican range (i.e., have tax rates above the Republican maximum or below the Republican minimum), plus the percent of Republican states that are excluded from the Democratic range, divided by 2. This measure ranges from 0 (if the Republican range and Democratic range are identical) to 100% (if the Republican range and Democratic range do not overlap at all). We calculate this measure in three ways. First, measuring non-overlap among all Republican/Democratic states. Second (third), by dropping states in the bottom 10th (15th) and top 10th (15th) percentiles of rates within each group before calculating the non-overlap. Appendix Figure E.14 illustrates in greater detail how the non-overlap measures are calculated.

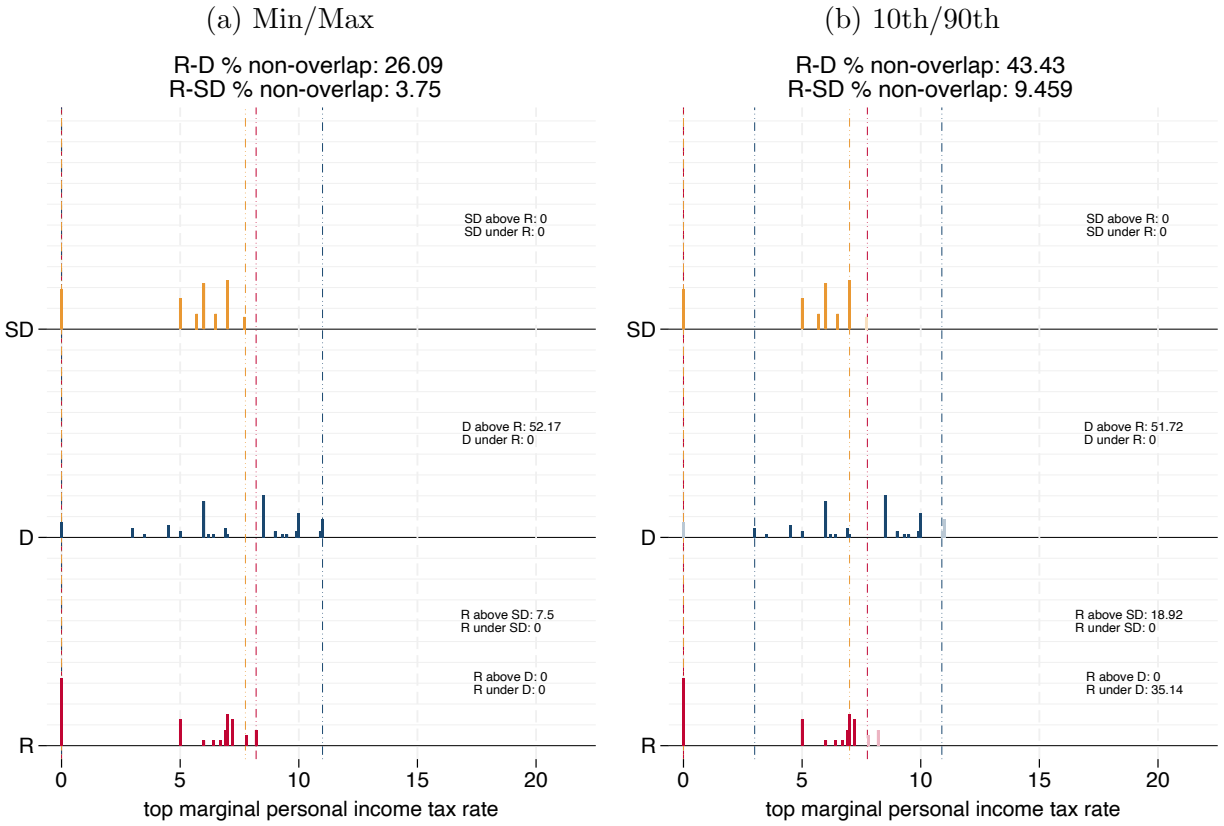
As Figure E.15 illustrates, changes in means that are driven by the shifts of the overall distributions will result in larger non-overlaps than changes that are driven by a small number of extreme states.

Panel A of Figure E.16 shows that tax rates are mostly overlapping between groups across the time period, typically demonstrating 20% or less non-overlap when all tax rates are included. Non-overlap is high in later years for tobacco taxes, a period when the means were also very different across groups. Similarly, for personal income taxes, non-overlap increased starting in the mid-1990s, when the means begin to diverge. However, the non-overlap measure of polarization does not correspond one to one to what we find regarding the means. For example, personal income tax non-overlap decreases in the 2000s, even though the difference in means is stable. Similarly, several tax rates (e.g., personal income tax, sales tax) show periods of high non-overlap even when there is no detectable difference in means. This suggests that polarization is driven both by outliers and shifts in the entire distribution,

with different changes occurring at different points in time, and frequently. When zero tax rates are excluded (Panel B), the degree of non-overlap is higher and more varied over time. This implies that non-overlap at the bottom part of the distribution plays an important role as well, and polarization is not driven exclusively by states with the highest tax rates. Figures E.17-E.18 show larger levels of non-overlap, particularly in recent years.

Together, Figures E.16-E.18 suggest that while the overall range (i.e. min-max) of rates in Republican and Democratic states is largely the same, the distributions are not always the same. Overall, differences in averages do not appear to be driven by outliers.

Figure E.14: Example: Calculating Non-Overlap in Tax Rates (Min/Max)
Top Personal Income Tax (Including Zeros), 1990-1994

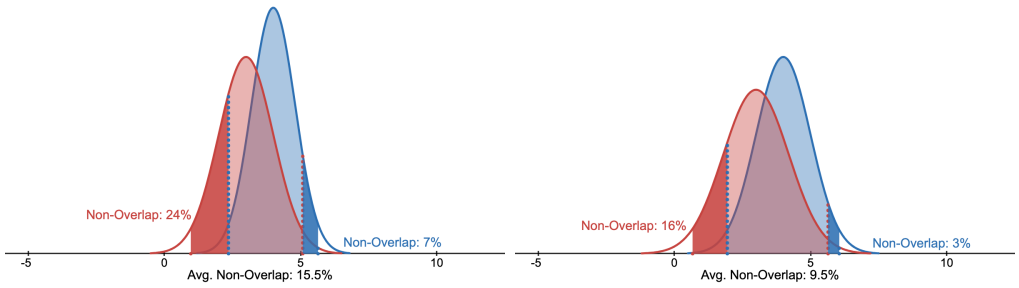


Notes: These figures illustrate our measures for the amount of non-overlap in tax rates between states that lean Republican vs. Democrats and Republican vs. Southern Democrats, for the top personal income tax (including zeros) during the 1989-1993 interval. Histograms for the tax rate are shown separately for Republican states (red), Democratic states (blue), and Southern Democratic states (yellow). Vertical dashed lines mark the minimum and maximum tax rates for each group – Republican state tax rates ranged from [0, 8.2], Democratic states ranged from [0, 11], and Southern Democratic states ranged from [0, 7.75]. Non-overlap between Republican and Democratic states is measured as the percent of Democratic states that are excluded from the Republican range plus the percent of Republican states that are excluded from the Democratic range, divided by 2. This measure ranges from 0 (if the Republican range and Democratic range are identical) to 100% (if the Republican range and Democratic range do not overlap at all). Each party's range is calculated as all tax rates between respective percentiles (min/max in (a) and 10th/90th in (b)). Therefore in (a), we construct the measure by calculating the number of Democrat states that have tax rates above the Republican maximum or below the Republican minimum, and vice versa. The measure in (b) is constructed similarly, but omitting all states that have rates below 10th or above 90th percentile within each group. In (a), the measure of non-overlap between Republican and Democratic states is equal to 52.17% (percent of Democratic states excluded from Republican range) + 0% (percent of Republican states excluded from Democratic range), divided by 2, which equals 26.09%.

Figure E.15: Illustration of Non-Overlap

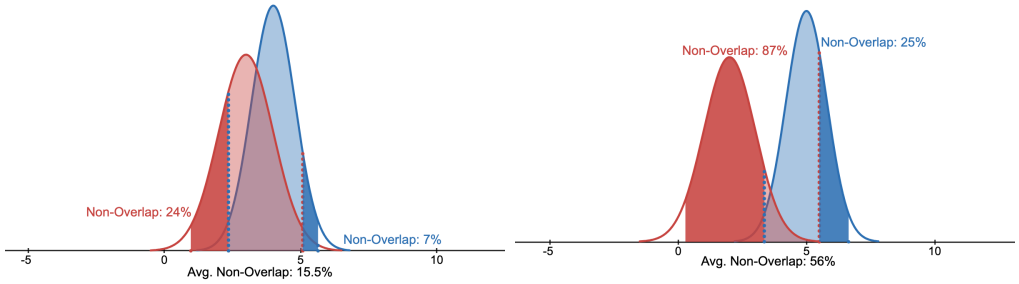
Case 1: Stable Means Over Time, But Changing Variance

(a) Different Means & Variance (b) Different Means & Variance



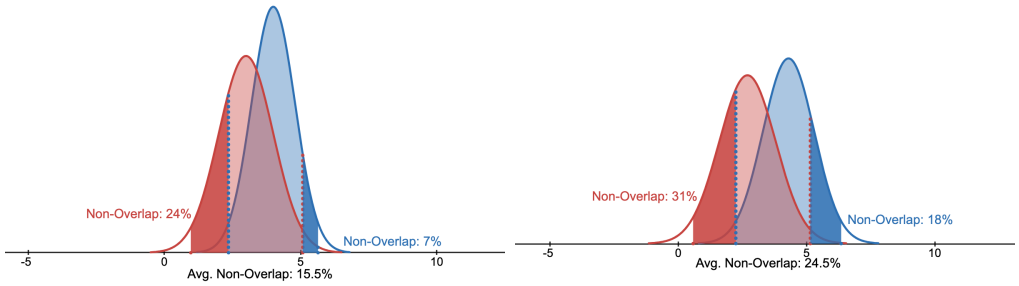
Case 2: Changing Means Because of a Distribution Shift

(c) Different Means & Variance (d) Different Means & Variance



Case 3: Changing Means Because of More Extreme Observations

(e) Different Means & Variance (f) Different Means & Variance

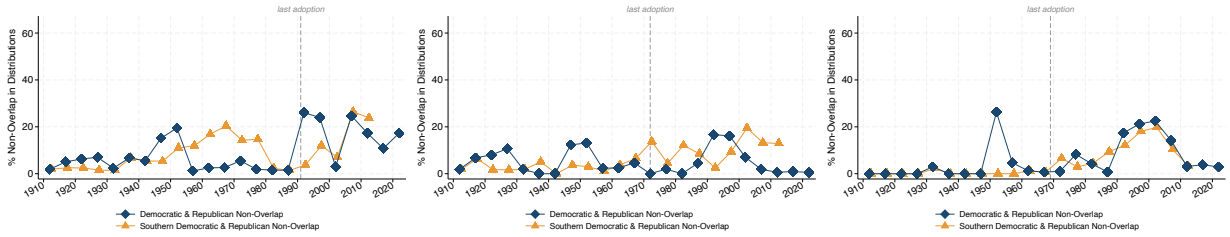


Notes: These figures illustrate some of the key ways, the distribution of tax rates may change over time. In figures (a) and (b), the average rates in each group remain approximately the same, but the variance changes. In figures (c) and (d), the means change, primarily as a result of the entire distributions shifting closer or away from each other. In figures (e) and (f), the means change, but mostly as a result of increasing number of extreme observations, rather than major distributional shifts.

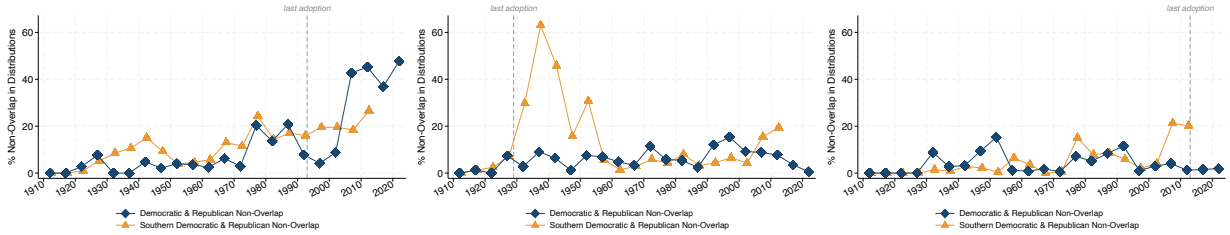
Figure E.16: Non-Overlap in Tax Rates (Min/Max)

Panel A: All Tax Rates Included

(a) Top Personal Income (b) Top Corporate Income (c) Sales Tax Rate

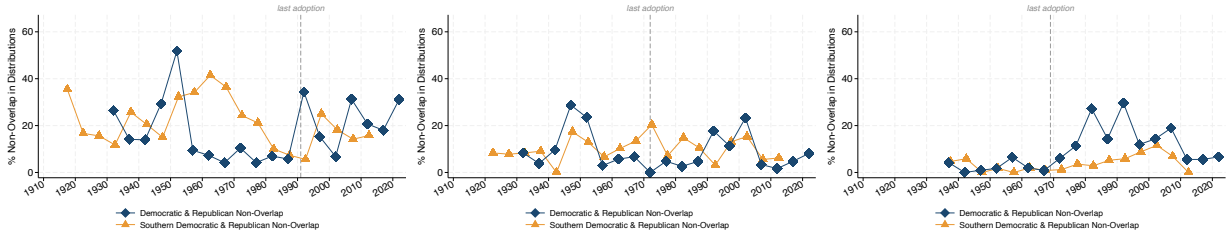


(d) Tobacco (e) Motor Fuel (f) Alcohol

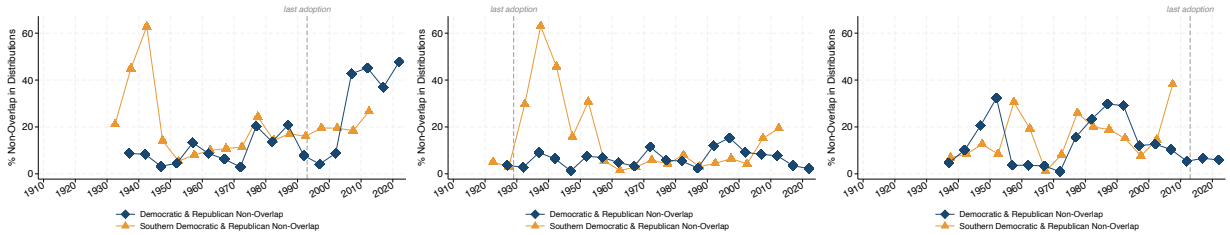


Panel B: Only Non-Zero Rates Included (Intensive Margin)

(g) Top Personal Income (h) Top Corporate Income (i) Sales Tax Rate



(j) Tobacco (k) Motor Fuel (l) Alcohol

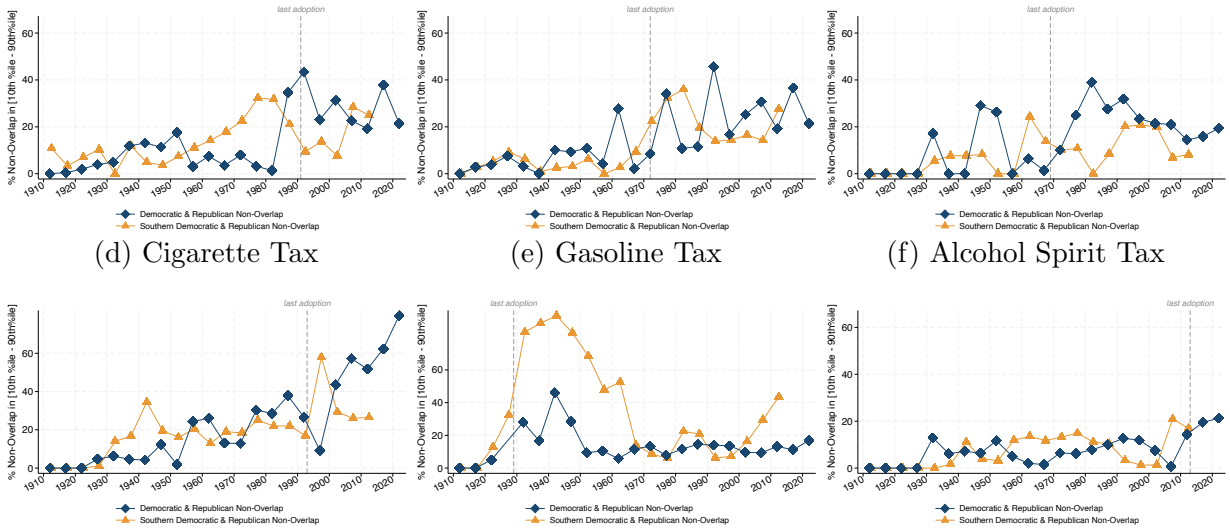


Notes: These figures show, in 5-year intervals, the amount of non-overlap in tax rates between states that lean Republican vs. Democrats and Republican vs. Southern Democrats. Non-overlap between Republican and Democratic states is measured as the percent of Democratic states that are excluded from the Republican range (i.e., have tax rates above the Republican maximum or below the Republican minimum), plus the percent of Republican states that are excluded from the Democratic range, divided by 2. This measure ranges from 0 (if the Republican range and Democratic range are identical) to 100% (if the Republican range and Democratic range do not overlap at all). State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. Democratic states are further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. See Appendix Figure E.14 for illustration of how the non-overlap measure is calculated. 5-year intervals where either group has fewer than 10 observations are excluded from the figure.

Figure E.17: Non-Overlap in Tax Rates (10th/90th Percentile)

Panel A: All Tax Rates Included

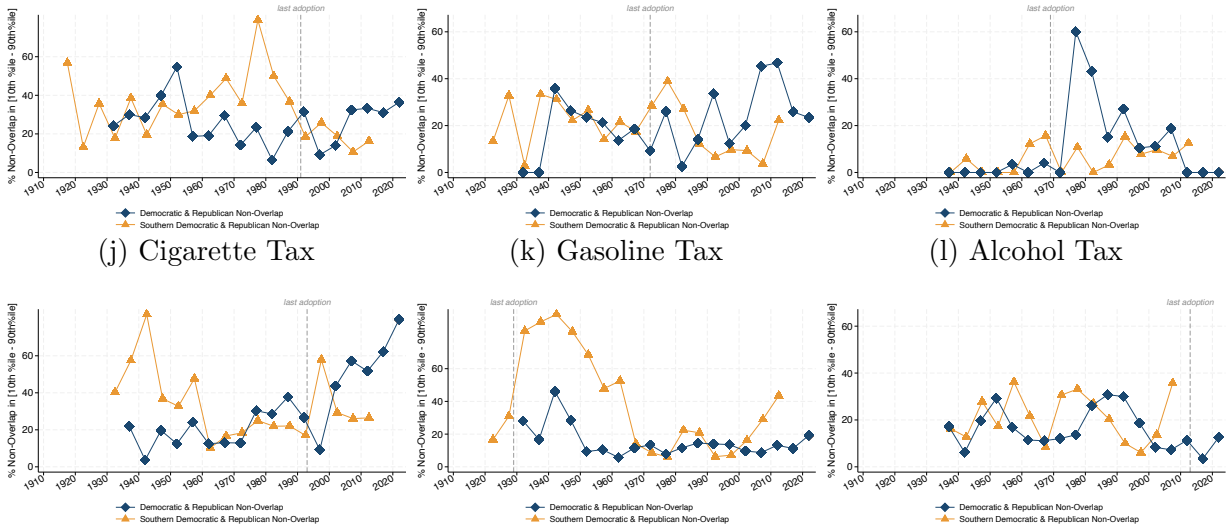
(a) Top Personal Income (b) Top Corporate Income (c) Sales Tax Rate



(d) Cigarette Tax (e) Gasoline Tax (f) Alcohol Spirit Tax

Panel B: Only Non-Zero Rates Included (Intensive Margin)

(g) Top Personal Income (h) Top Corporate Income (i) Sales Tax Rate



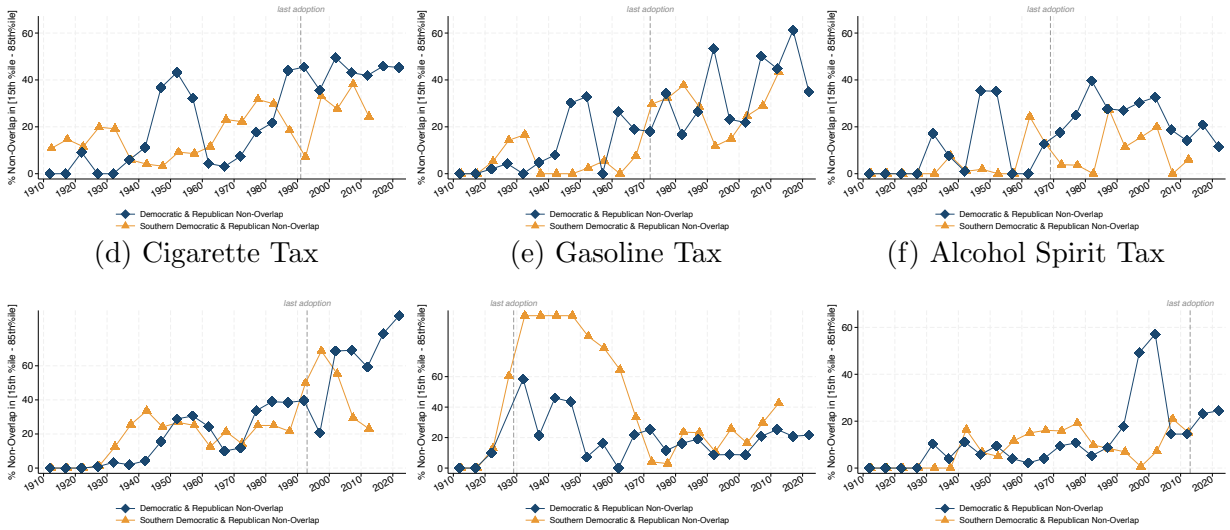
(j) Cigarette Tax (k) Gasoline Tax (l) Alcohol Tax

Notes: These figures show, in 5-year intervals, the amount of non-overlap in tax rates between states that lean Republican vs. Democrats and Republican vs. Southern Democrats. Only states with rates in 10th-90th percentile within Republican/Democrat group are included. Non-overlap between Republican and Democratic states is measured as the percent of Democratic states that are excluded from the Republican range (i.e., have tax rates above the Republican maximum or below the Republican minimum), plus the percent of Republican states that are excluded from the Democratic range, divided by 2. This measure ranges from 0 (if the Republican range and Democratic range are identical) to 100% (if the Republican range and Democratic range do not overlap at all). State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. Democratic states are further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. See Appendix Figure E.14 for illustration of how the non-overlap measure is calculated. 5-year intervals where either group has fewer than 10 observations are excluded from the figure.

Figure E.18: Non-Overlap in Tax Rates (15th/85th Percentile)

Panel A: All Tax Rates Included

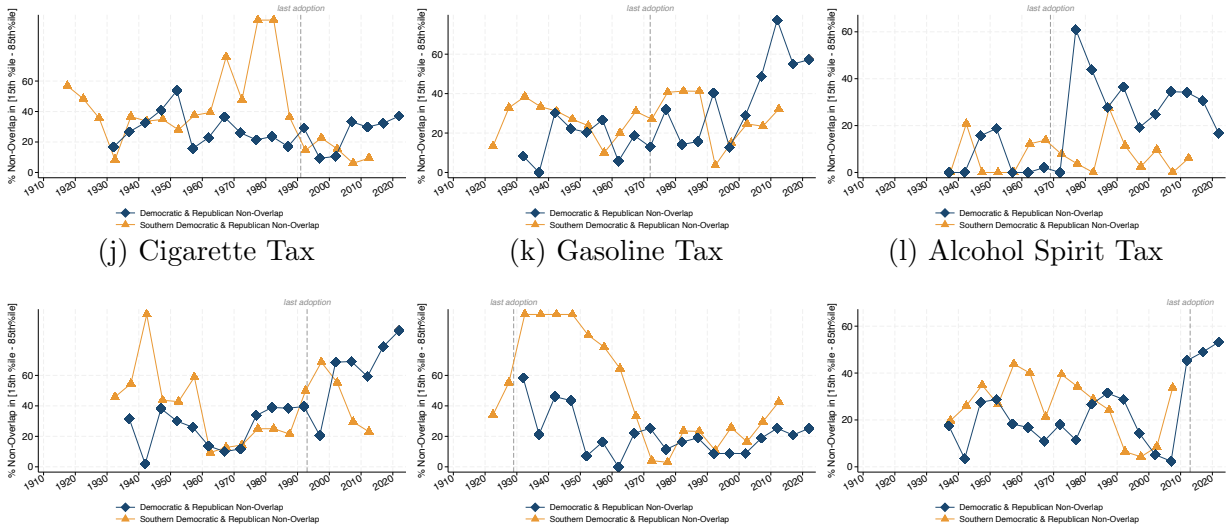
(a) Top Personal Income (b) Top Corporate Income (c) Sales Tax Rate



(d) Cigarette Tax (e) Gasoline Tax (f) Alcohol Spirit Tax

Panel B: Only Non-Zero Rates Included (Intensive Margin)

(g) Top Personal Income (h) Top Corporate Income (i) Sales Tax Rate



(j) Cigarette Tax (k) Gasoline Tax (l) Alcohol Spirit Tax

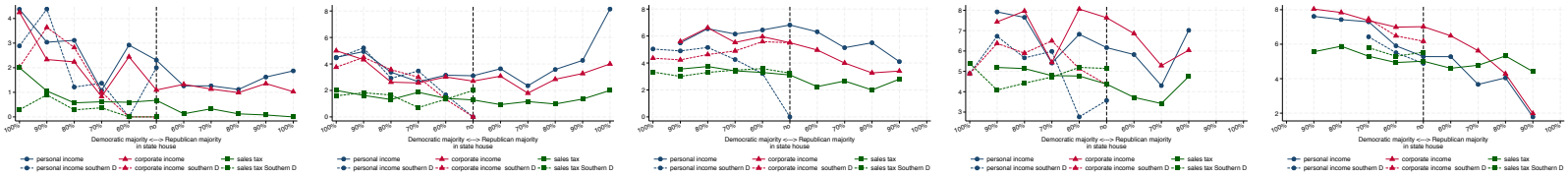
Notes: These figures show, in 5-year intervals, the amount of non-overlap in tax rates between states that lean Republican vs. Democrats and Republican vs. Southern Democrats. Only states with rates in 15th-85th percentile within Republican/Democrat group are included. Non-overlap between Republican and Democratic states is measured as the percent of Democratic states that are excluded from the Republican range (i.e., have tax rates above the Republican maximum or below the Republican minimum), plus the percent of Republican states that are excluded from the Democratic range, divided by 2. This measure ranges from 0 (if the Republican range and Democratic range are identical) to 100% (if the Republican range and Democratic range do not overlap at all). State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. Democratic states are further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. See Appendix Figure E.14 for illustration of how the non-overlap measure is calculated. 5-year intervals where either group has fewer than 10 observations are excluded from the figure.

F Does the Strength of Majority Matter?

Figure F.19: Tax Rates (All States) by Strength of Majority

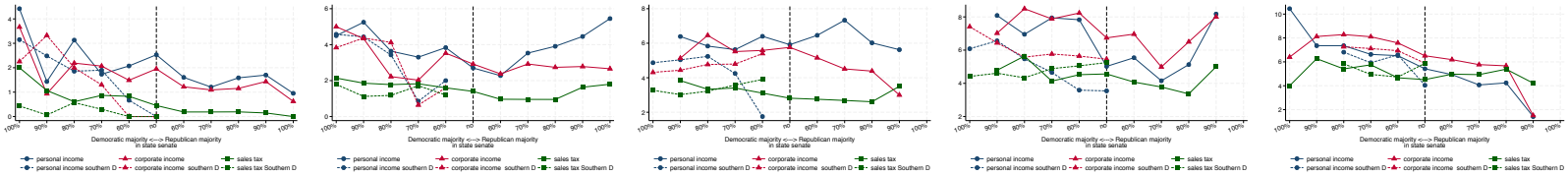
Panel A: Strength of State House Majority

(a) 1921-1940 (b) 1941-1960 (c) 1961-1980 (d) 1981-2000 (e) 2001-2020



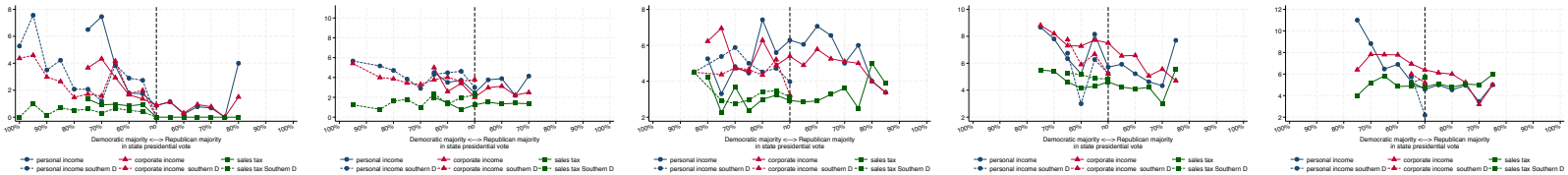
Panel B: Strength of State Senate Majority

(f) 1921-1940 (g) 1941-1960 (h) 1961-1980 (i) 1981-2000 (j) 2001-2020



Panel C: Strength of Presidential Pledges

(k) 1921-1940 (l) 1941-1960 (m) 1961-1980 (n) 1981-2000 (o) 2001-2020

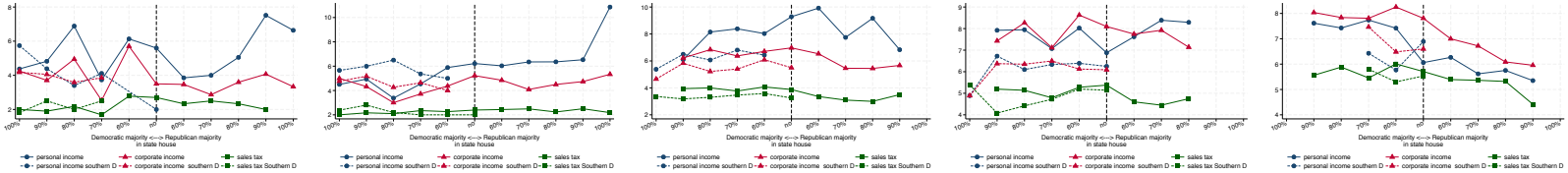


Notes: These figures show average tax rates by the strength of Democratic or Republican majority within the state house and senate. For each legislative chamber, we bin states into eleven groups of Republican control (i.e., where 80% means that 75-85% of the seats are held by Republicans), and then calculate the average tax rate within each group. States with Democratic majorities are further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats.

Figure F.20: Tax Rates (Non-Zero Only) by Strength of Majority

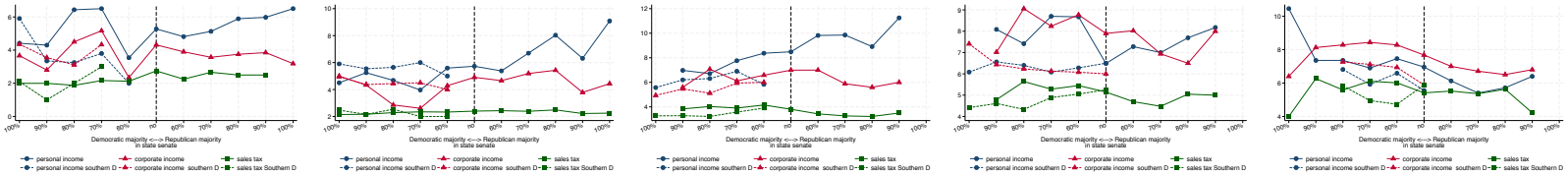
Panel A: Strength of State House Majority

(a) 1921-1940 (b) 1941-1960 (c) 1961-1980 (d) 1981-2000 (e) 2001-2020



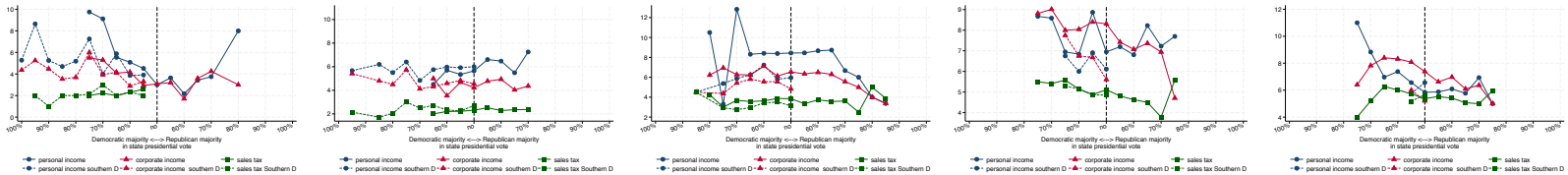
Panel B: Strength of State Senate Majority

(f) 1921-1940 (g) 1941-1960 (h) 1961-1980 (i) 1981-2000 (j) 2001-2020



Panel C: Strength of Presidential Pledges

(k) 1921-1940 (l) 1941-1960 (m) 1961-1980 (n) 1981-2000 (o) 2001-2020

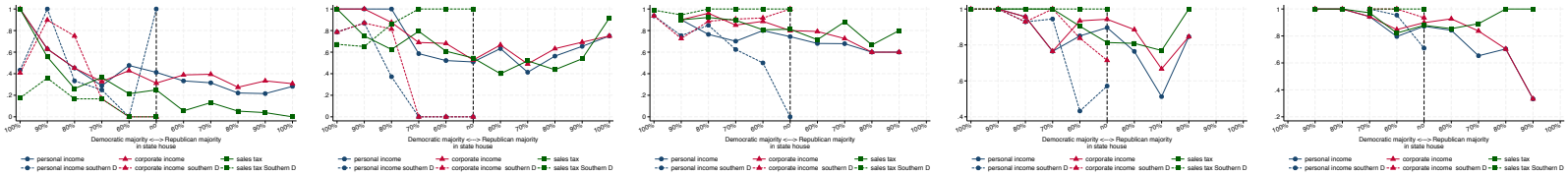


Notes: These figures show average tax rates (excluding tax rates of zero) by the strength of Democratic or Republican majority within the state house and senate. For each legislative chamber, we bin states into eleven groups of Republican control (i.e., where 80% means that 75-85% of the seats are held by Republicans), and then calculate the average tax rate within each group. States with Democratic majorities are further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats.

Figure F.21: Tax Adoptions by Strength of Majority

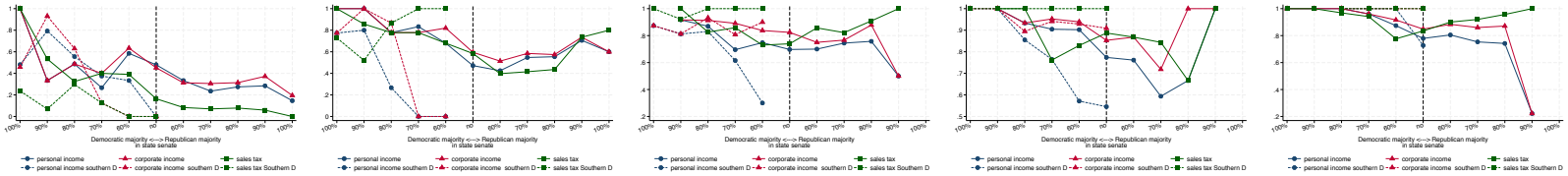
Panel A: Strength of State House Majority

(a) 1921-1940 (b) 1941-1960 (c) 1961-1980 (d) 1981-2000 (e) 2001-2020



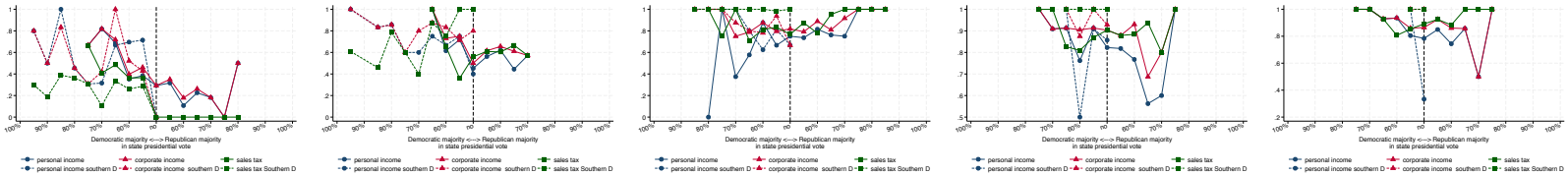
Panel B: Strength of State Senate Majority

(f) 1921-1940 (g) 1941-1960 (h) 1961-1980 (i) 1981-2000 (j) 2001-2020



Panel C: Strength of Presidential Pledges

(k) 1921-1940 (l) 1941-1960 (m) 1961-1980 (n) 1981-2000 (o) 2001-2020

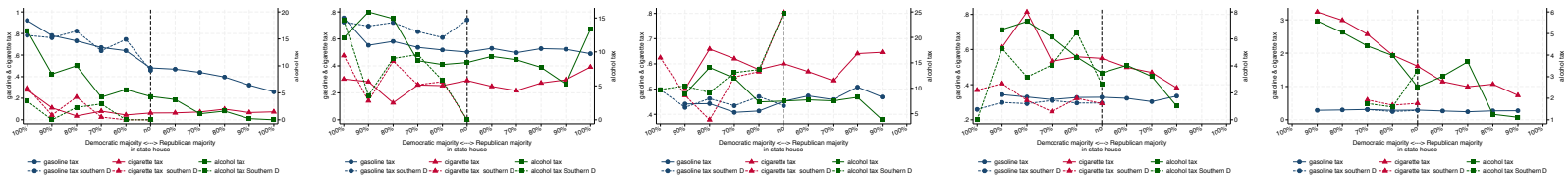


Notes: These figures show average tax rates (excluding tax rates of zero) by the strength of Democratic or Republican majority within the state house and senate. For each legislative chamber, we bin states into eleven groups of Republican control (i.e., where 80% means that 75-85% of the seats are held by Republicans), and then calculate the average tax rate within each group. States with Democratic majorities are further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats.

Figure F.22: Excise Tax Rates (All States) by Strength of Majority

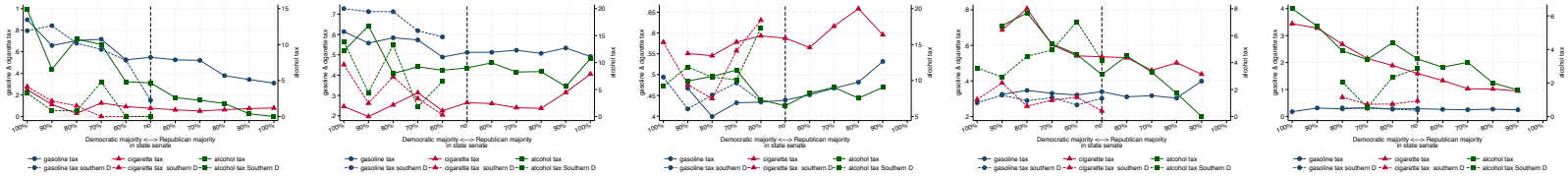
Panel A: Strength of State House Majority

(a) 1921-1940 (b) 1941-1960 (c) 1961-1980 (d) 1981-2000 (e) 2001-2020



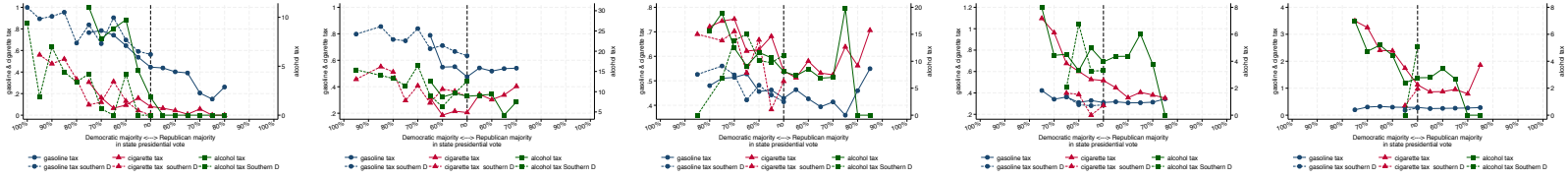
Panel B: Strength of State Senate Majority

(f) 1921-1940 (g) 1941-1960 (h) 1961-1980 (i) 1981-2000 (j) 2001-2020



Panel C: Strength of Presidential Pledges

(k) 1921-1940 (l) 1941-1960 (m) 1961-1980 (n) 1981-2000 (o) 2001-2020

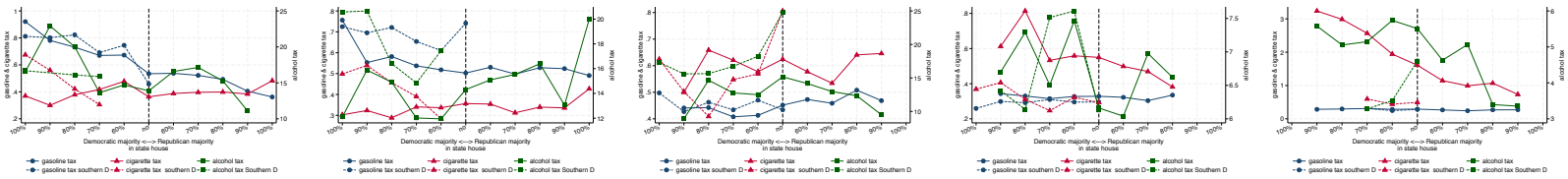


Notes: These figures show average tax rates by the strength of Democratic or Republican majority within the state house and senate. For each legislative chamber, we bin states into eleven groups of Republican control (i.e., where 80% means that 75-85% of the seats are held by Republicans), and then calculate the average tax rate within each group. States with Democratic majorities are further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats.

Figure F.23: Excise Tax Rates (Non-Zero Only) by Strength of Majority

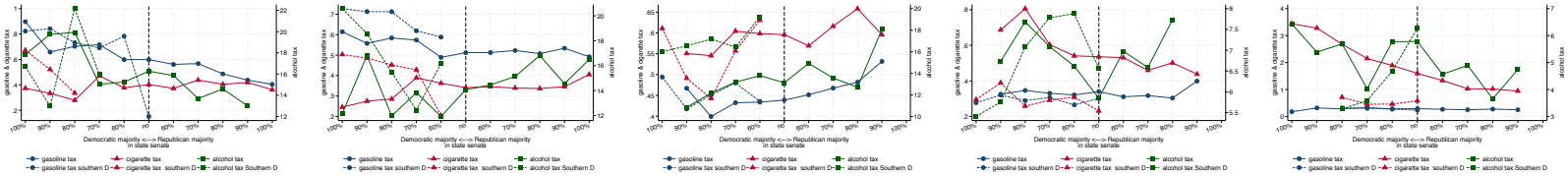
Panel A: Strength of State House Majority

(a) 1921-1940 (b) 1941-1960 (c) 1961-1980 (d) 1981-2000 (e) 2001-2020



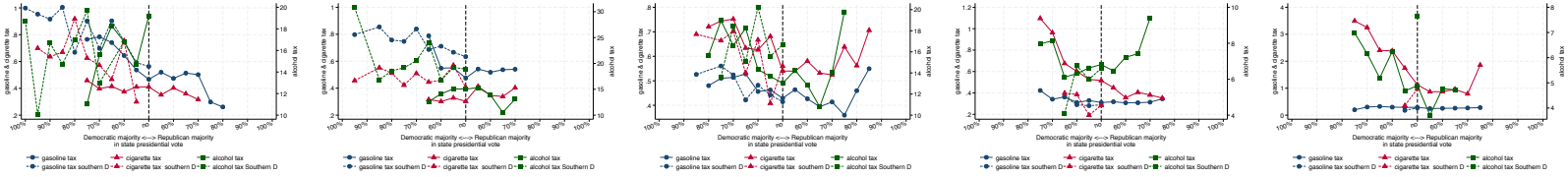
Panel B: Strength of State Senate Majority

(f) 1921-1940 (g) 1941-1960 (h) 1961-1980 (i) 1981-2000 (j) 2001-2020



Panel C: Strength of Presidential Pledges

(k) 1921-1940 (l) 1941-1960 (m) 1961-1980 (n) 1981-2000 (o) 2001-2020

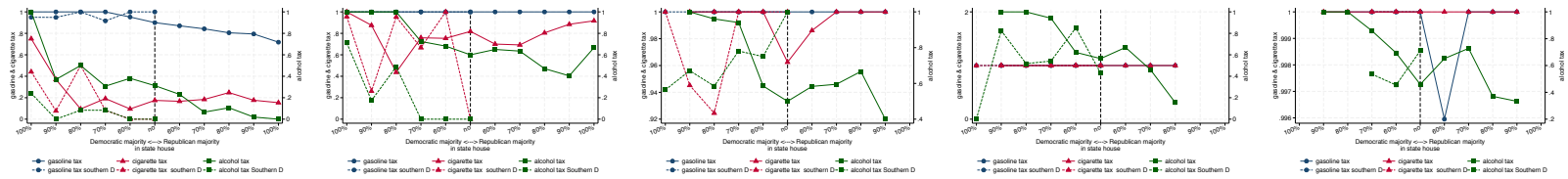


Notes: These figures show average tax rates (excluding tax rates of zero) by the strength of Democratic or Republican majority within the state house and senate. For each legislative chamber, we bin states into eleven groups of Republican control (i.e., where 80% means that 75-85% of the seats are held by Republicans), and then calculate the average tax rate within each group. States with Democratic majorities are further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats.

Figure F.24: Excise Tax Adoption by Strength of Majority

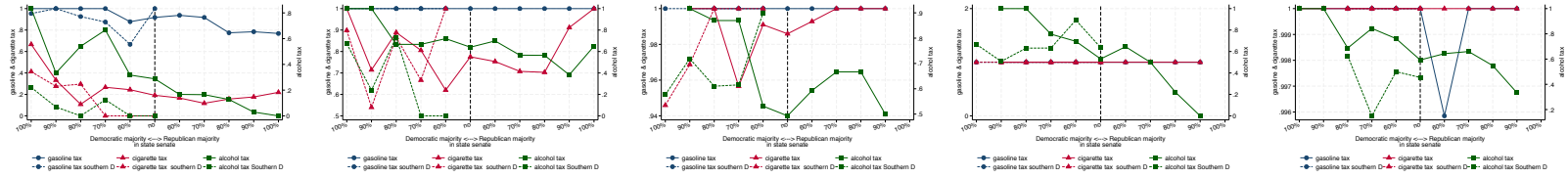
Panel A: Strength of State House Majority

(a) 1921-1940 (b) 1941-1960 (c) 1961-1980 (d) 1981-2000 (e) 2001-2020



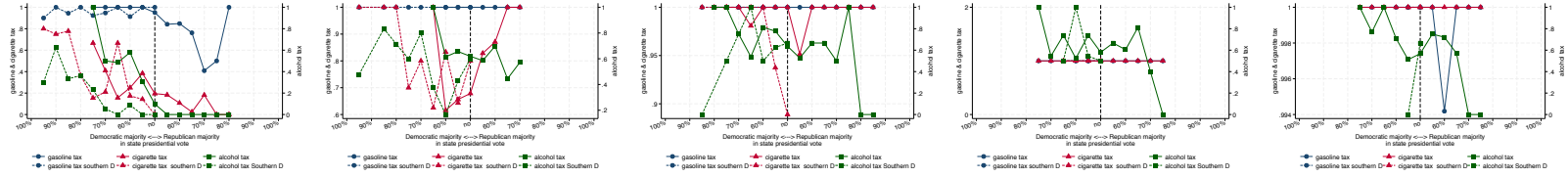
Panel B: Strength of State Senate Majority

(f) 1921-1940 (g) 1941-1960 (h) 1961-1980 (i) 1981-2000 (j) 2001-2020



Panel C: Strength of Presidential Pledges

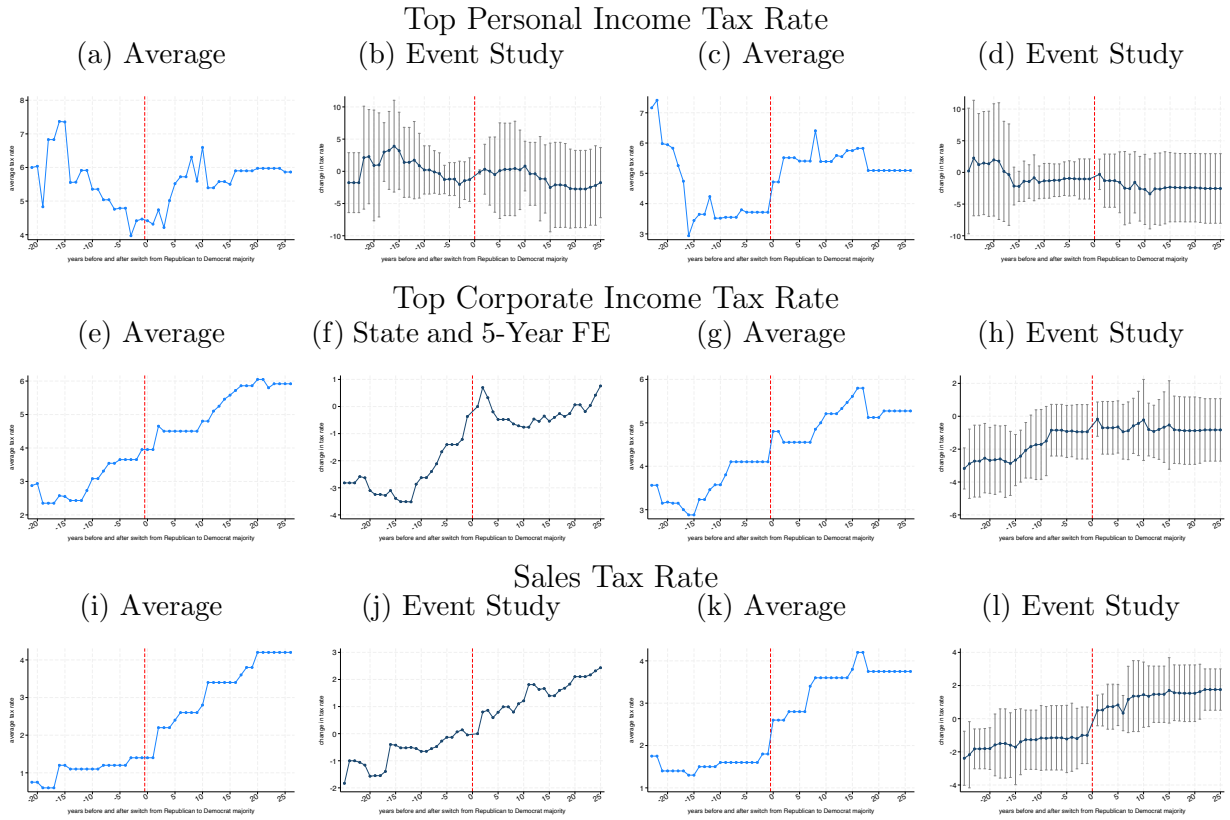
(k) 1921-1940 (l) 1941-1960 (m) 1961-1980 (n) 1981-2000 (o) 2001-2020



Notes: These figures show average tax rates (excluding tax rates of zero) by the strength of Democratic or Republican majority within the state house and senate. For each legislative chamber, we bin states into eleven groups of Republican control (i.e., where 80% means that 75-85% of the seats are held by Republicans), and then calculate the average tax rate within each group. States with Democratic majorities are further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats.

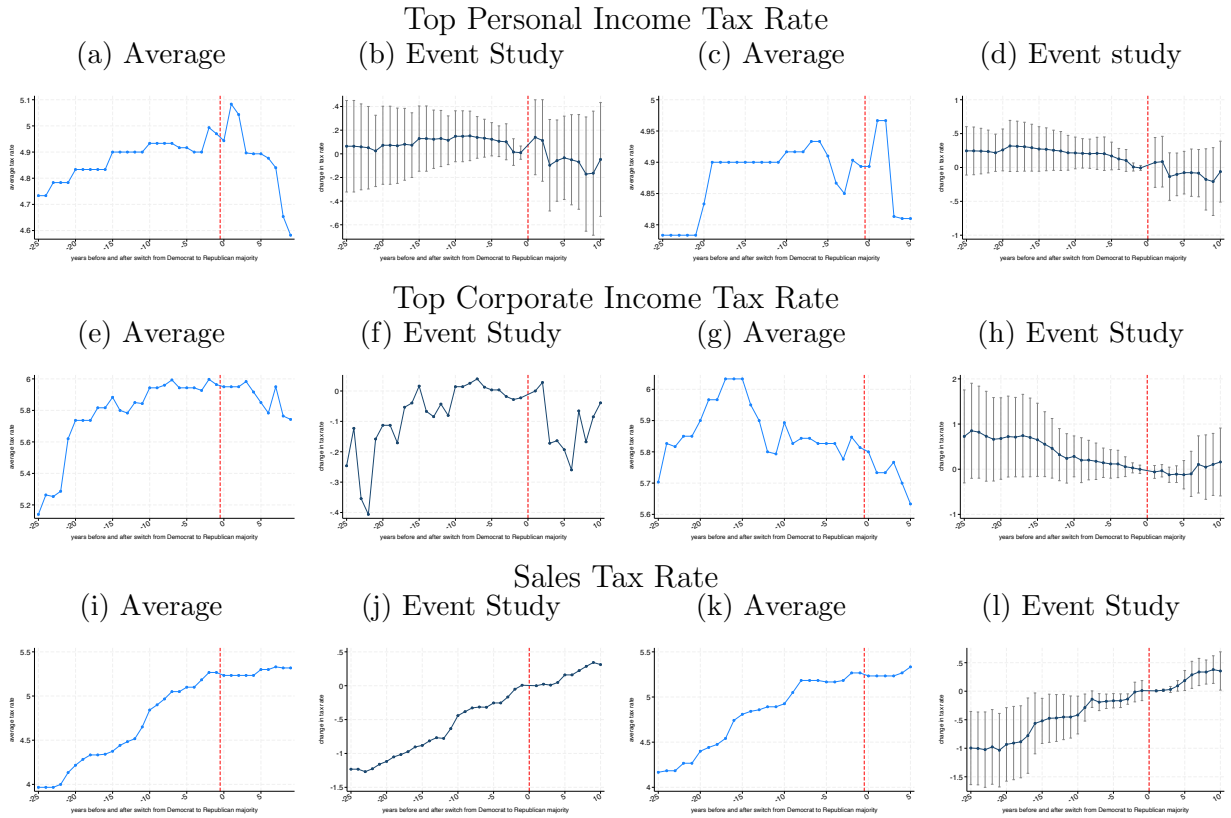
G Event Studies Around Majority Switches

Figure G.25: Tax Rates: Switching from Republican to Democratic Majority



Notes: Five states switched from having a Republican majority to a Democrat majority in state house and senate: CA in 1957-1959, MA in 1955-1959, NM in 1931-1933, VT in 1985-2005, and WV in 1931-1933. In figures (a)-(b), (e)-(f) and (i)-(j), year zero identifies the year in which Republicans no longer had a majority in either senate or house, while in figures (c)-(d), (g)-(h) and (k)-(l), year zero identifies the year in which Democrats secured majorities in both chambers. HI, ND, WY, MD, SD, and KS are included as control states. Figures plot coefficients from the following specification: $tax_{st} = \sum_t 1_t + \gamma_t + \delta_s + \varepsilon_{st}$, which includes state and 5-year fixed effects. We do not employ a log-specification in order to include states with zero tax rates. Standard errors clustered at the state level.

Figure G.26: Tax Rates: Switching from Democratic to Republican Majority



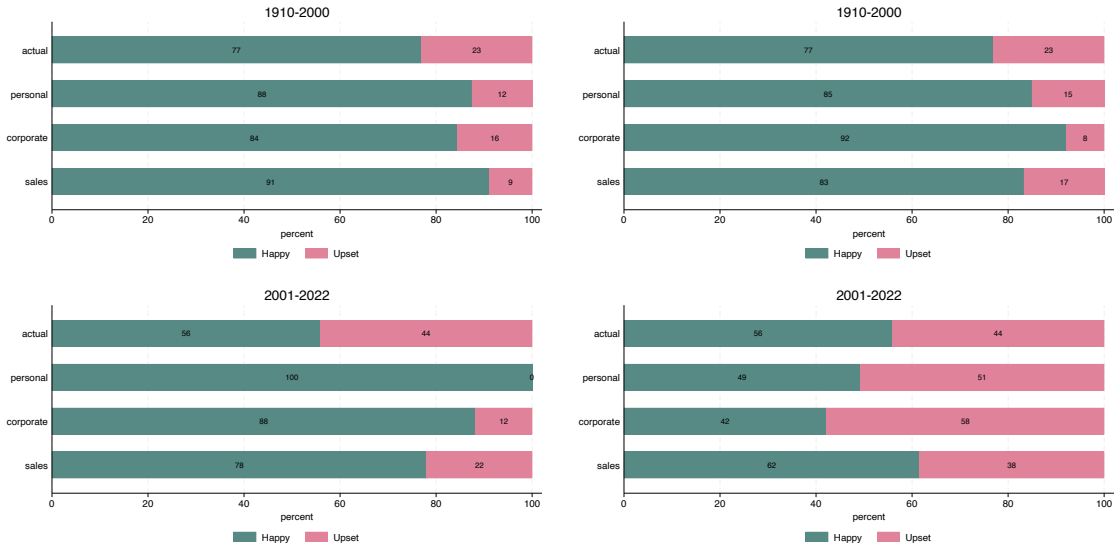
Notes: Fifteen states switched from having a Democrat majority to a Republican majority in state house and senate: AL in 2011, AR in 2013, AZ in 1967, FL in 1993-1997, GA in 2003-2005, KY in 1997-2017, LA in 2011, MS in 2011-2012, NC in 2011, OK in 2005-2009, SC in 1995-2001, TN in 2005-2010, TX in 1997-2003, VA in 1996-2000, and WV in 2015. In figures (a)-(b), (e)-(f) and (i)-(j), year zero identifies the year in which Democrats no longer had a majority in either senate or house, while in figures (c)-(d), (g)-(h) and (k)-(l), year zero identifies the year in which Republicans secured majorities in both chambers. HI, ND, WY, MD, SD, and KS are included as control states. Figures plot coefficients from the following specification: $tax_{st} = \sum_t 1_t + \gamma_t + \delta_s + \varepsilon_{st}$, which includes state and 5-year fixed effects. We do not employ a log-specification in order to include states with zero tax rates. Standard errors clustered at the state level.

H Presidential Elections

Figure H.27: Presidential Elections and State Policies by Period

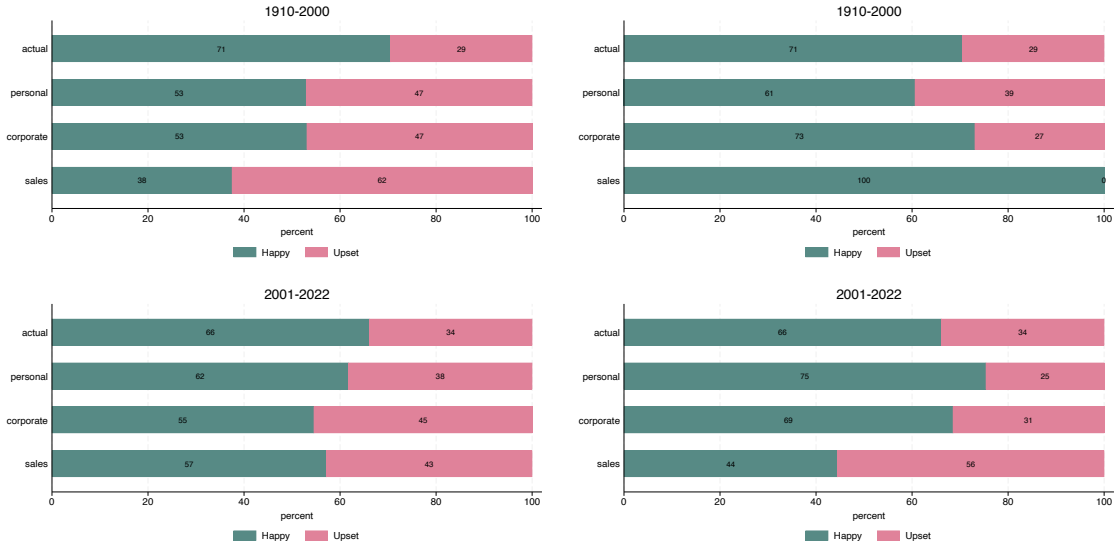
Panel A: States That Voted for Republican Presidential Candidate

(a) Tax Increases (b) Tax Decreases



Panel B: States that Voted for Democratic Presidential Candidate

(c) Tax Increases (d) Tax Decreases



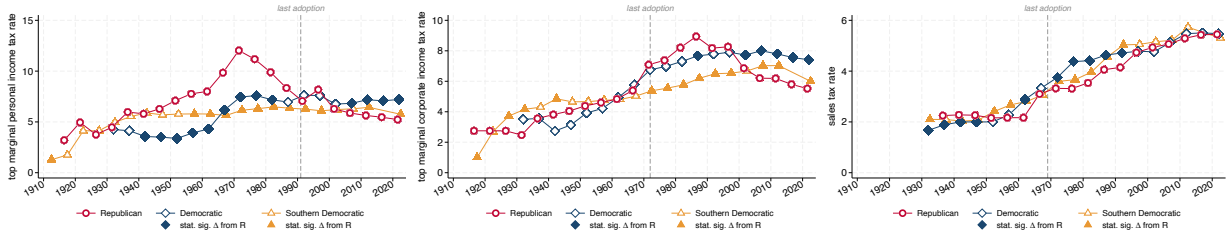
Notes: The sample in Panel A is limited to states that voted for the Republican candidate in the most recent presidential election, while states with more votes for the Democratic candidate are included in Panel B. The top row of each figure shows the proportion of years where the state's preferred candidate won ("Happy") vs. lost ("Upset"). The remaining rows show the proportion of tax increases or tax decreases that occurred during happy vs. upset periods. The extent to which the tax change proportions differ from the actual proportions of years captures the degree to which states react to federal politics. All years and states with non-zero rates are included.

I Stable vs. Unstable States

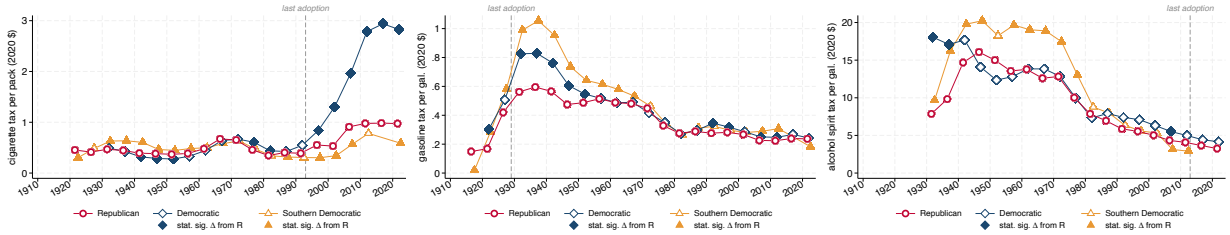
Figure I.28: Stable vs. Unstable State Tax Rates
Only Non-Zero Rates Included (Intensive Margin)

Panel A: Stable States (0-2 Party Switches)

(a) Top Personal Income (b) Top Corporate Income (c) Sales

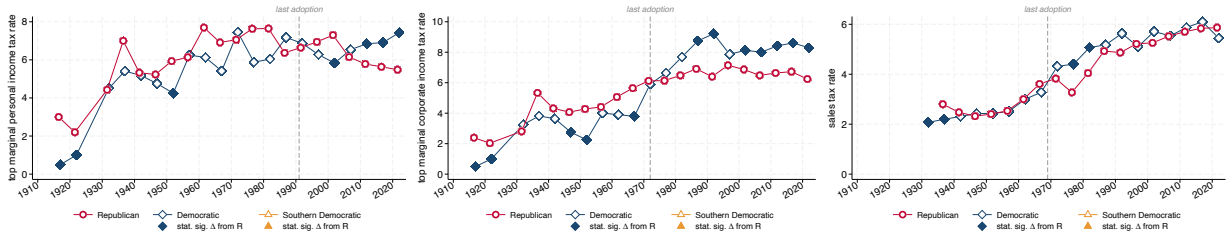


(d) Cigarette (e) Gasoline (f) Alcohol Spirit

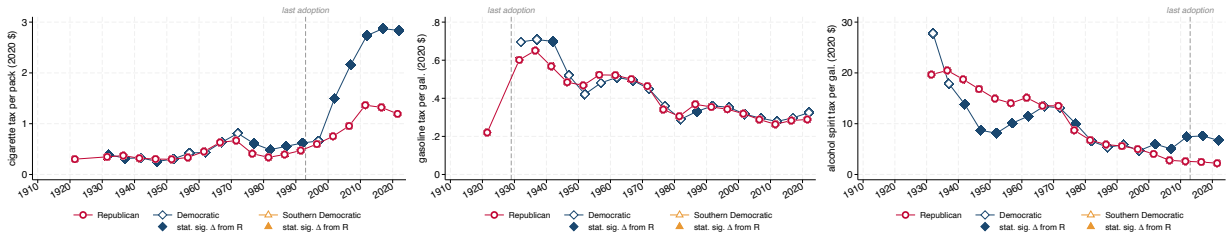


Panel B: Unstable States (5+ Party Switches)

(g) Top Personal Income (h) Top Corporate Income (i) Sales



(j) Cigarette (k) Gasoline (l) Alcohol Spirit



Notes: The sample in Panel A is limited to states that switched majorities at most twice during 1910-2022, while states that switched majorities 5 or more times during the studied period are included in Panel B (see Figure 1(b) for switches by state). These figures show average tax rates in 5-year intervals among states that lean Republican or Democratic, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown.

Table I.1: Tax Changes in Stable vs. Unstable States
(Including Intensive & Extensive Margin Changes)

	Stable (0-2 Switches)	Neither (3-4 Switches)	Unstable (5+ Switches)	All States
Top personal income tax				
Mean tax rate	4.16	4.79	3.79	4.18
Share changing tax	.0757	.11	.103	.0913
Mean |Δ tax |	1.85	1.91	1.28	1.67
Top corporate income tax				
Mean tax rate	4.06	5.13	3.97	4.26
Share changing tax	.0734	.0863	.101	.0848
Mean |Δ tax |	1.29	1.41	1.28	1.31
Sales tax				
Mean tax rate	2.82	2.06	2.78	2.64
Share changing tax	.0535	.0478	.0661	.0561
Mean |Δ tax |	1.08	.921	.953	1
Cigarette tax (2020 $)				
Mean tax rate	.495	.635	.61	.561
Share changing tax	.0926	.124	.111	.105
Mean |Δ tax |	.286	.32	.314	.304
Gasoline tax (2020 $)				
Mean tax rate	.408	.382	.368	.39
Share changing tax	.129	.182	.155	.148
Mean |Δ tax |	.0969	.0754	.0877	.0883
Alcohol spirit tax (2020 $)				
Mean tax rate	5.74	6.04	3.91	5.24
Share changing tax	.0369	.0461	.026	.0355
Mean |Δ tax |	6.05	4.8	7.09	5.93

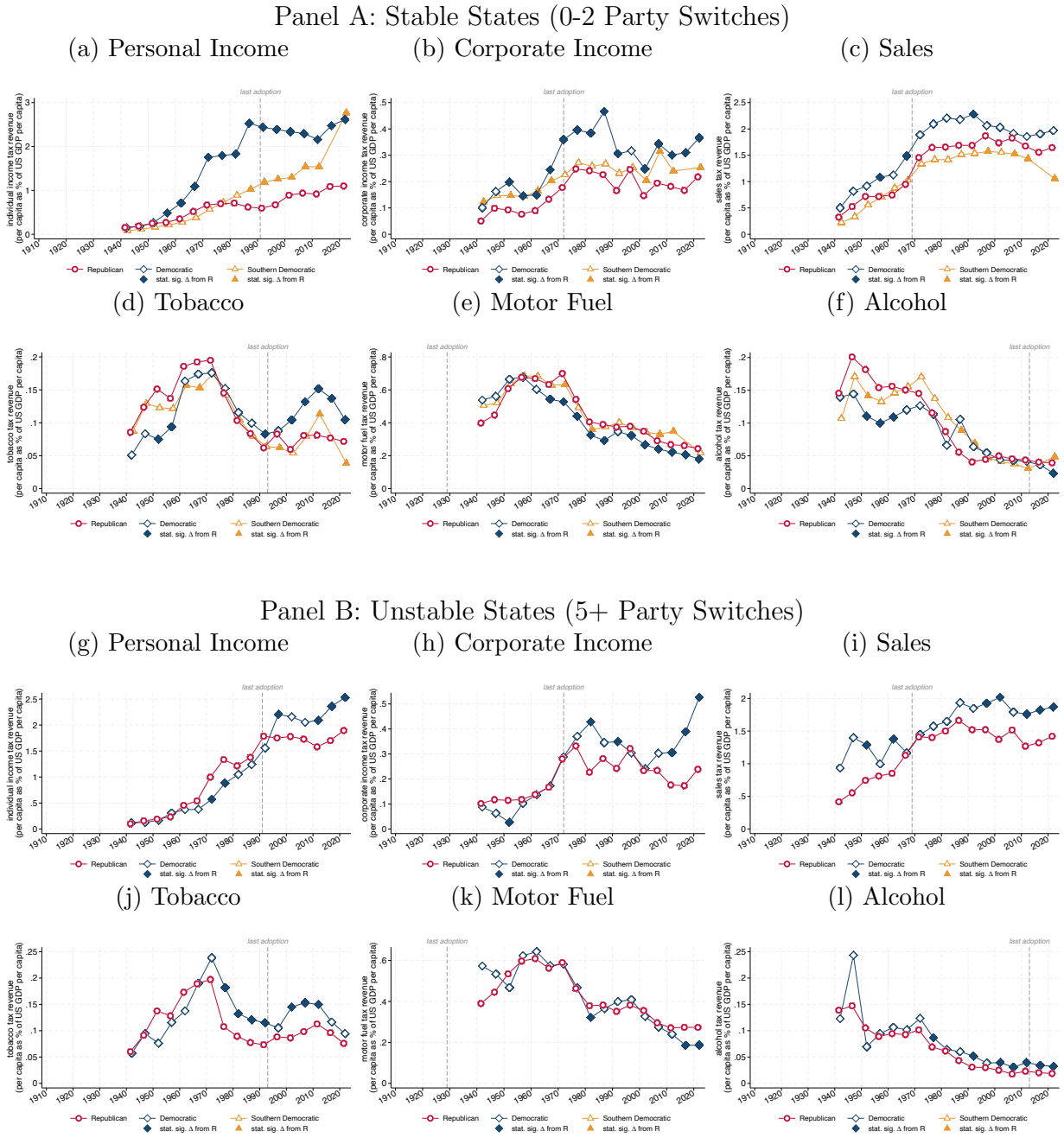
Notes: This table shows the average tax rate, share of states changing a tax in a given year, and the average magnitude of tax changes. These statistics are shown separately for states that switched majorities 0-2 times, 3-4 times, and 5 or more times during 1910-2022. Tax adoptions and cancellations are included in the tax change statistics.

Table I.2: Tax Changes in Stable vs. Unstable States
(Intensive Margin Changes Only)

	Stable (0-2 Switches)	Neither (3-4 Switches)	Unstable (5+ Switches)	All States
Top personal income tax				
Mean tax rate	4.16	4.79	3.79	4.18
Share changing tax	.1	.185	.16	.134
Mean $\|\Delta$ tax $\|$	1.43	1.51	1.08	1.33
Top corporate income tax				
Mean tax rate	4.06	5.13	3.97	4.26
Share changing tax	.0927	.121	.143	.113
Mean $\|\Delta$ tax $\|$	.981	1.11	1.06	1.04
Sales tax				
Mean tax rate	2.82	2.06	2.78	2.64
Share changing tax	.0609	.106	.0889	.076
Mean $\|\Delta$ tax $\|$	.824	.749	.742	.779
Cigarette tax (2020 $)				
Mean tax rate	.495	.635	.61	.561
Share changing tax	.112	.169	.143	.133
Mean $\|\Delta$ tax $\|$	.276	.321	.315	.301
Gasoline tax (2020 $)				
Mean tax rate	.408	.382	.368	.39
Share changing tax	.136	.195	.167	.158
Mean $\|\Delta$ tax $\|$	.0891	.068	.0771	.0796
Alcohol spirit tax (2020 $)				
Mean tax rate	5.74	6.04	3.91	5.24
Share changing tax	.0581	.0708	.0575	.0612
Mean $\|\Delta$ tax $\|$	4.56	3.56	4.11	4.17

Notes: This table shows the average tax rate, share of states changing a tax in a given year, and the average magnitude of tax changes. These statistics are shown separately for states that switched majorities 0-2 times, 3-4 times, and 5 or more times during 1910-2022. Tax adoptions and cancellations are excluded from the tax change statistics.

Figure I.29: Stable vs. Unstable State Tax Revenues

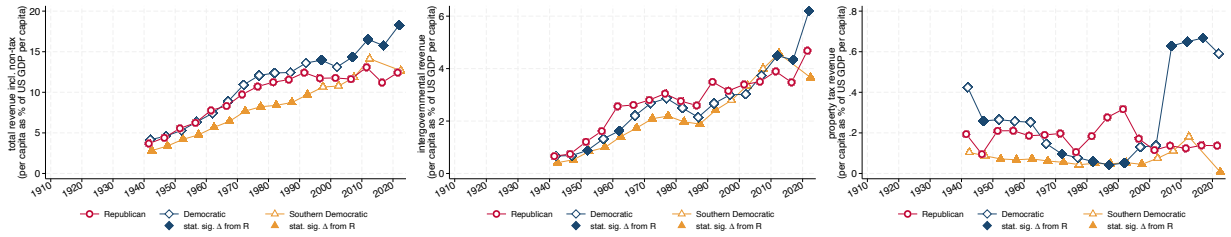


Notes: The sample in Panel A is limited to states that switched majorities at most twice during 1910-2022, while states that switched majorities 5 or more times during the studied period are included in Panel B (see Figure 1(b) for switches by state). These figures show average tax revenues (measured per capita as a percent of US GDP per capita) in 5-year intervals among states that lean Republican or Democratic, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic-(Republican-) leaning if both state house and state senate have Democratic (Republican) majority. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. We omit Alaska revenues due to exceptional volatility.

Figure I.30: Stable vs. Unstable State Revenues

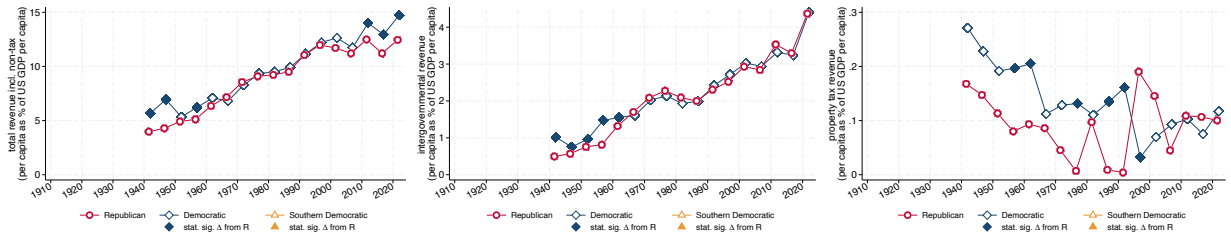
Panel A: Stable States (0-2 Party Switches)

(a) Total Including Non-Tax (b) Intergovernmental (Non-Tax) (c) Property



Panel B: Unstable States (5+ Party Switches)

(d) Total Including Non-Tax (e) Intergovernmental (Non-Tax) (f) Property



Notes: The sample in Panel A is limited to states that switched majorities at most twice during 1910-2022, while states that switched majorities 5 or more times during the studied period are included in Panel B (see Figure 1(b) for switches by state). These figures show average revenues (measured per capita as a percent of US GDP per capita) in 5-year intervals among states that lean Republican or Democratic, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. We omit Alaska revenues due to exceptional volatility.

J Alternative Definitions of Republican and Democratic States

In this section, we consider alternative breakdowns of states into Democratic vs. Republican leaning, based on:

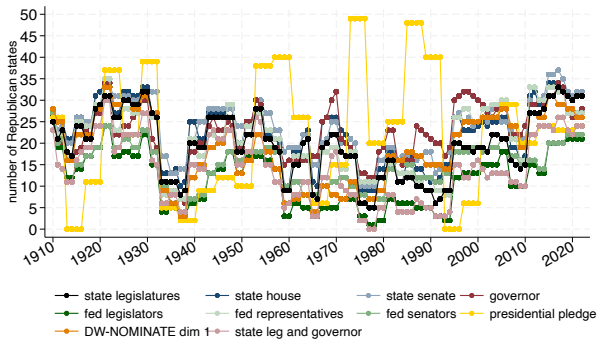
- both the state house and the state senate have a Democratic/Republican majority (our preferred measure)
- state senate has a Democratic/Republican majority
- state house has a Democratic/Republican majority
- U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican
- U.S. Senators from the state are majority Democratic/Republican
- U.S. Representatives from the state are majority Democratic/Republican
- governor is Democratic/Republican
- governor is Democratic/Republican and both the state house and the state senate have a Democratic/Republican majority
- the state pledged to a Democratic/Republican presidential candidate in the most recent presidential election
- mean DW-NOMINATE Dimension 1 scores are +/− 0 for both U.S. Senators and Representatives
- mean DW-NOMINATE Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives
- mean Shor-McCarty score among state senate majority and state house majority are +/− 0

We continue to distinguish between Southern Democrats and all other Democrats. As in the main analysis, we identify the following states as Southern Democratic when they otherwise meet the definition for Democratic-leaning: AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV, for all years.

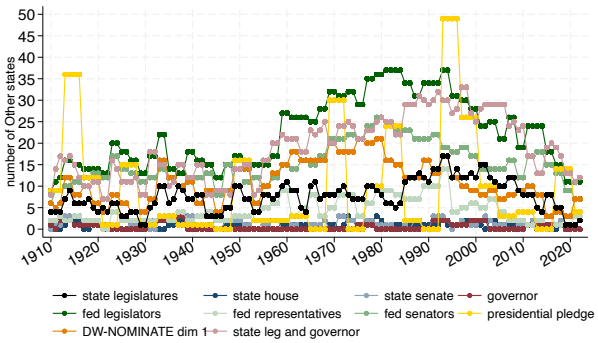
J.1 Comparison of Alternative Definitions

Figure J.31: Number of Observations

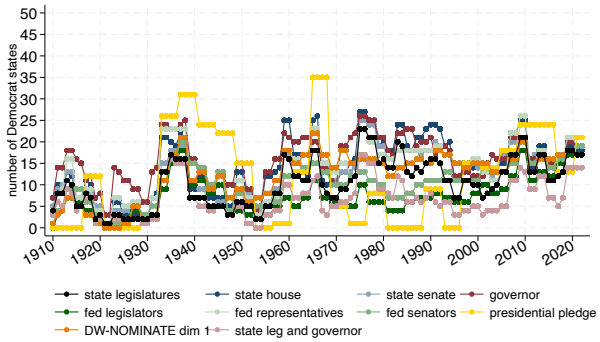
(a) Number of Republican States



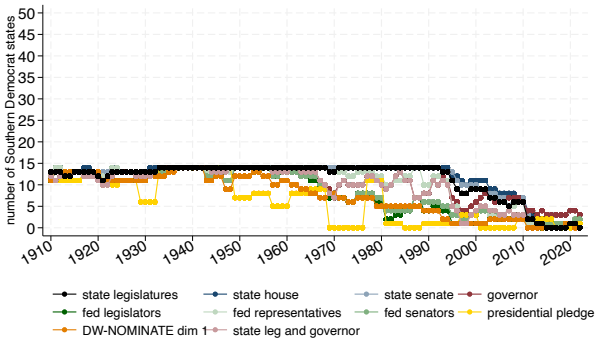
(b) Number of Other (Excluded) States



(c) Number of Democrat States

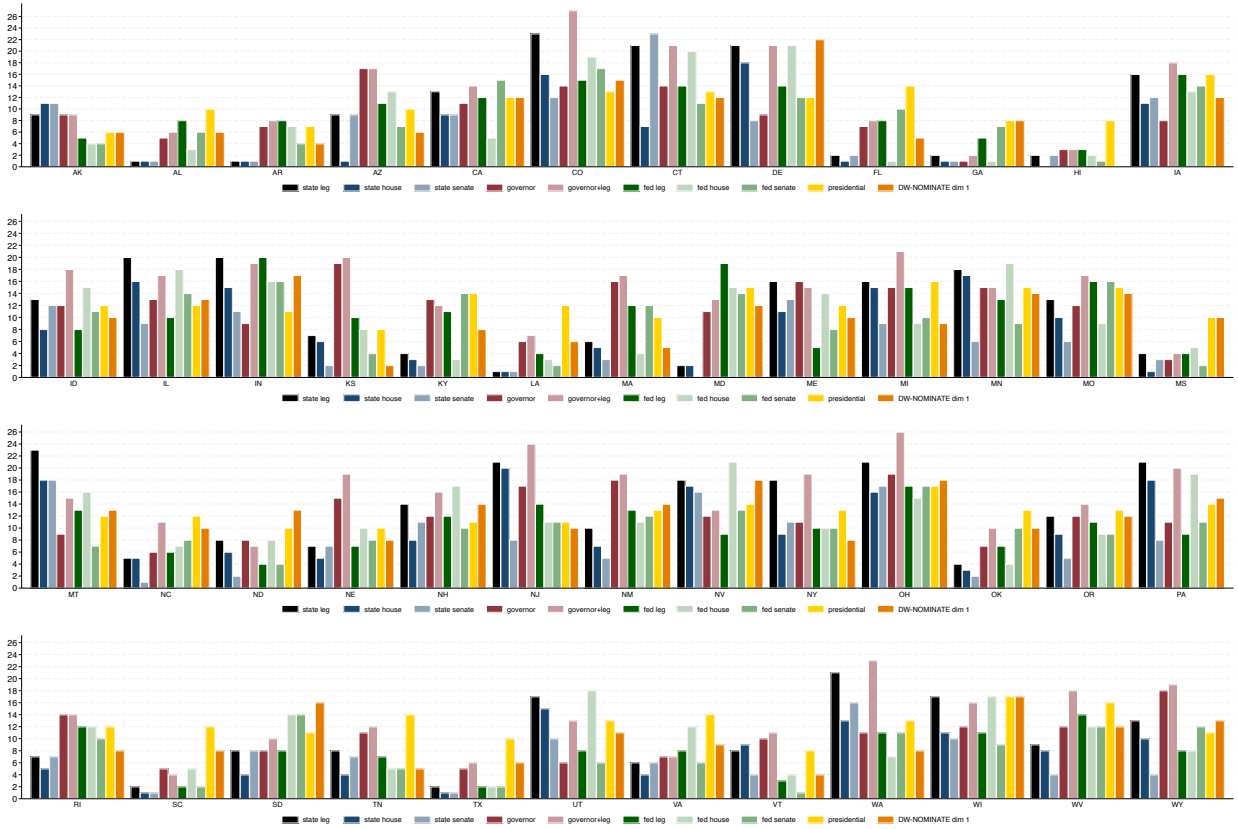


(d) Number of Southern Democrat States



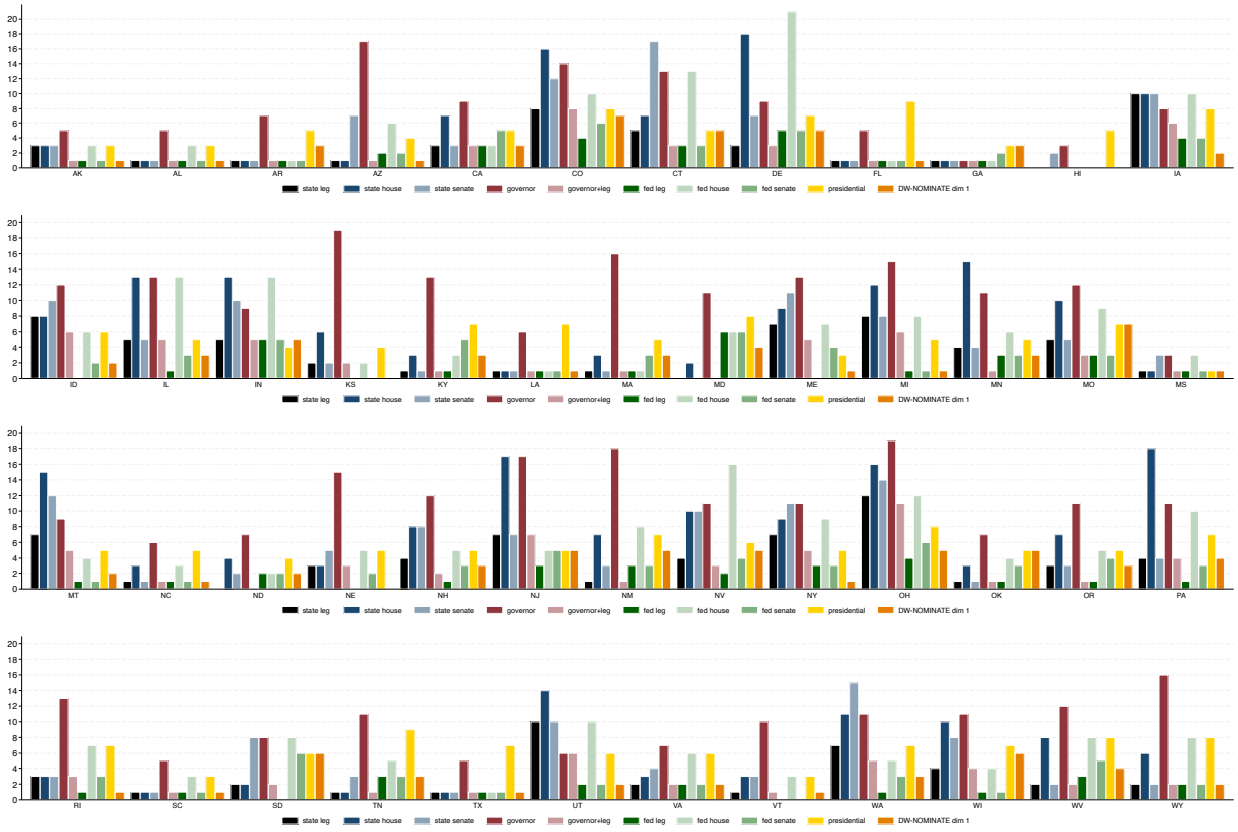
Notes: These figures show the number of states that are considered (a) "Republican", (b) "Other" (and therefore excluded from the analysis, (c) "Democrat", or (d) "Southern Democrat", for our main measure of state party (majority in both chambers of the state legislature), as well as for the alternative measures described at the beginning of Appendix J.

Figure J.32: Party Switches for Each State



Notes: These figures show, for each state, the number of party switches for our main measure of state party (majority in both chambers of the state legislature), as well as for the alternative measures described described at the beginning of Appendix J.

Figure J.33: Party Switches (Excluding "Other" Episodes) for Each State



Notes: These figures show, for each state, the number of party switches for our main measure of state party (majority in both chambers of the state legislature), as well as for the alternative measures described at the beginning of Appendix J. Years where a state is in the "Other" category (state meets the definition for neither party) are excluded, leaving only switches from Democratic to Republican control.

Figure J.34: Party Affiliation of Each State



Notes: These figures show, for each state, the proportion of years in each party group. Figure (a) accounts for our main measure of state party (majority in both chambers of the state legislature). Figures (b)-(j) use the alternative measures described at the beginning of Appendix J.

Figure J.34: Party Affiliation of Each State

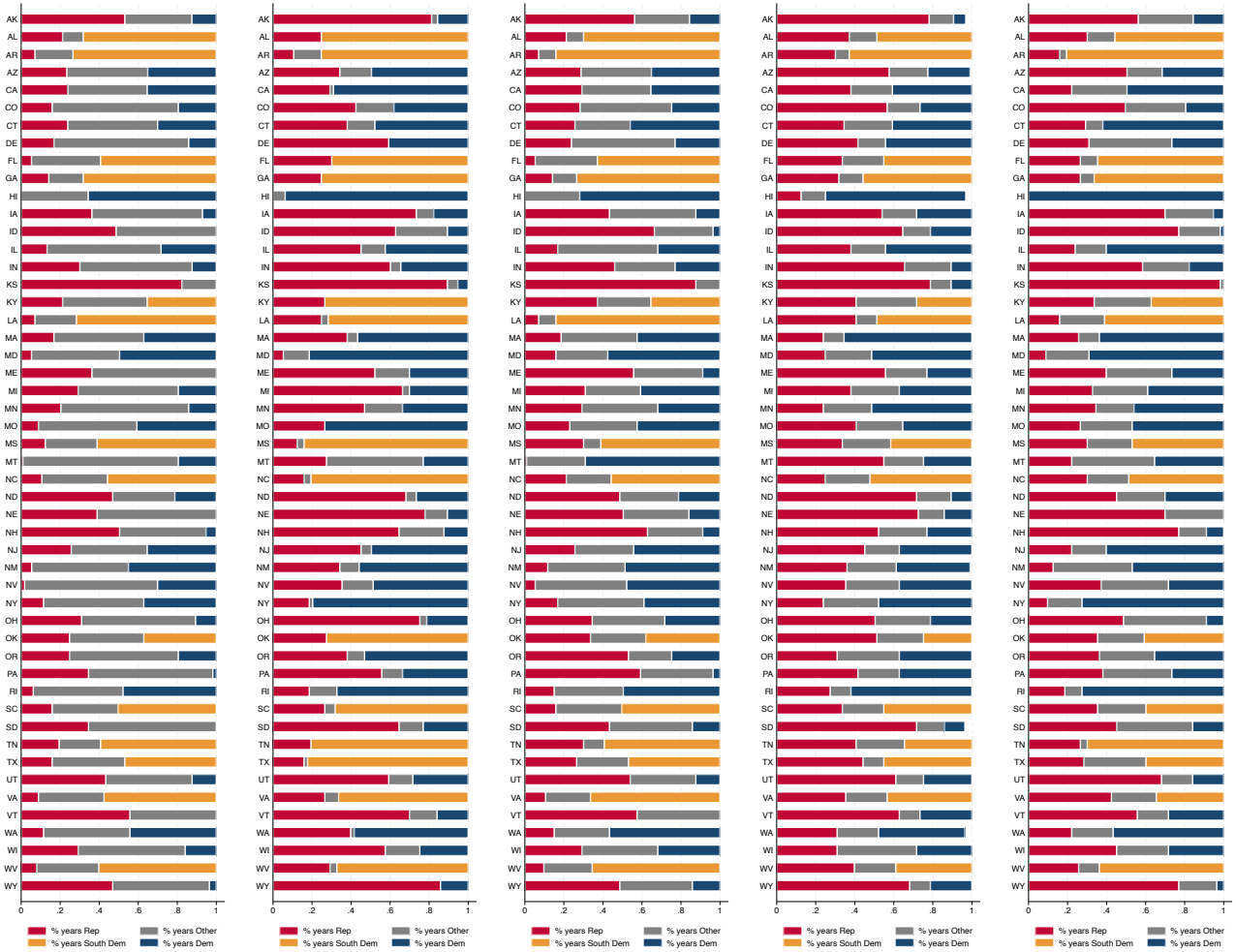
(f) Federal Legislature

(g) Federal House

(h) Federal Senate

(i) Presidential Pledge

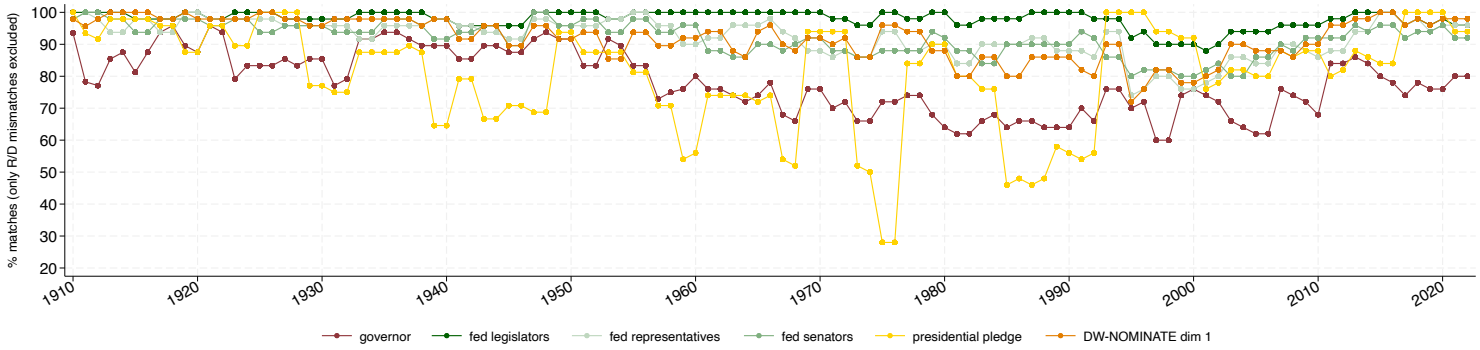
(j) Dim 1 of DW-NOMINATE



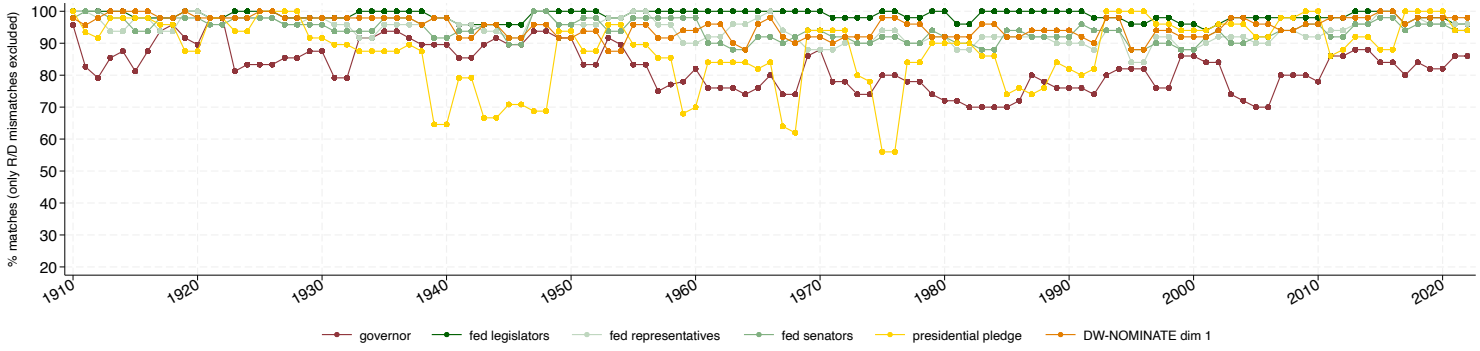
Notes: See previous page.

Figure J.35: Percent of Matches

Panel A: Excluding Other



Panel B: Excluding Other & Southern Democrat

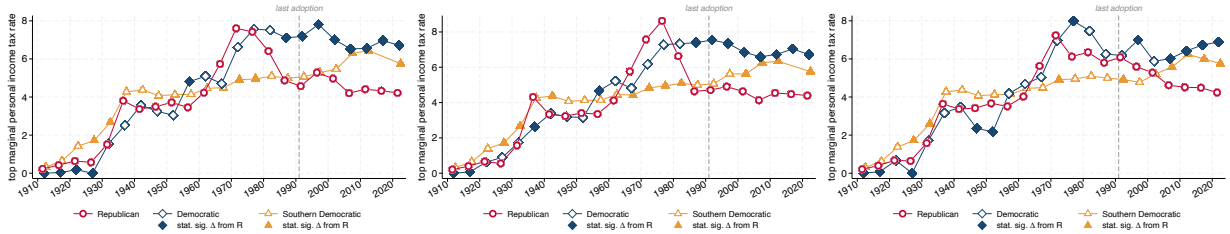


Notes: These figures show the percent of observations for which various alternative polarization measures (described at the beginning of Appendix J) match the value of our main measure, and how this match rate is impacted by the Southern Democratic states. Panel A replicates Figure 1(e) and excludes observations in the "Other" category. Panel B excludes the "Other" and "Southern Democrat" categories.

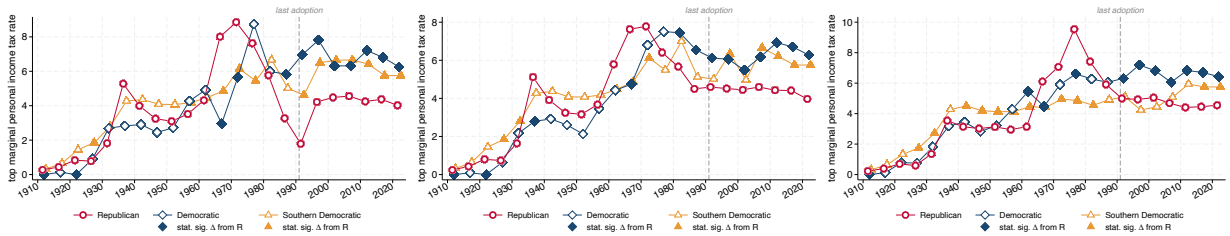
J.2 Tax Rates Using Alternative Definitions

Figure J.36: Top Personal Income Tax in Republican vs. Democratic States

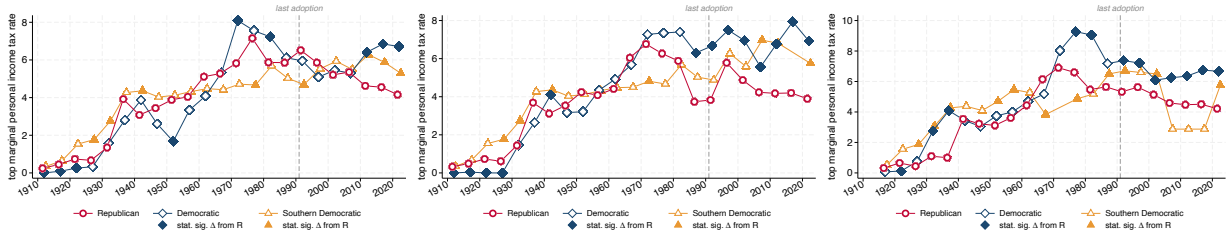
(a) State Legislatures (b) State Senate (c) State House



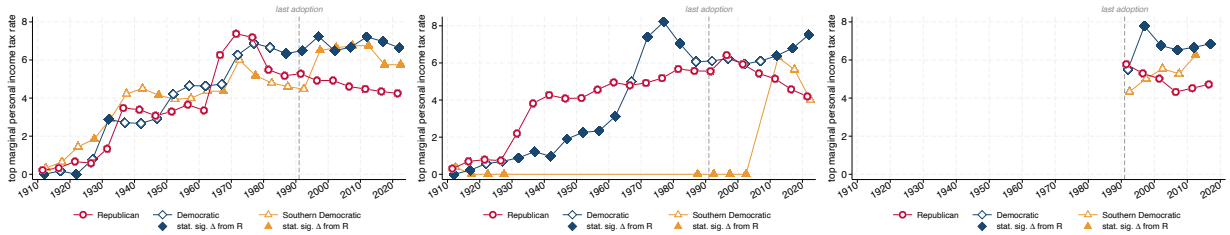
(d) US Legislatures (e) US Senate (f) US House



(g) Governor (h) Gov. & State Legislatures (i) Presidential Pledge



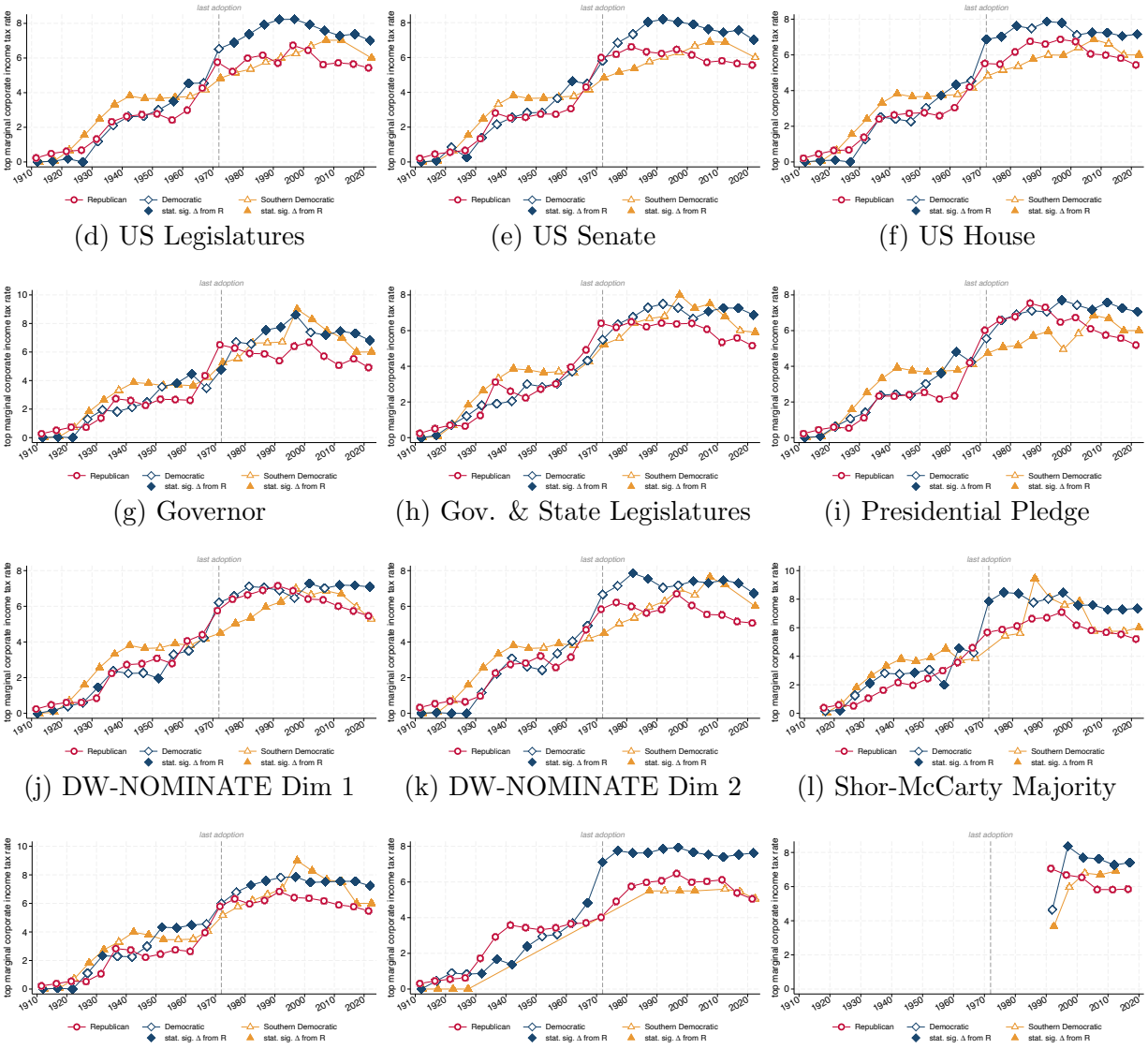
(j) DW-NOMINATE Dim 1 (k) DW-NOMINATE Dim 2 (l) Shor-McCarty Majority



Notes: These figures show average top personal income tax rates in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown.

Figure J.37: Top Corporate Income Tax in Republican vs. Democratic States

(a) State Legislatures (b) State Senate (c) State House



(d) US Legislatures (e) US Senate (f) US House

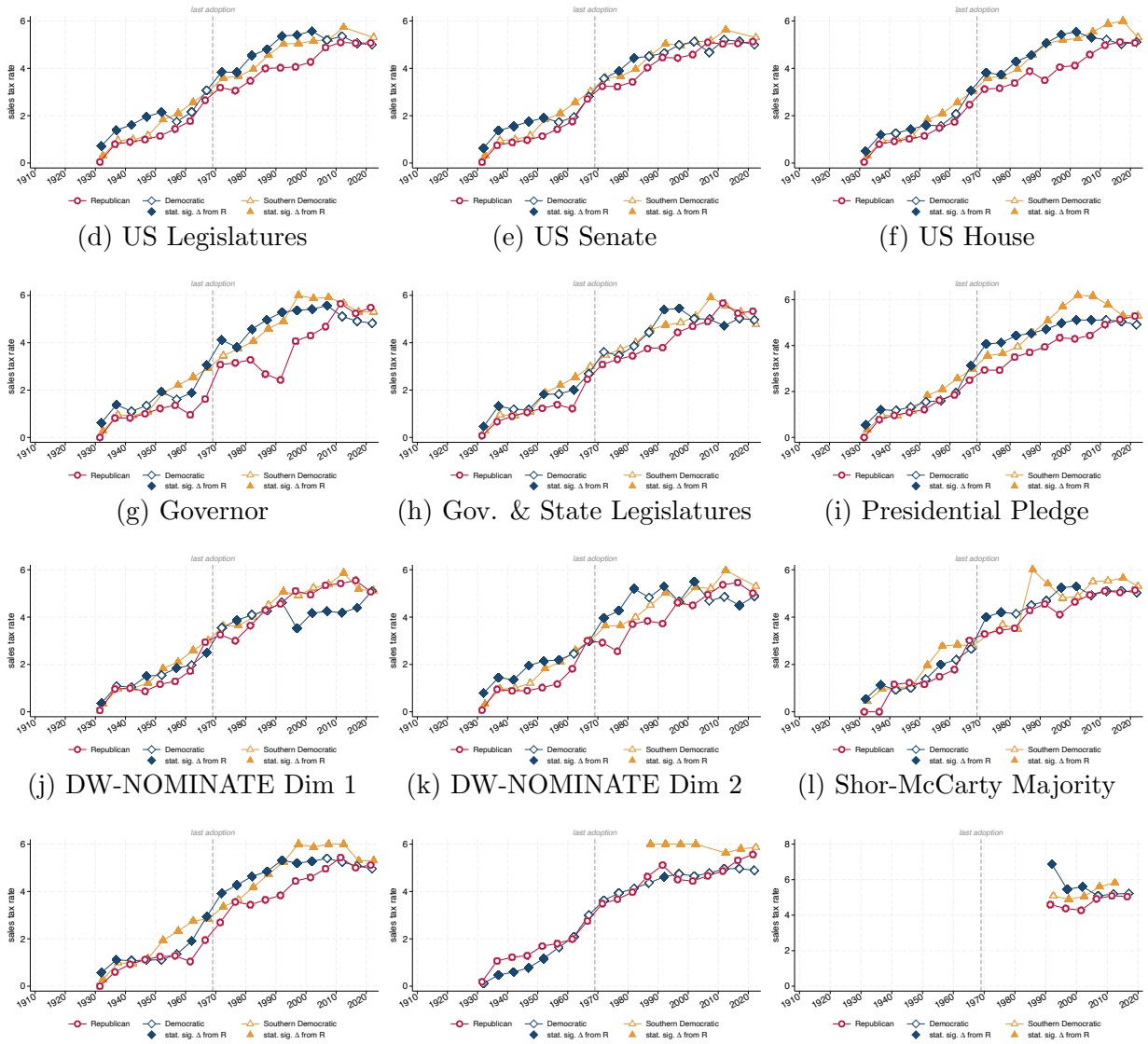
(g) Governor (h) Gov. & State Legislatures (i) Presidential Pledge

(j) DW-NOMINATE Dim 1 (k) DW-NOMINATE Dim 2 (l) Shor-McCarty Majority

Notes: These figures show average top corporate income tax rates in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown.

Figure J.38: Sales Tax in Republican vs. Democratic States

(a) State Legislatures (b) State Senate (c) State House



(d) US Legislatures (e) US Senate (f) US House

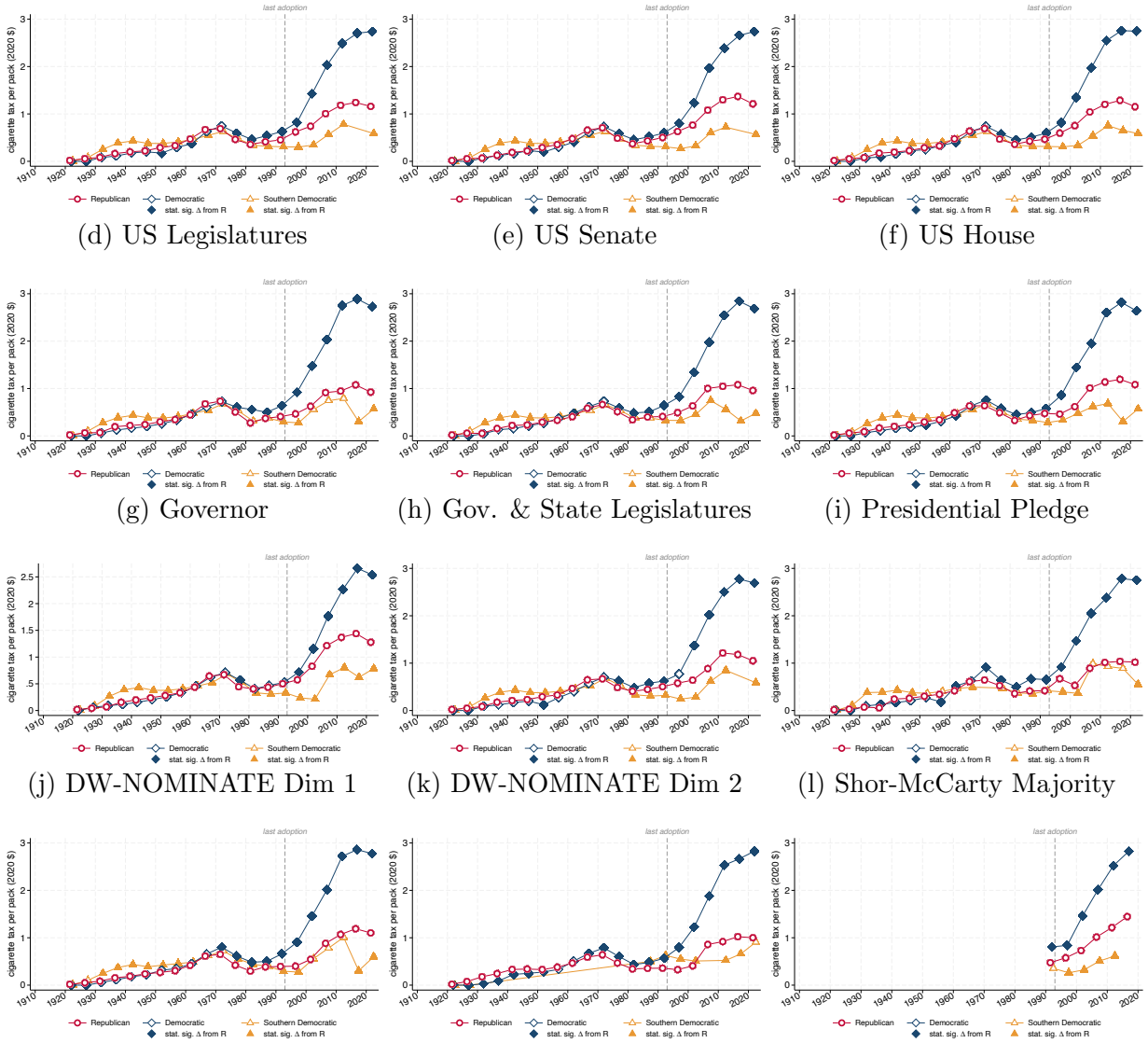
(g) Governor (h) Gov. & State Legislatures (i) Presidential Pledge

(j) DW-NOMINATE Dim 1 (k) DW-NOMINATE Dim 2 (l) Shor-McCarty Majority

Notes: These figures show average sales tax rates in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown.

Figure J.39: Cigarette Tax in Republican vs. Democratic States

(a) State Legislatures (b) State Senate (c) State House



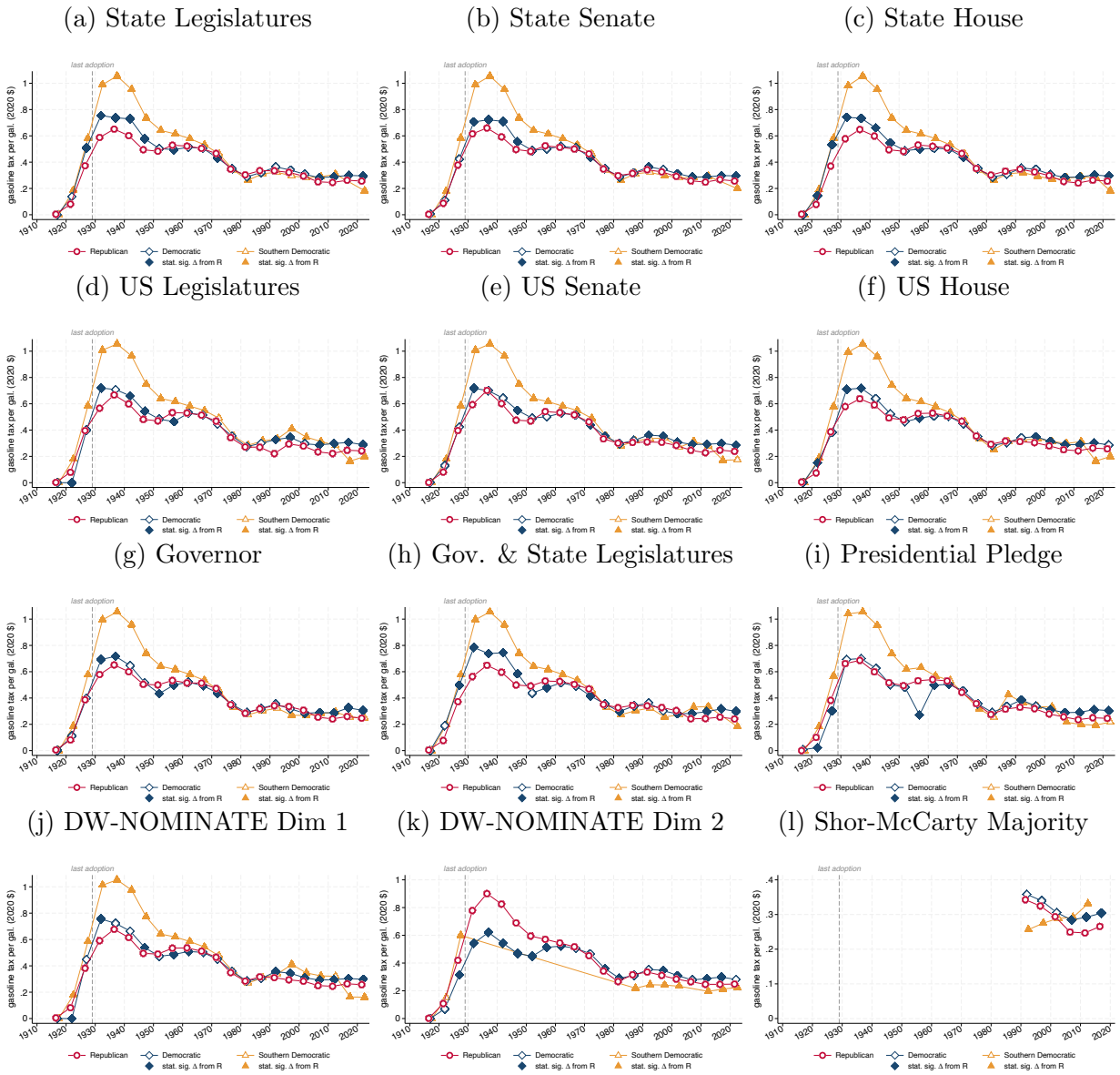
(d) US Legislatures (e) US Senate (f) US House

(g) Governor (h) Gov. & State Legislatures (i) Presidential Pledge

(j) DW-NOMINATE Dim 1 (k) DW-NOMINATE Dim 2 (l) Shor-McCarty Majority

Notes: These figures show average cigarette tax rates in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown.

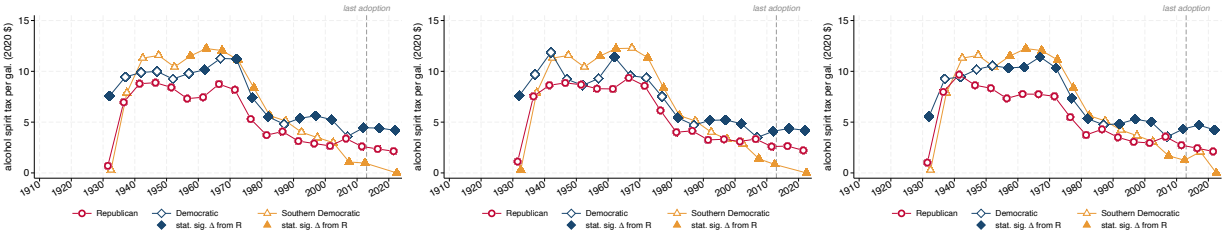
Figure J.40: Gasoline Tax in Republican vs. Democratic States



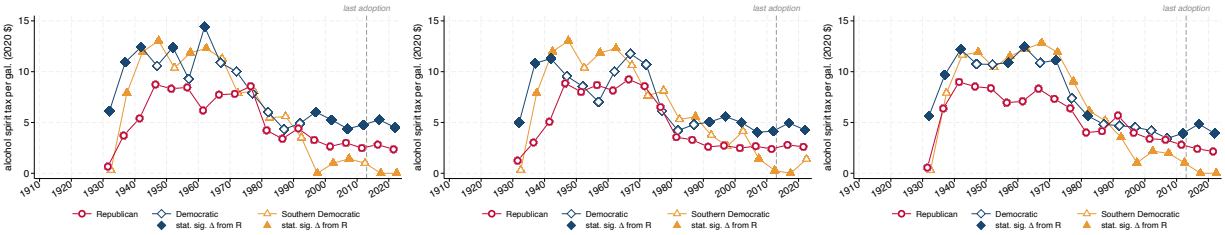
Notes: These figures show average gasoline tax rates in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown.

Figure J.41: Alcohol Spirit Tax in Republican vs. Democratic States

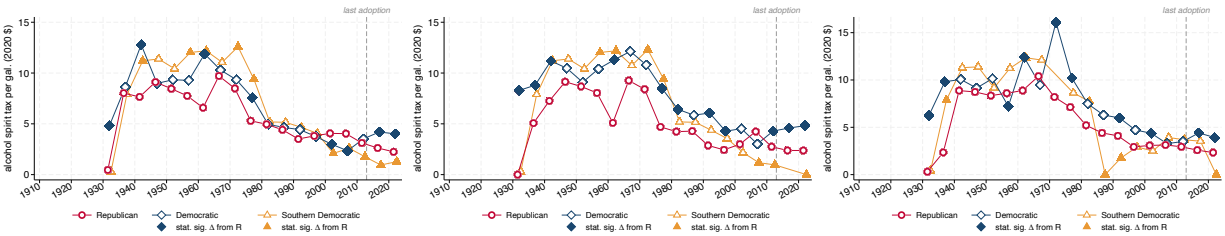
(a) State Legislatures (b) State Senate (c) State House



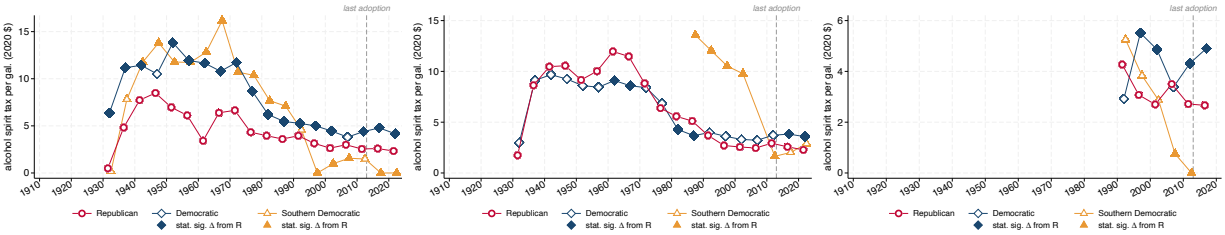
(d) US Legislatures (e) US Senate (f) US House



(g) Governor (h) Gov. & State Legislatures (i) Presidential Pledge



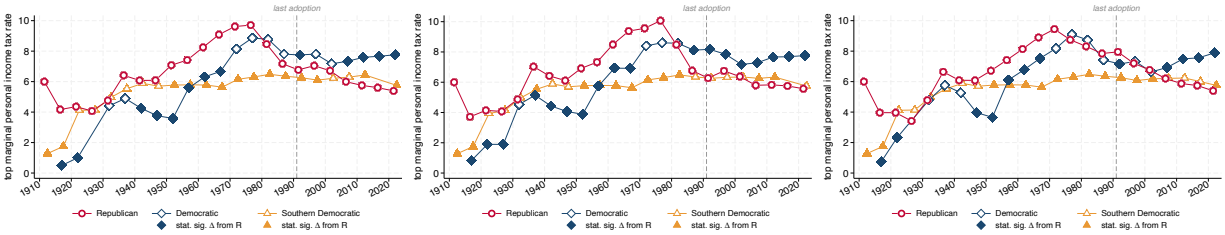
(j) DW-NOMINATE Dim 1 (k) DW-NOMINATE Dim 2 (l) Shor-McCarty Majority



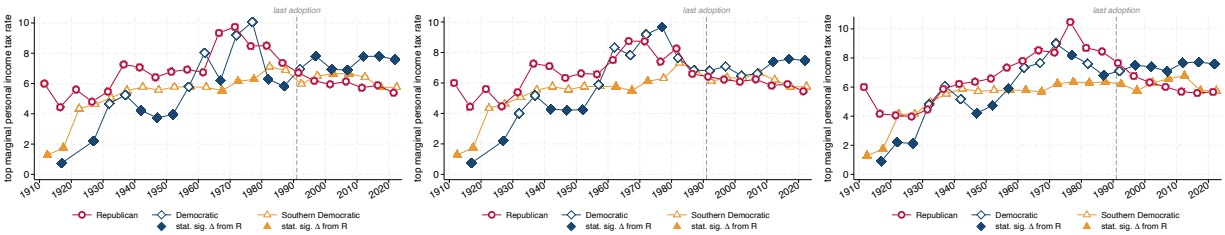
Notes: These figures show average alcohol spirit tax rates in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown.

Figure J.42: Top Personal Income Tax in Republican vs. Democratic States
Only Non-Zero Rates Included (Intensive Margin)

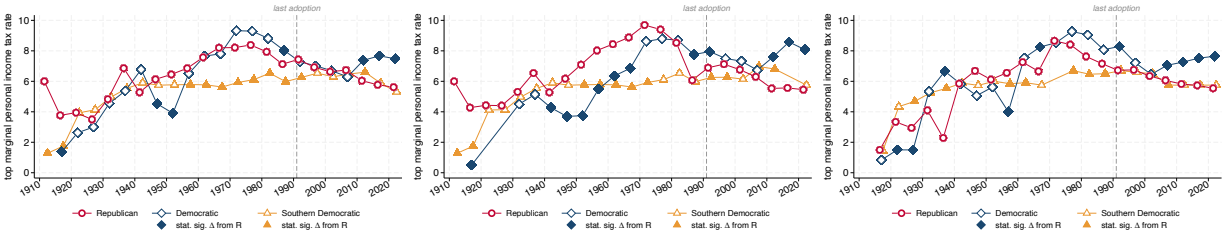
(a) State Legislatures (b) State Senate (c) State House



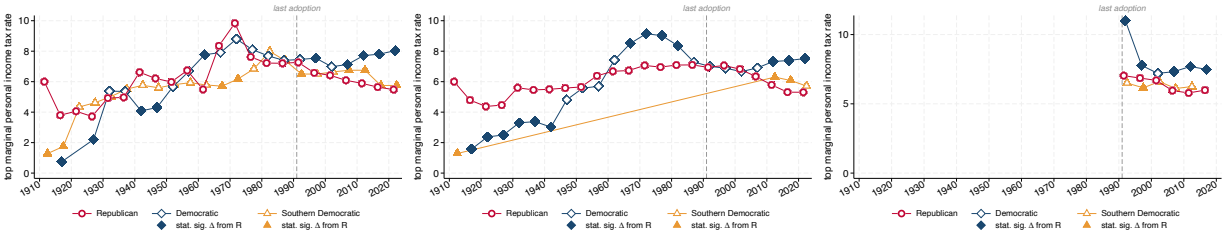
(d) US Legislatures (e) US Senate (f) US House



(g) Governor (h) Gov. & State Legislatures (i) Presidential Pledge



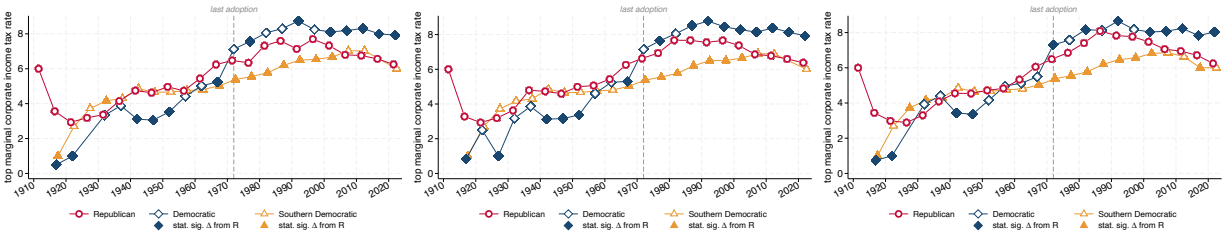
(j) DW-NOMINATE Dim 1 (k) DW-NOMINATE Dim 2 (l) Shor-McCarty Majority



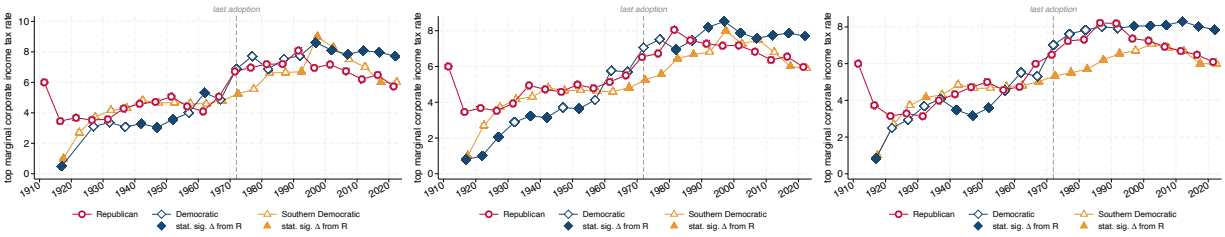
Notes: These figures show average top personal income tax rates (non-zero only) in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown.

Figure J.43: Top Corporate Income Tax in Republican vs. Democratic States
Only Non-Zero Rates Included (Intensive Margin)

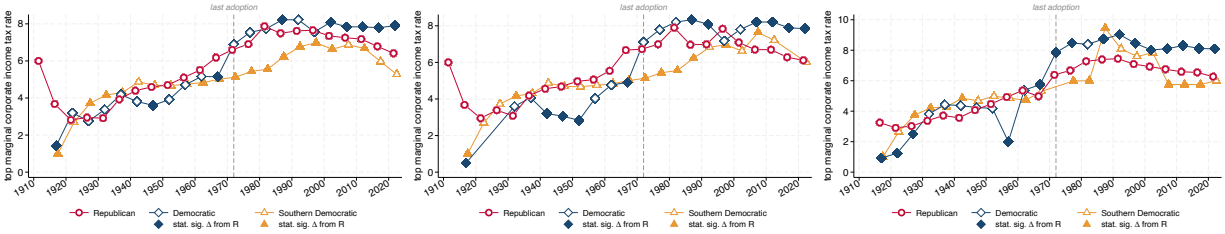
(a) State Legislatures (b) State Senate (c) State House



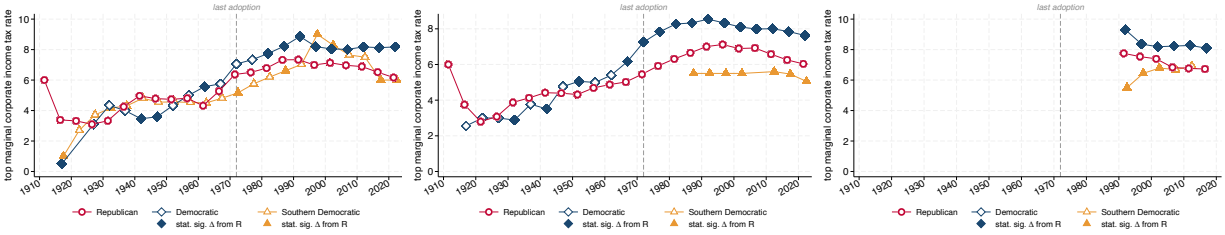
(d) US Legislatures (e) US Senate (f) US House



(g) Governor (h) Gov. & State Legislatures (i) Presidential Pledge



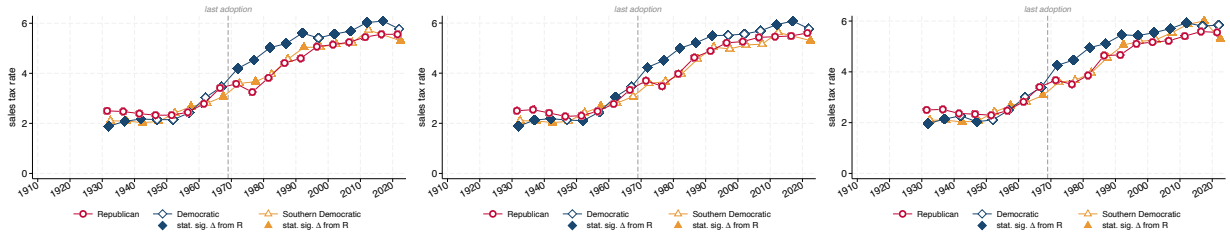
(j) DW-NOMINATE Dim 1 (k) DW-NOMINATE Dim 2 (l) Shor-McCarty Majority



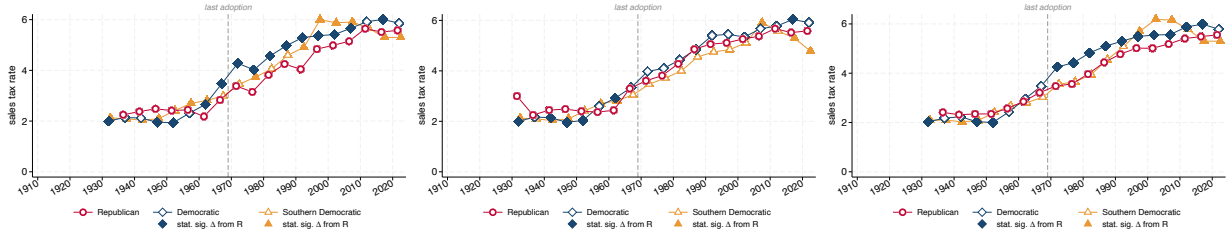
Notes: These figures show average top corporate income tax rates (non-zero only) in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown.

Figure J.44: Sales Tax in Republican vs. Democratic States
Only Non-Zero Rates Included (Intensive Margin)

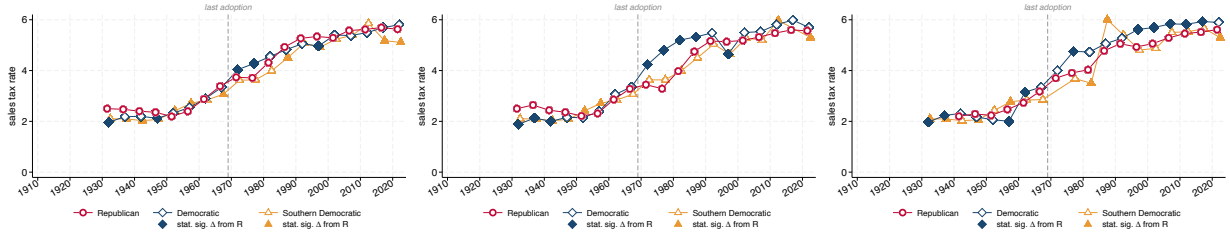
(a) State Legislatures (b) State Senate (c) State House



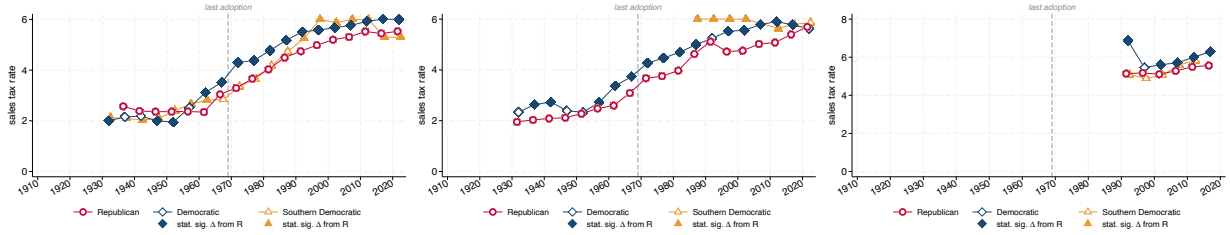
(d) US Legislatures (e) US Senate (f) US House



(g) Governor (h) Gov. & State Legislatures (i) Presidential Pledge



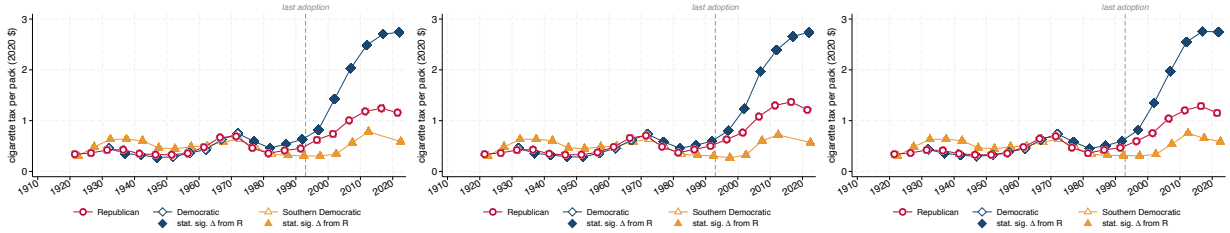
(j) DW-NOMINATE Dim 1 (k) DW-NOMINATE Dim 2 (l) Shor-McCarty Majority



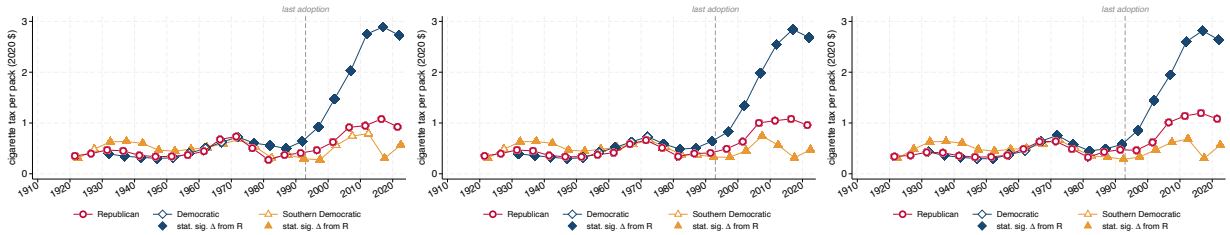
Notes: These figures show average sales tax rates (non-zero only) in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown.

Figure J.45: Cigarette Tax in Republican vs. Democratic States
Only Non-Zero Rates Included (Intensive Margin)

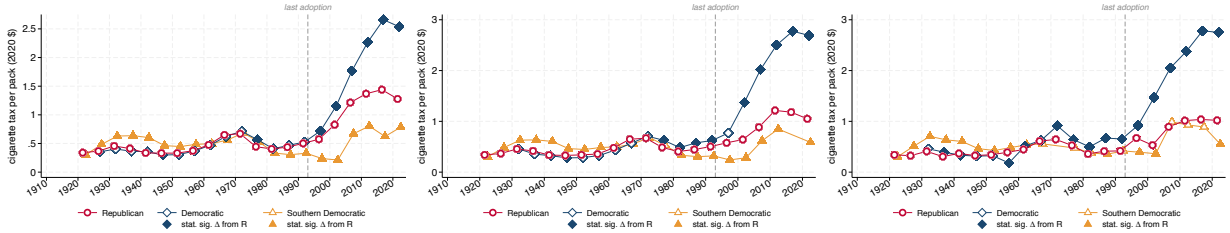
(a) State Legislatures (b) State Senate (c) State House



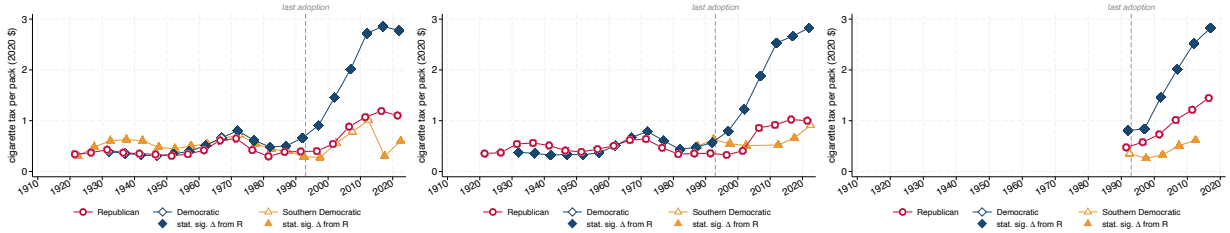
(d) US Legislatures (e) US Senate (f) US House



(g) Governor (h) Gov. & State Legislatures (i) Presidential Pledge

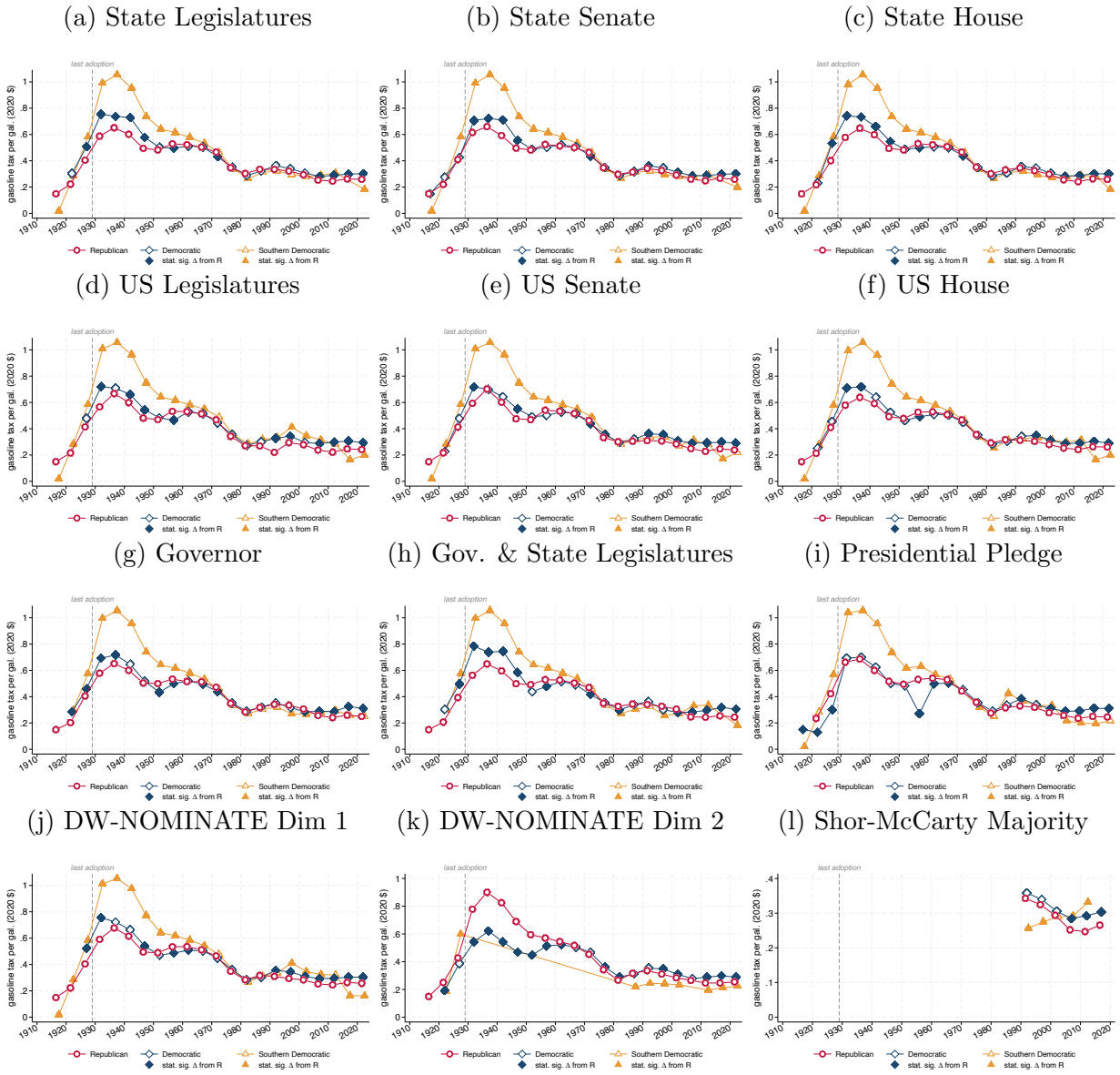


(j) DW-NOMINATE Dim 1 (k) DW-NOMINATE Dim 2 (l) Shor-McCarty Majority



Notes: These figures show average cigarette tax rates (non-zero only) in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown.

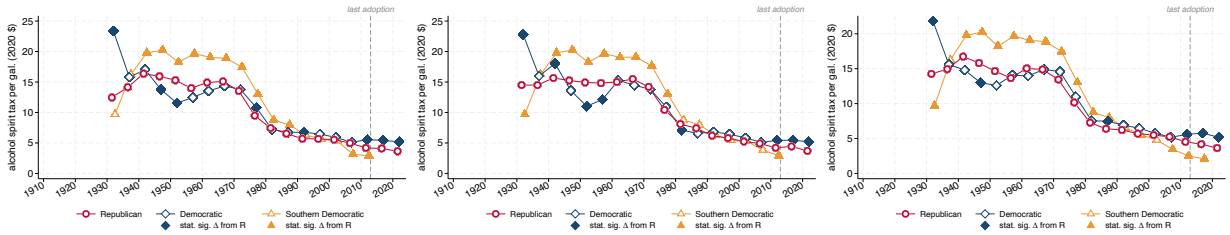
Figure J.46: Gasoline Tax in Republican vs. Democratic States
Only Non-Zero Rates Included (Intensive Margin)



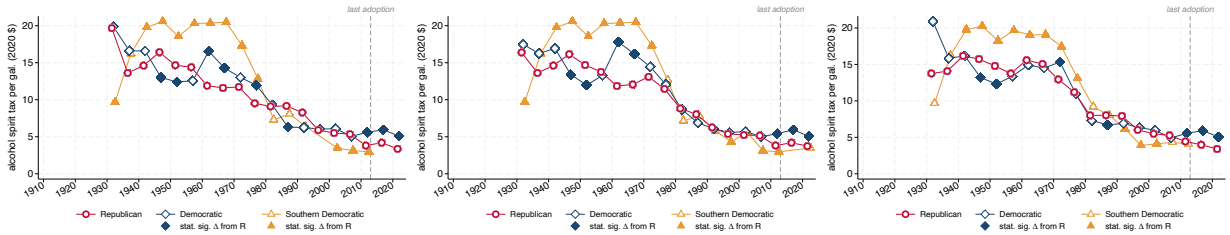
Notes: These figures show average gasoline tax rates (non-zero only) in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown.

Figure J.47: Alcohol Spirit Tax in Republican vs. Democratic States
Only Non-Zero Rates Included (Intensive Margin)

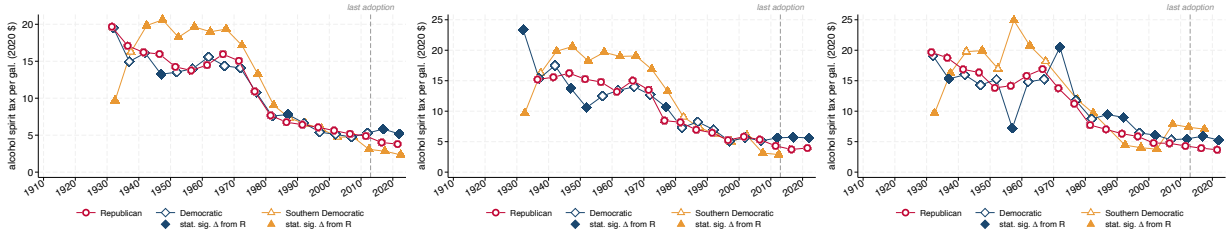
(a) State Legislatures (b) State Senate (c) State House



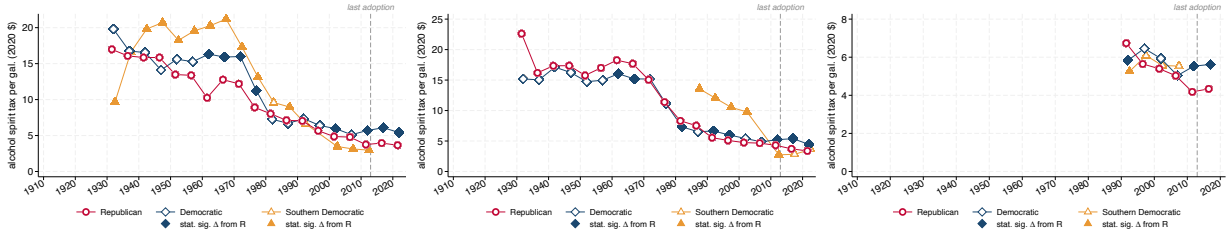
(d) US Legislatures (e) US Senate (f) US House

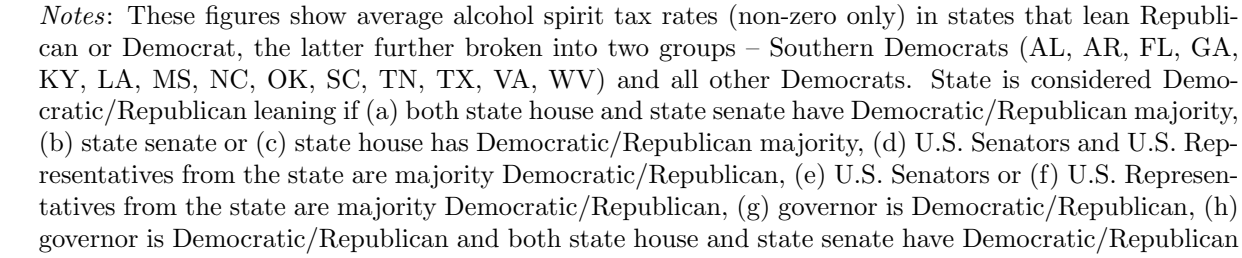


(g) Governor (h) Gov. & State Legislatures (i) Presidential Pledge



(j) DW-NOMINATE Dim 1 (k) DW-NOMINATE Dim 2 (l) Shor-McCarty Majority



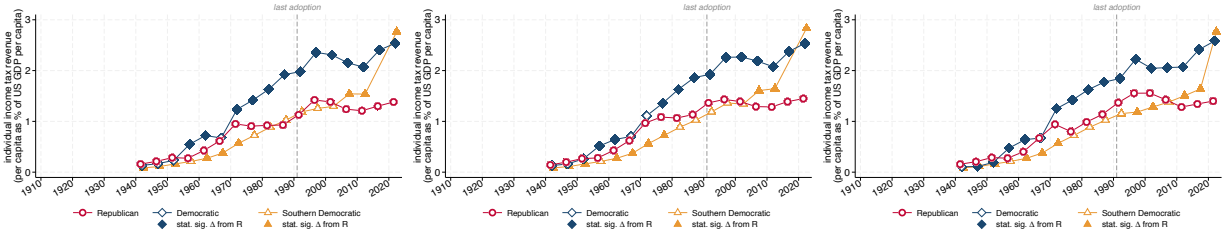


Notes: These figures show average alcohol spirit tax rates (non-zero only) in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown.

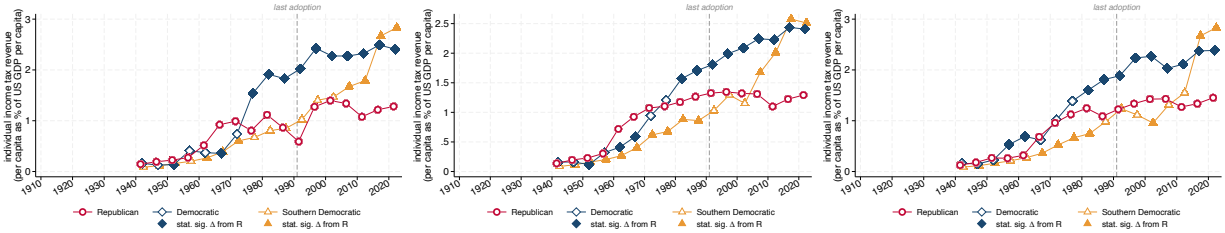
J.3 Revenues Using Alternative Definitions

Figure J.48: Personal Income Tax Revenue in Republican vs. Democratic States

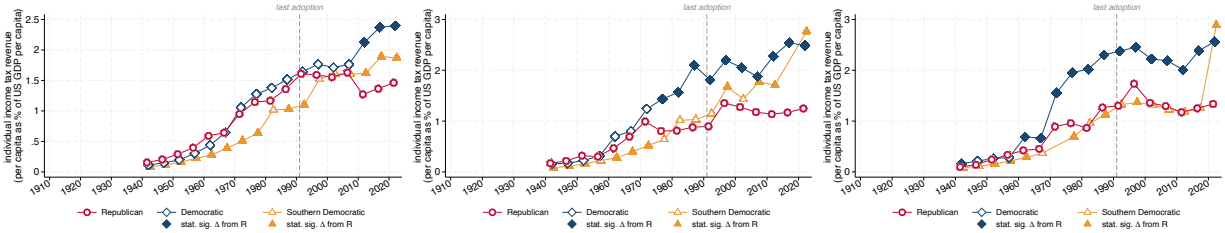
(a) State Legislatures (b) State Senate (c) State House



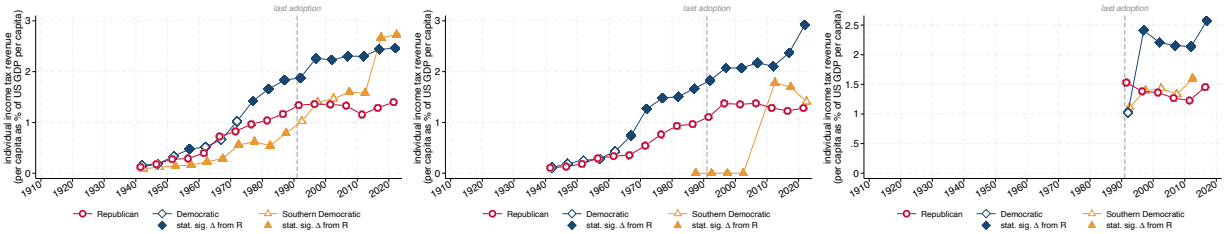
(d) US Legislatures (e) US Senate (f) US House



(g) Governor (h) Gov. & State Legislatures (i) Presidential Pledge



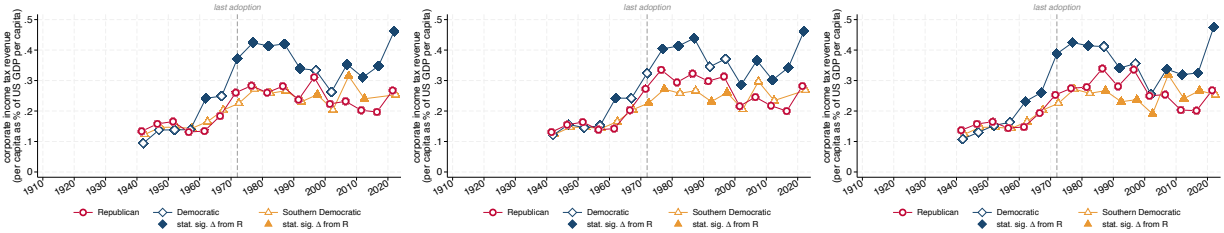
(j) DW-NOMINATE Dim 1 (k) DW-NOMINATE Dim 2 (l) Shor-McCarty Majority



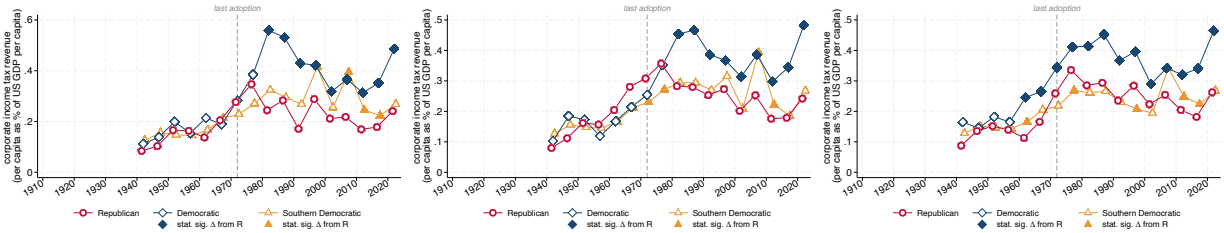
Notes: These figures show average personal income tax revenues (measured per capita as a percent of US GDP per capita) in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. We omit Alaska revenues due to exceptional volatility.

Figure J.49: Corporate Income Tax Revenue in Republican vs. Democratic States

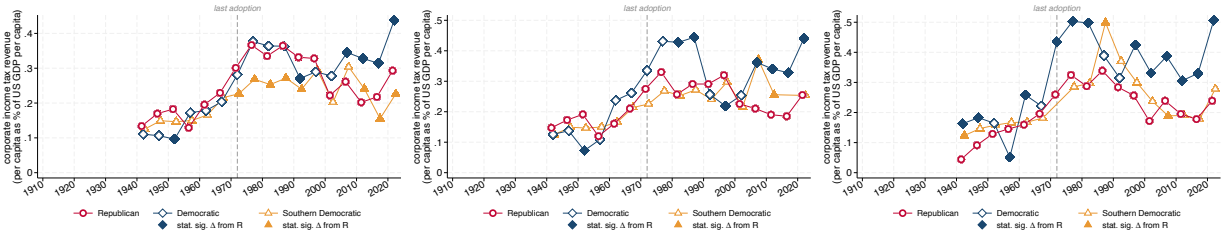
(a) State Legislatures (b) State Senate (c) State House



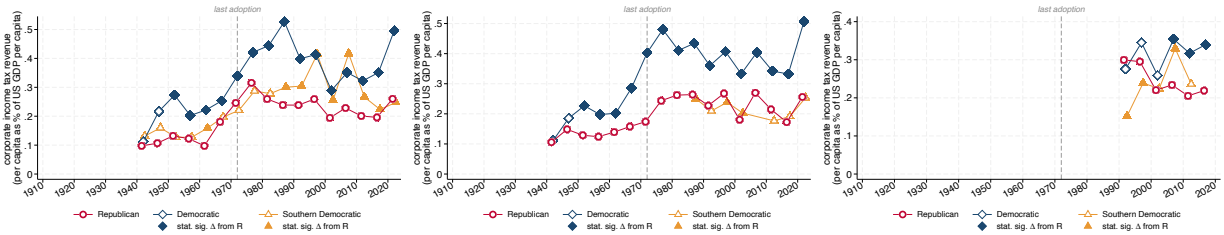
(d) US Legislatures (e) US Senate (f) US House



(g) Governor (h) Gov. & State Legislatures (i) Presidential Pledge



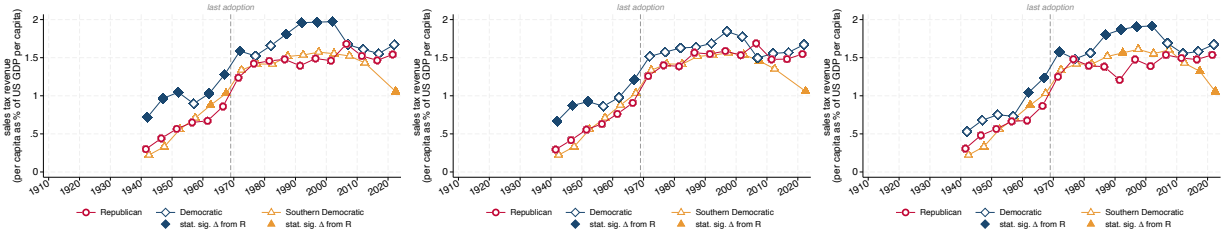
(j) DW-NOMINATE Dim 1 (k) DW-NOMINATE Dim 2 (l) Shor-McCarty Majority



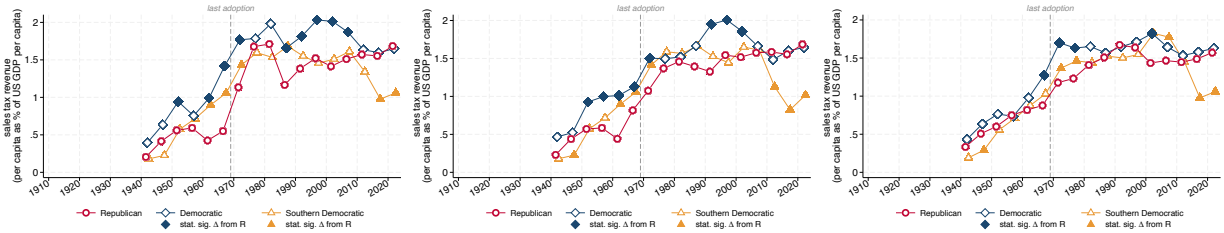
Notes: These figures show average corporate income tax revenues (measured per capita as a percent of US GDP per capita) in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. We omit Alaska revenues due to exceptional volatility.

Figure J.50: Sales Tax Revenue in Republican vs. Democratic States

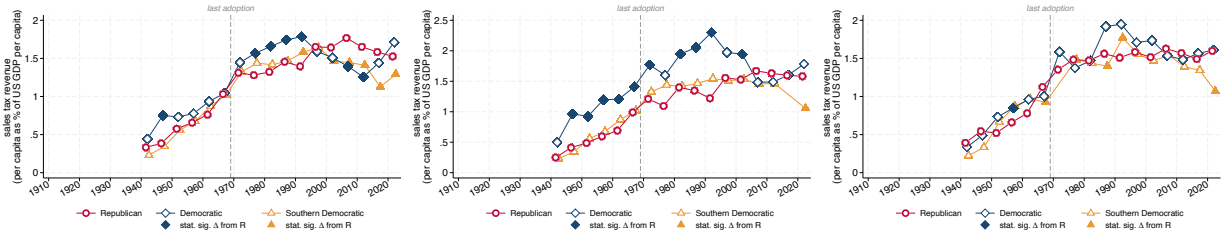
(a) State Legislatures (b) State Senate (c) State House



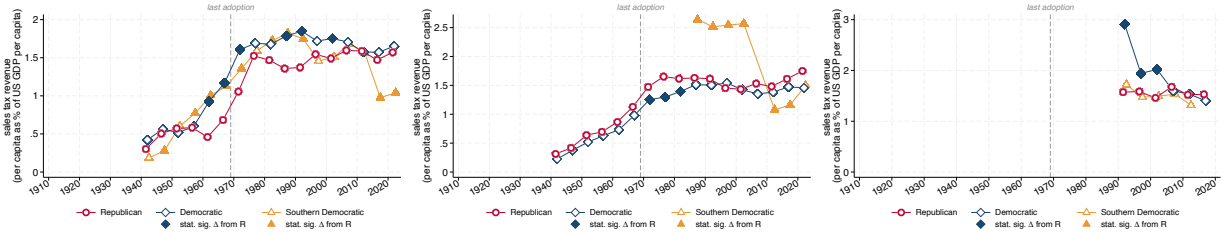
(d) US Legislatures (e) US Senate (f) US House



(g) Governor (h) Gov. & State Legislatures (i) Presidential Pledge



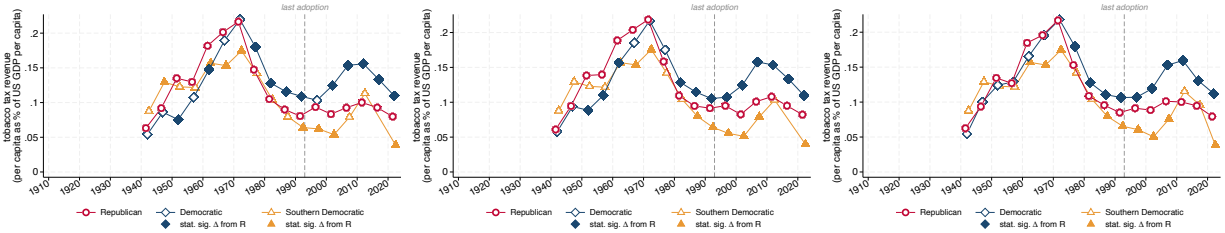
(j) DW-NOMINATE Dim 1 (k) DW-NOMINATE Dim 2 (l) Shor-McCarty Majority



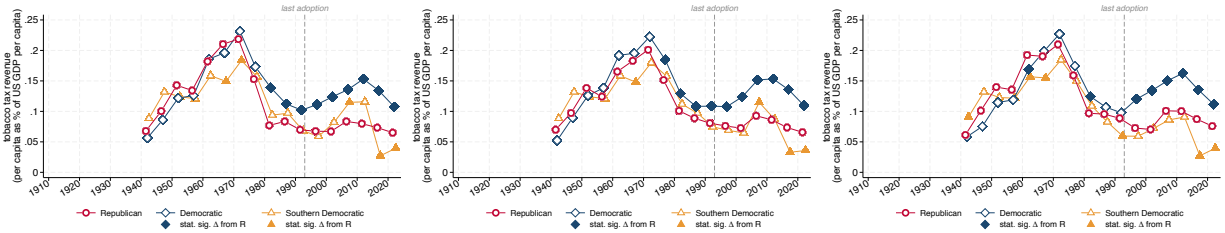
Notes: These figures show average sales tax revenues (measured per capita as a percent of US GDP per capita) in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. We omit Alaska revenues due to exceptional volatility.

Figure J.51: Tobacco Tax Revenue in Republican vs. Democratic States

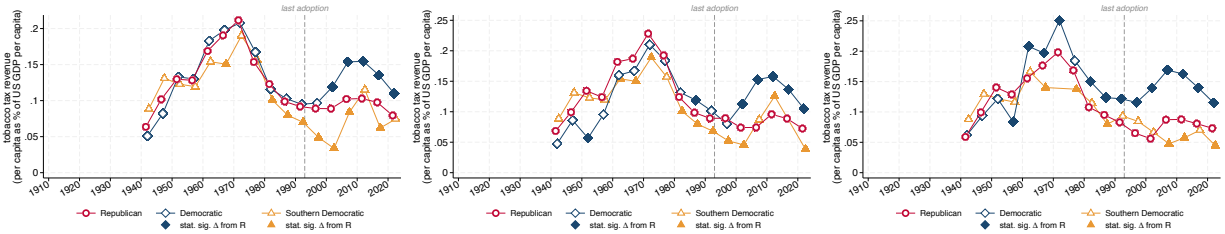
(a) State Legislatures (b) State Senate (c) State House



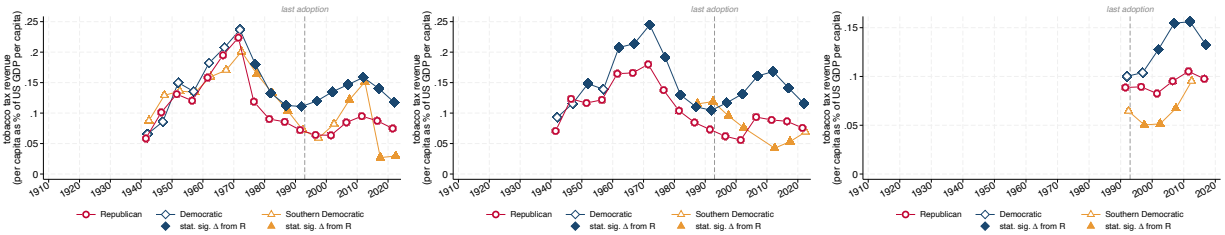
(d) US Legislatures (e) US Senate (f) US House



(g) Governor (h) Gov. & State Legislatures (i) Presidential Pledge

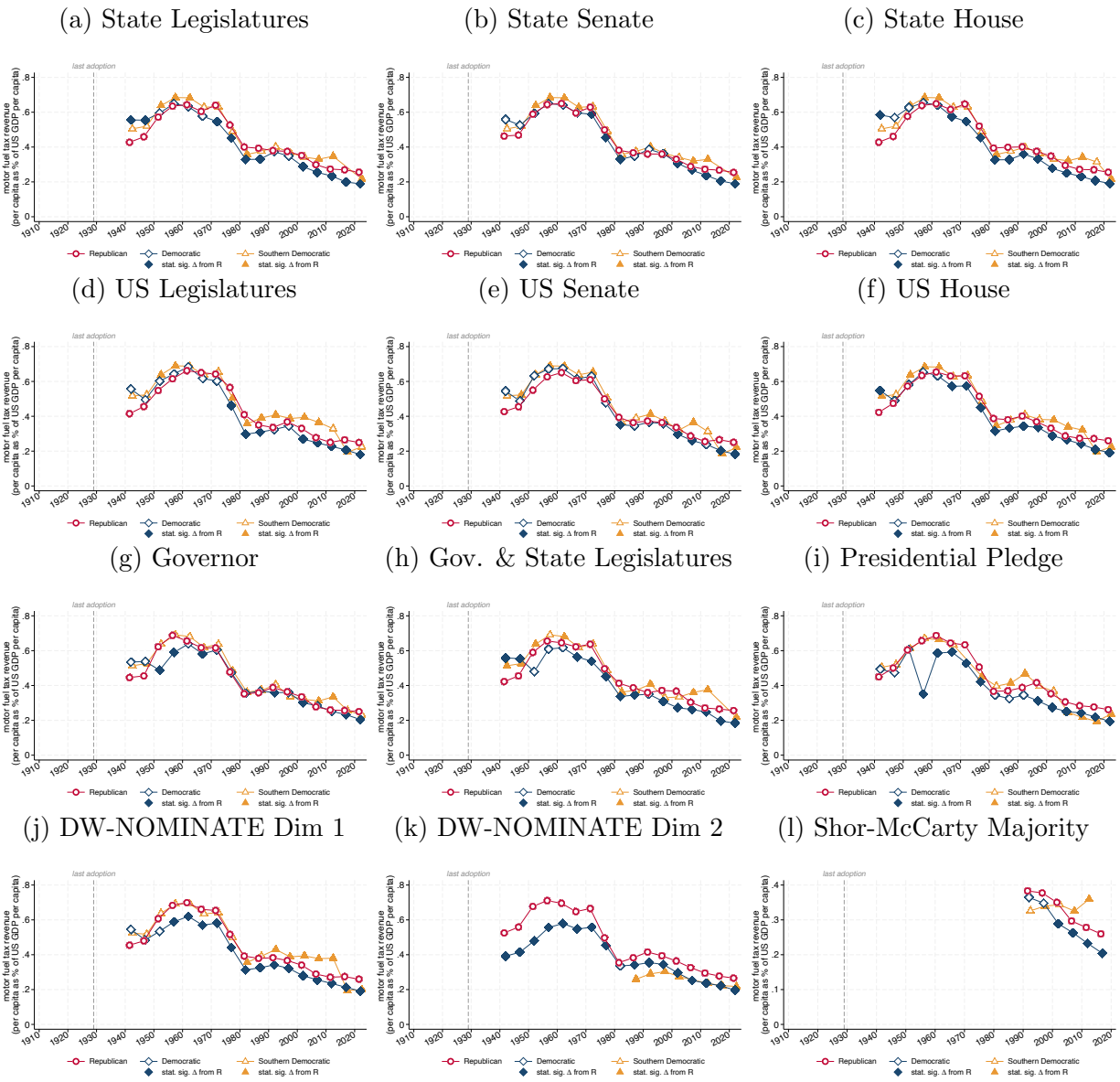


(j) DW-NOMINATE Dim 1 (k) DW-NOMINATE Dim 2 (l) Shor-McCarty Majority



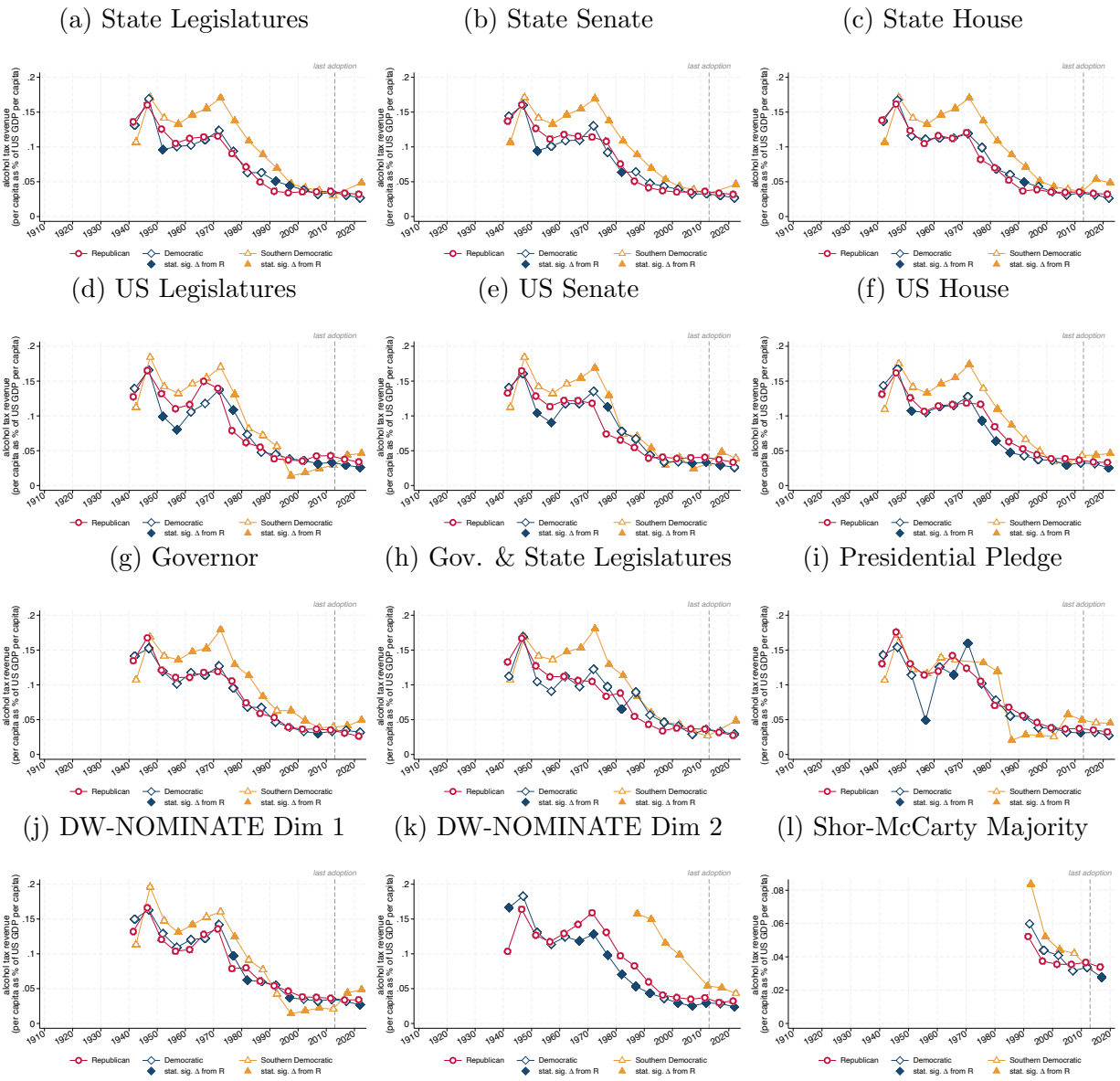
Notes: These figures show average tobacco tax revenues (measured per capita as a percent of US GDP per capita) in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. We omit Alaska revenues due to exceptional volatility.

Figure J.52: Motor Fuel Tax Revenue in Republican vs. Democratic States



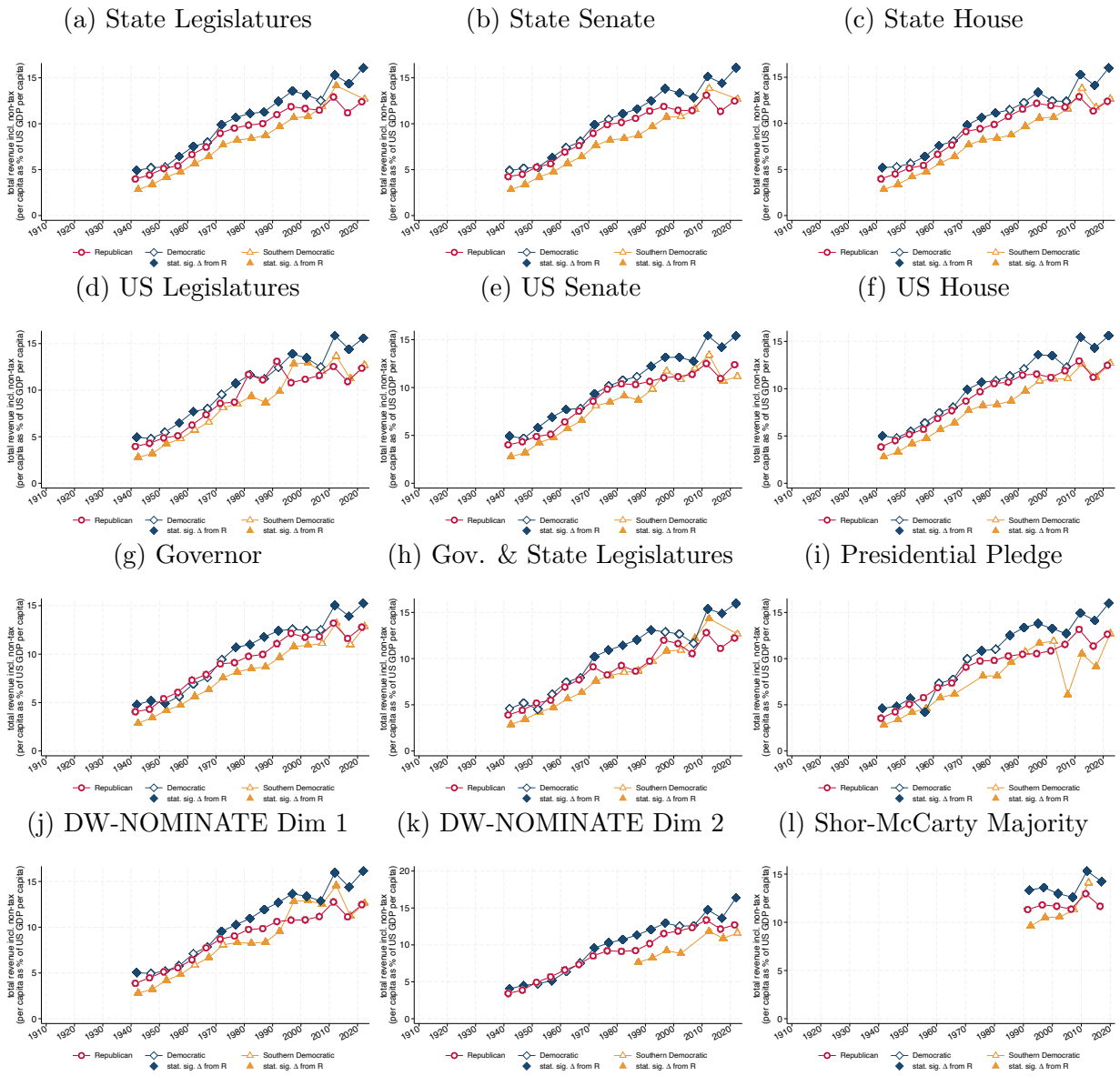
Notes: These figures show average motor fuel tax revenues (measured per capita as a percent of US GDP per capita) in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. We omit Alaska revenues due to exceptional volatility.

Figure J.53: Alcohol Tax Revenue in Republican vs. Democratic States



Notes: These figures show average alcohol tax revenues (measured per capita as a percent of US GDP per capita) in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. We omit Alaska revenues due to exceptional volatility.

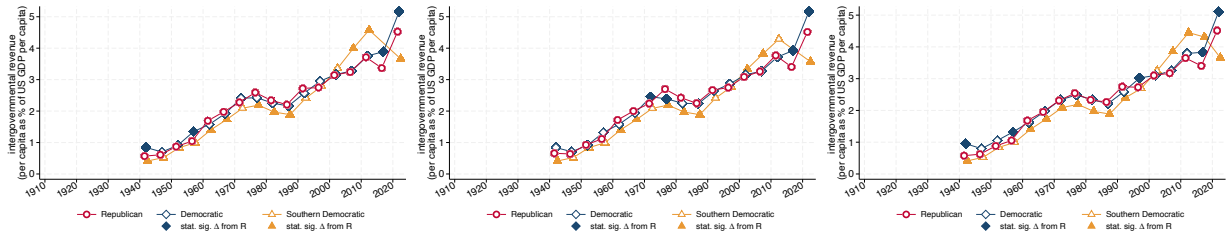
Figure J.54: Total Including Non-Tax Revenue in Republican vs. Democratic States



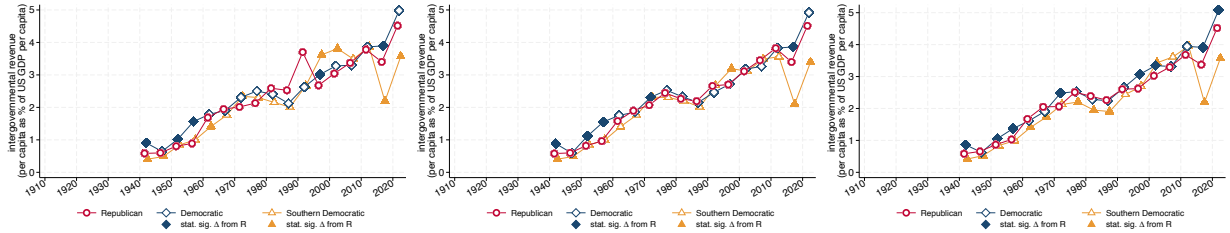
Notes: These figures show average total including non-tax revenue (measured per capita as a percent of US GDP per capita) in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. We omit Alaska revenues due to exceptional volatility.

Figure J.55: Intergovernmental (Non-Tax) Revenue in Republican vs. Democratic States

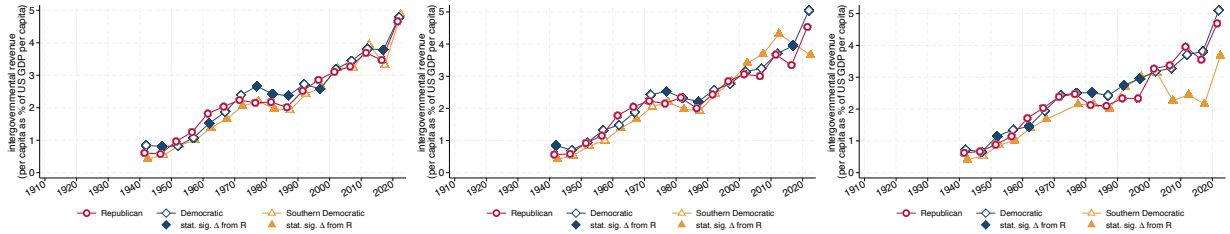
(a) State Legislatures (b) State Senate (c) State House



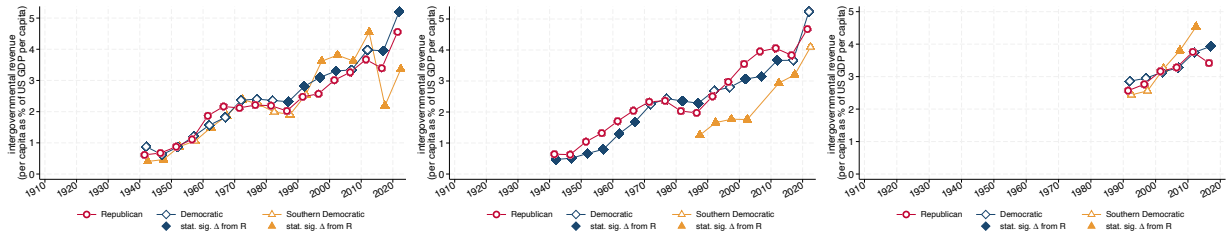
(d) US Legislatures (e) US Senate (f) US House



(g) Governor (h) Gov. & State Legislatures (i) Presidential Pledge

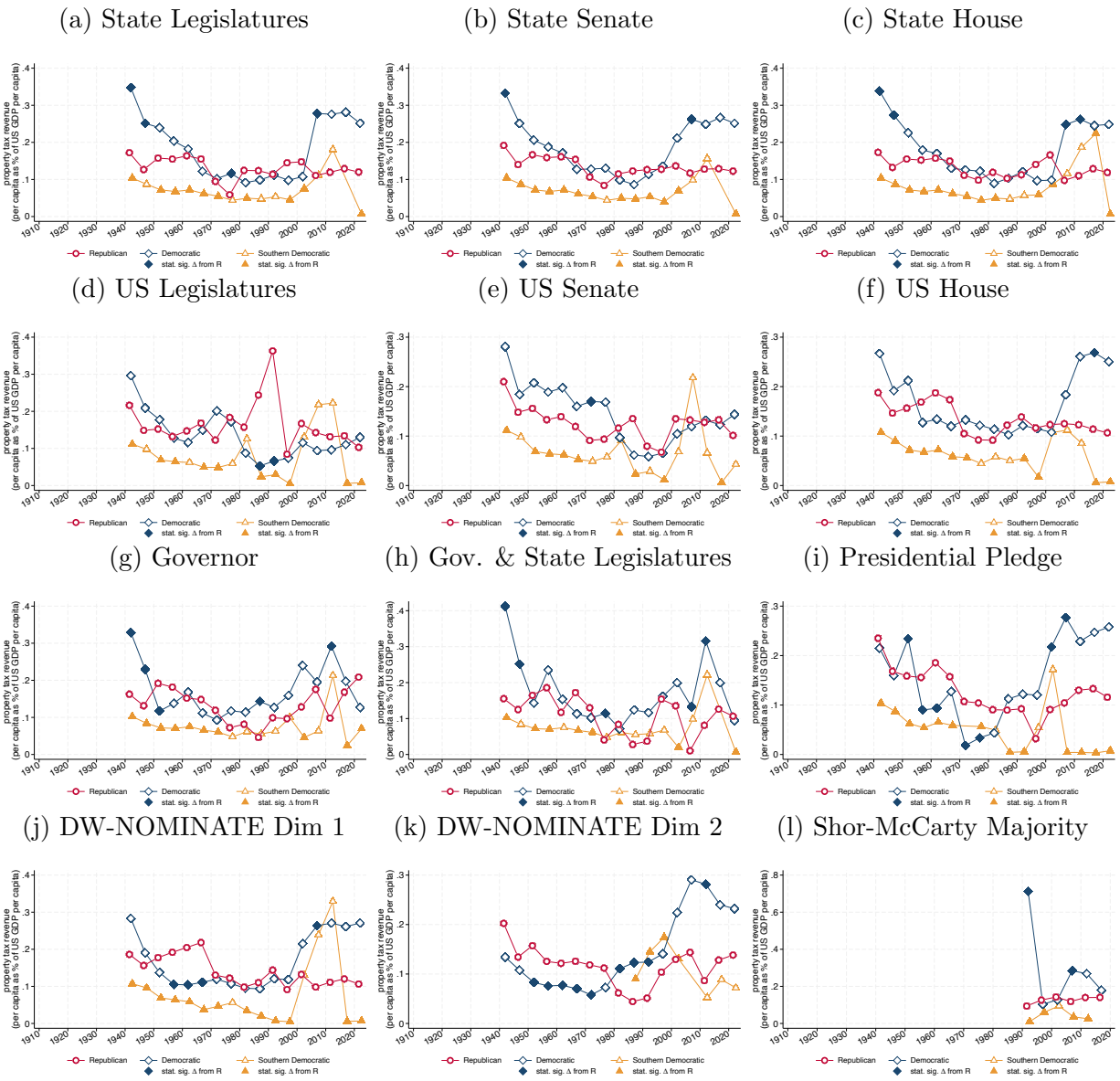


(j) DW-NOMINATE Dim 1 (k) DW-NOMINATE Dim 2 (l) Shor-McCarty Majority



Notes: These figures show average intergovernmental revenue (measured per capita as a percent of US GDP per capita) in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/− 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/− 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. We omit Alaska revenues due to exceptional volatility.

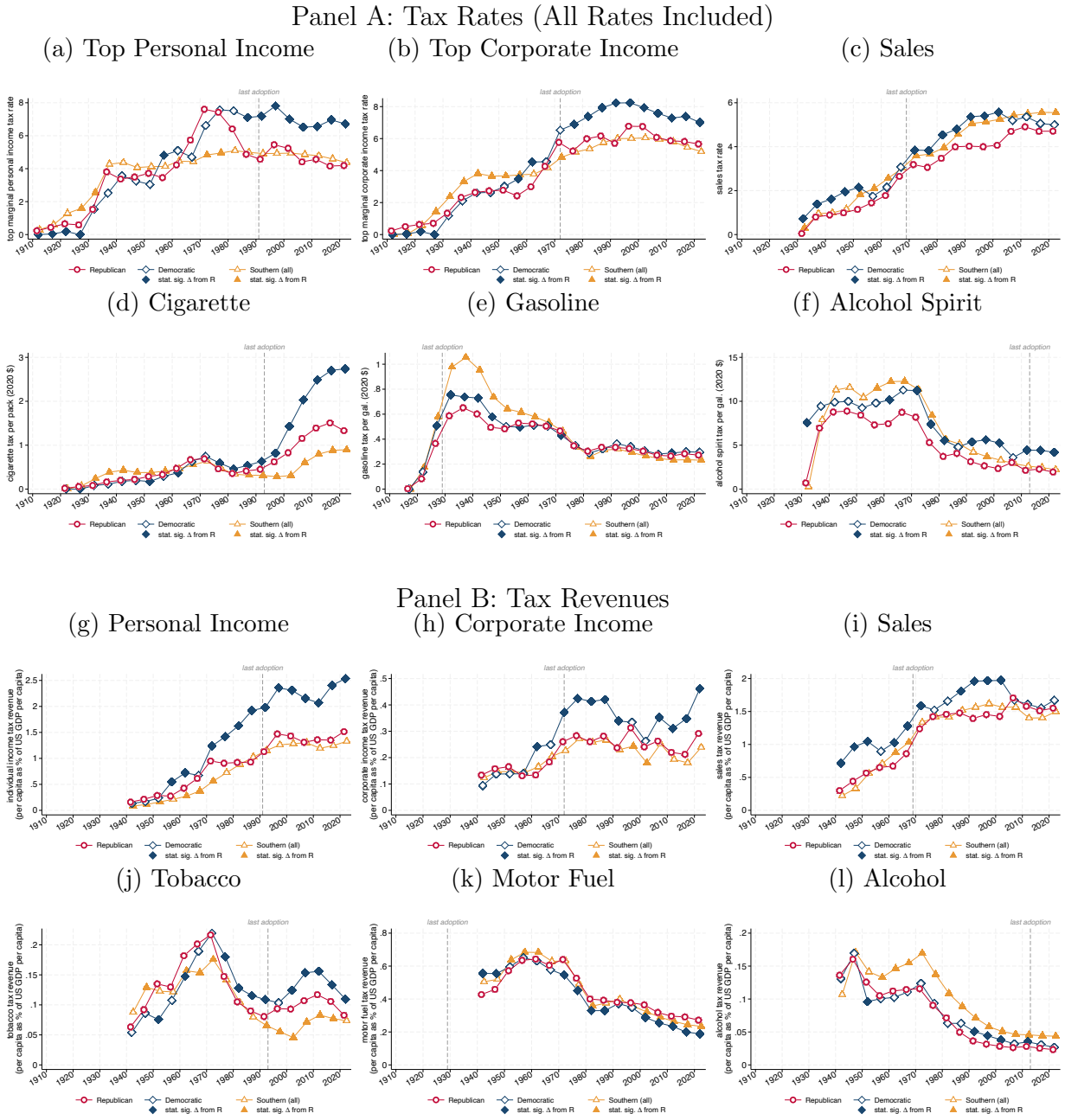
Figure J.56: Property Tax Revenue in Republican vs. Democratic States



Notes: These figures show average property tax revenue (measured per capita as a percent of US GDP per capita) in states that lean Republican or Democrat, the latter further broken into two groups – Southern Democrats (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV) and all other Democrats. State is considered Democratic/Republican leaning if (a) both state house and state senate have Democratic/Republican majority, (b) state senate or (c) state house has Democratic/Republican majority, (d) U.S. Senators and U.S. Representatives from the state are majority Democratic/Republican, (e) U.S. Senators or (f) U.S. Representatives from the state are majority Democratic/Republican, (g) governor is Democratic/Republican, (h) governor is Democratic/Republican and both state house and state senate have Democratic/Republican majority, (i) the state pledged to Democratic/Republican presidential candidate in the most recent presidential election, (j) mean DW-NOMINATE Dimension 1 scores or (k) Dimension 2 scores are +/– 0 for both U.S. Senators and Representatives (l) mean Shor-McCarty score among state senate majority and state house majority are +/– 0. For Democratic and Southern Democratic states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. We omit Alaska revenues due to exceptional volatility.

J.4 Tax Rates & Revenues with Southern States Separately

Figure J.57: Democratic vs. Republican (excl. Southern states) vs. Southern States (all)

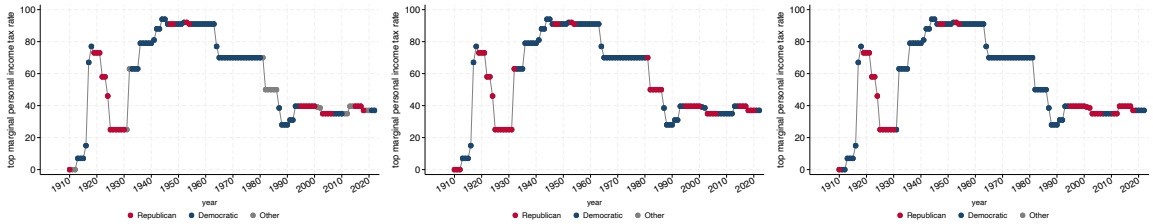


Notes: These figures show average tax rates and tax revenues in 5-year intervals among states that lean Republican (excl. Southern states), lean Democratic (excl. Southern states), and Southern states (AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV). State is considered Democratic- (Republican-) leaning if both state house and state senate have Democratic (Republican) majority. For Democratic and Southern states, whether the mean is statistically different from the Republican mean at the 95% level is also shown. Tax revenues in Panel B are measured per capita as a percent of GDP per capita. We omit Alaska tax revenues as these are exceptionally volatile.

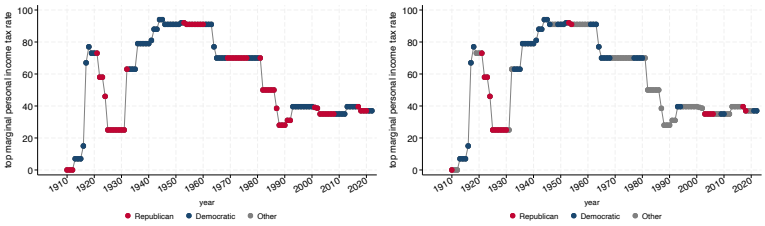
J.5 Federal Tax Rates & Revenues Using Alternative Definitions

Figure J.58: Federal Top Personal Income Tax

(a) U.S. Congress (b) U.S. Senate (c) U.S. House



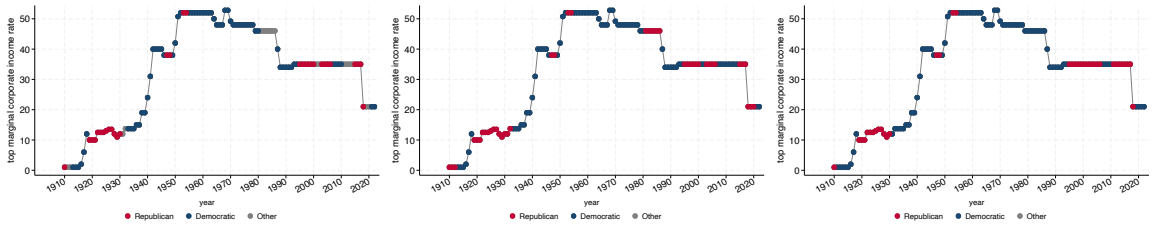
(d) President (e) President & Congress



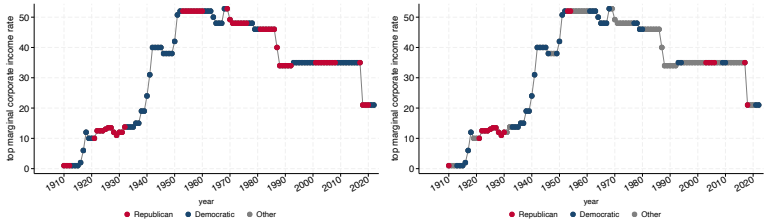
Notes: These figures show the federal top personal income tax rate in Democratic vs. Republican years. A year is considered Democratic/Republican if (a) both the U.S. Senate and U.S. House have Democratic/Republican majority, (b) U.S. Senate or (c) U.S. House has Democratic/Republican majority, (d) the president is a Democrat/Republican, or (e) the president is a Democrat/Republican and both the U.S. Senate and House have Democratic/Republican majority.

Figure J.59: Federal Top Corporate Income Tax

(a) U.S. Congress (b) U.S. Senate (c) U.S. House



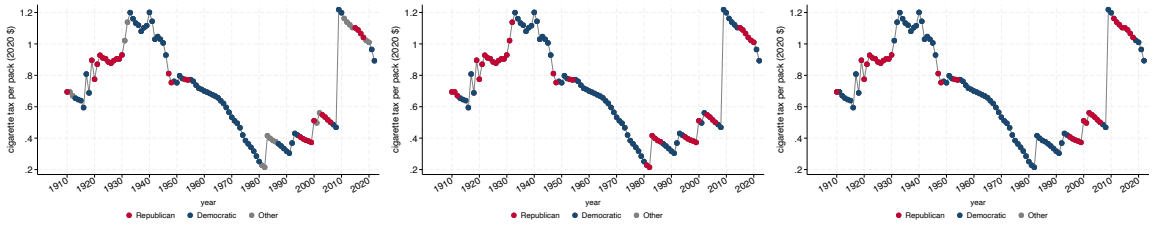
(d) President (e) President & Congress



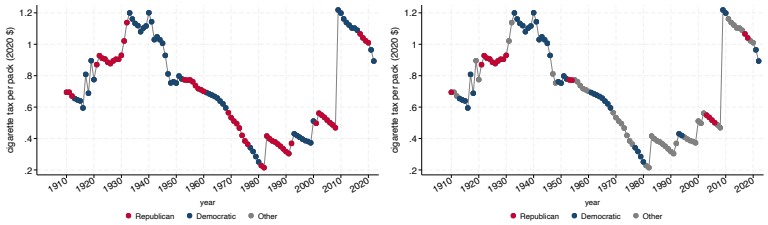
Notes: These figures show the federal top corporate income tax rate in Democratic vs. Republican years. A year is considered Democratic/Republican if (a) both the U.S. Senate and U.S. House have Democratic/Republican majority, (b) U.S. Senate or (c) U.S. House has Democratic/Republican majority, (d) the president is a Democrat/Republican, or (e) the president is a Democrat/Republican and both the U.S. Senate and House have Democratic/Republican majority.

Figure J.60: Federal Cigarette Tax

(a) U.S. Congress (b) U.S. Senate (c) U.S. House

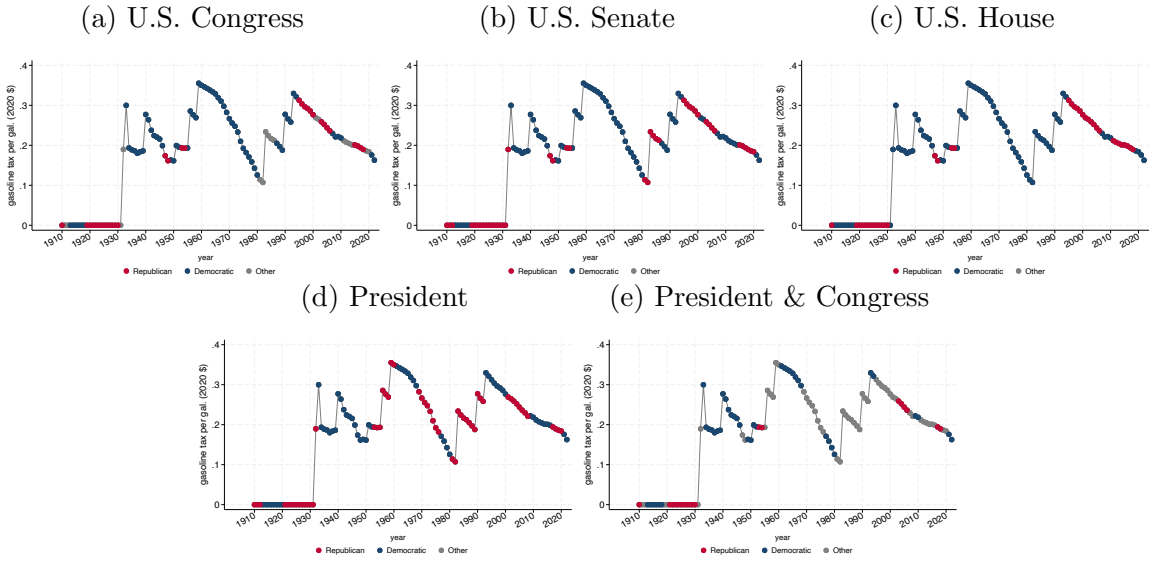


(d) President (e) President & Congress



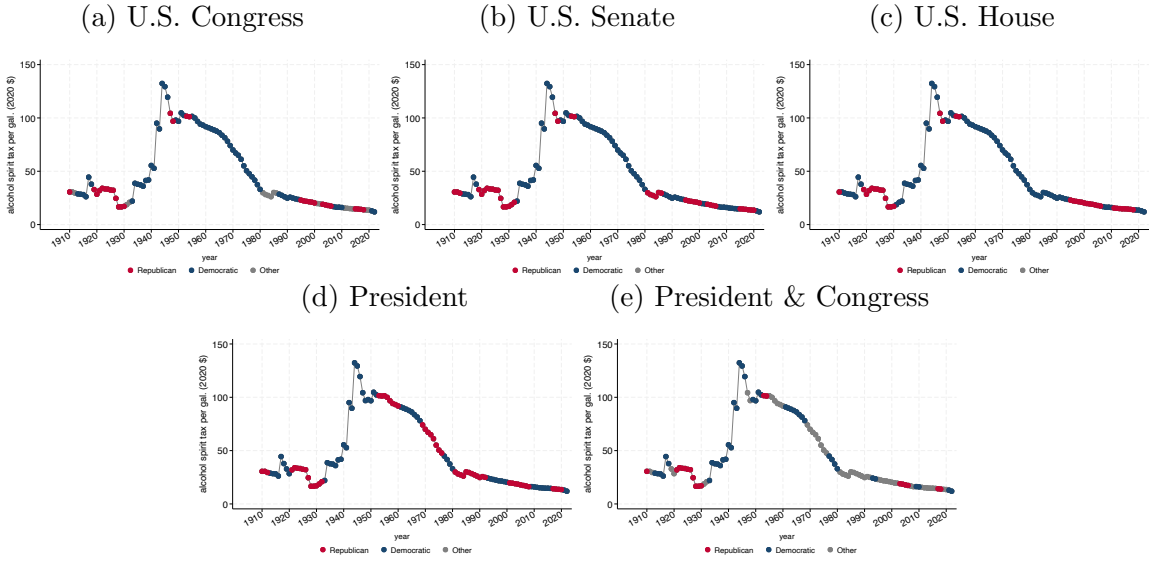
Notes: These figures show the federal cigarette tax in Democratic vs. Republican years. A year is considered Democratic/Republican if (a) both the U.S. Senate and U.S. House have Democratic/Republican majority, (b) U.S. Senate or (c) U.S. House has Democratic/Republican majority, (d) the president is a Democrat/Republican, or (e) the president is a Democrat/Republican and both the U.S. Senate and House have Democratic/Republican majority.

Figure J.61: Federal Gasoline Tax



Notes: These figures show the federal gasoline tax in Democratic vs. Republican years. A year is considered Democratic/Republican if (a) both the U.S. Senate and U.S. House have Democratic/Republican majority, (b) U.S. Senate or (c) U.S. House has Democratic/Republican majority, (d) the president is a Democrat/Republican, or (e) the president is a Democrat/Republican and both the U.S. Senate and House have Democratic/Republican majority.

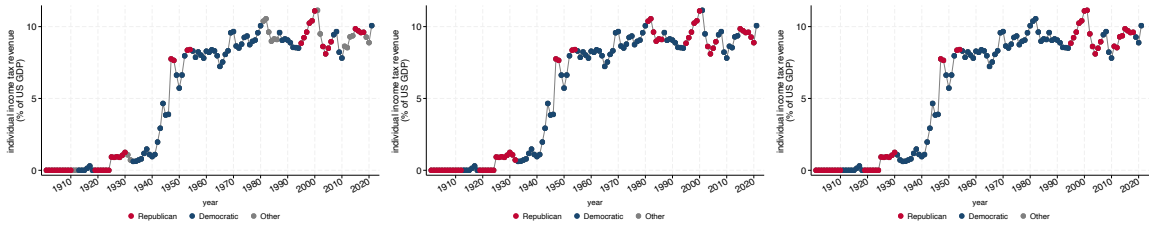
Figure J.62: Federal Alcohol Spirit Tax



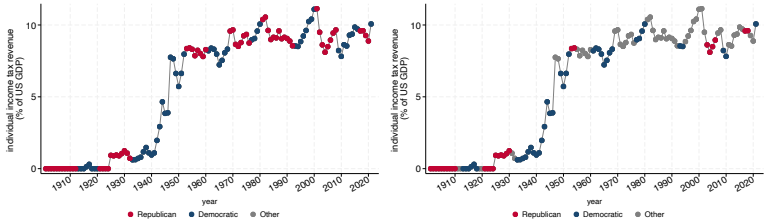
Notes: These figures show the federal alcohol spirit tax in Democratic vs. Republican years. A year is considered Democratic/Republican if (a) both the U.S. Senate and U.S. House have Democratic/Republican majority, (b) U.S. Senate or (c) U.S. House has Democratic/Republican majority, (d) the president is a Democrat/Republican, or (e) the president is a Democrat/Republican and both the U.S. Senate and House have Democratic/Republican majority.

Figure J.63: Federal Personal Income Tax Revenue

(a) U.S. Congress (b) U.S. Senate (c) U.S. House



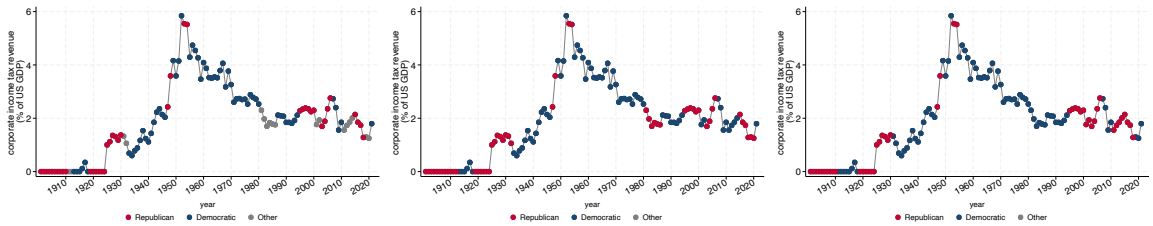
(d) President (e) President & Congress



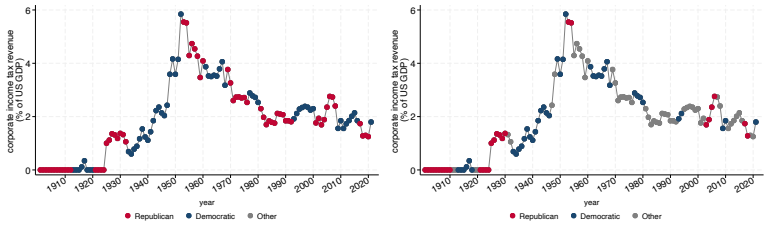
Notes: These figures show the federal personal income tax revenues (measured as a percent of US GDP) in Democratic vs. Republican years. A year is considered Democratic/Republican if (a) both the U.S. Senate and U.S. House have Democratic/Republican majority, (b) U.S. Senate or (c) U.S. House has Democratic/Republican majority, (d) the president is a Democrat/Republican, or (e) the president is a Democrat/Republican and both the U.S. Senate and House have Democratic/Republican majority.

Figure J.64: Federal Corporate Income Tax Revenue

(a) U.S. Congress (b) U.S. Senate (c) U.S. House

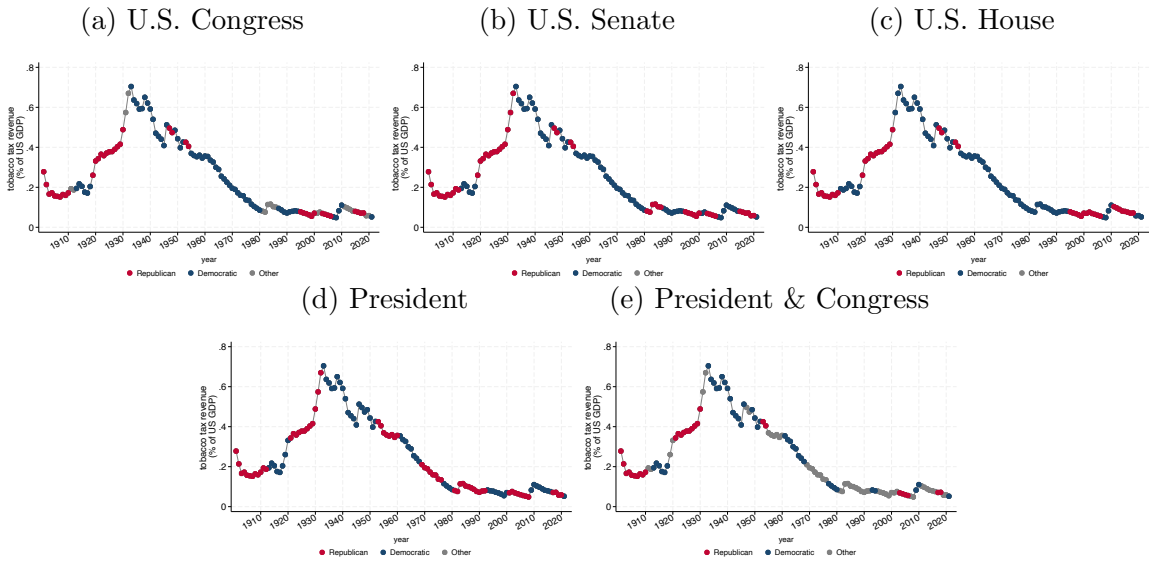


(d) President (e) President & Congress



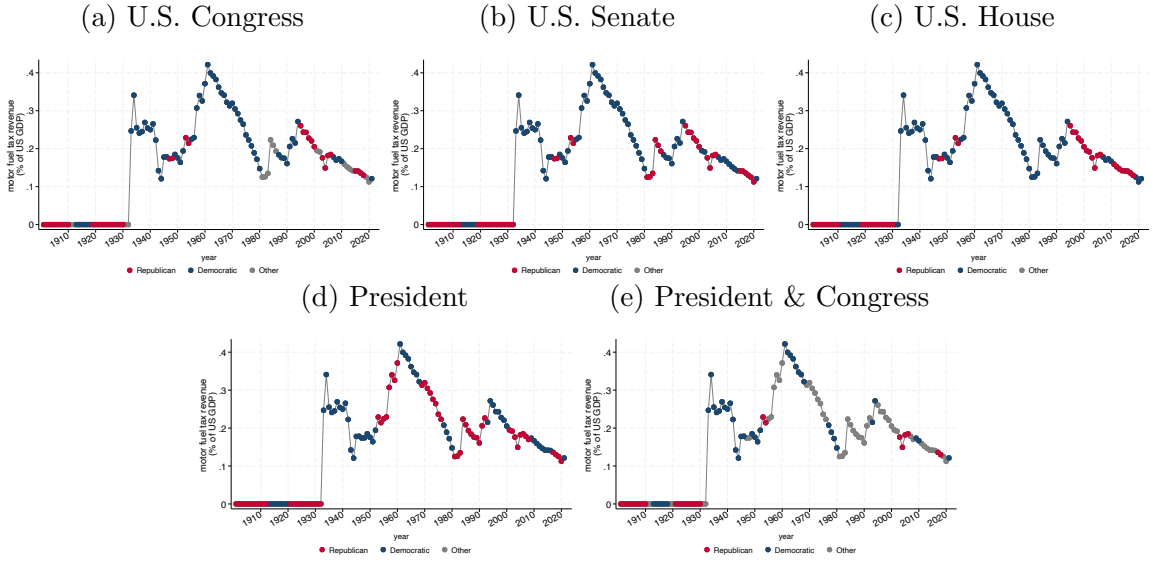
Notes: These figures show the federal corporate income tax revenues (measured as a percent of US GDP) in Democratic vs. Republican years. A year is considered Democratic/Republican if (a) both the U.S. Senate and U.S. House have Democratic/Republican majority, (b) U.S. Senate or (c) U.S. House has Democratic/Republican majority, (d) the president is a Democrat/Republican, or (e) the president is a Democrat/Republican and both the U.S. Senate and House have Democratic/Republican majority.

Figure J.65: Federal Tobacco Tax Revenue



Notes: These figures show the federal tobacco tax revenues (measured as a percent of US GDP) in Democratic vs. Republican years. A year is considered Democratic/Republican if (a) both the U.S. Senate and U.S. House have Democratic/Republican majority, (b) U.S. Senate or (c) U.S. House has Democratic/Republican majority, (d) the president is a Democrat/Republican, or (e) the president is a Democrat/Republican and both the U.S. Senate and House have Democratic/Republican majority.

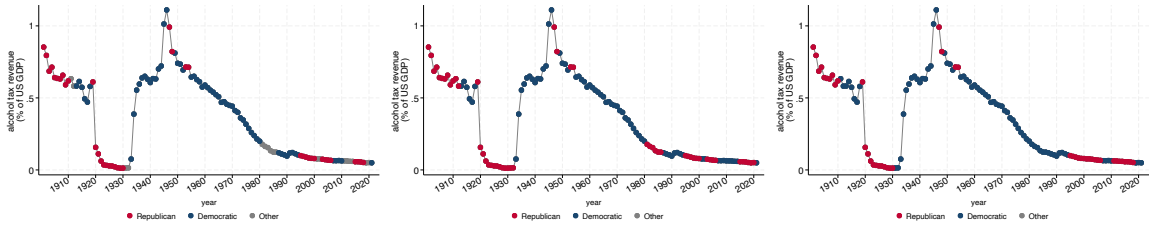
Figure J.66: Federal Motor Fuel Tax Revenue



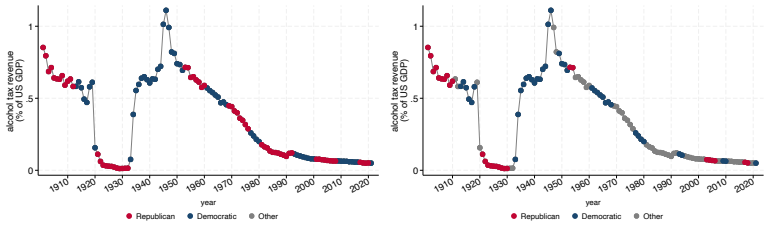
Notes: These figures show the federal motor fuel tax revenues (measured as a percent of US GDP) in Democratic vs. Republican years. A year is considered Democratic/Republican if (a) both the U.S. Senate and U.S. House have Democratic/Republican majority, (b) U.S. Senate or (c) U.S. House has Democratic/Republican majority, (d) the president is a Democrat/Republican, or (e) the president is a Democrat/Republican and both the U.S. Senate and House have Democratic/Republican majority.

Figure J.67: Federal Alcohol Tax Revenue

(a) U.S. Congress (b) U.S. Senate (c) U.S. House



(d) President (e) President & Congress



Notes: These figures show the federal motor fuel tax revenues (measured as a percent of US GDP) in Democratic vs. Republican years. A year is considered Democratic/Republican if (a) both the U.S. Senate and U.S. House have Democratic/Republican majority, (b) U.S. Senate or (c) U.S. House has Democratic/Republican majority, (d) the president is a Democrat/Republican, or (e) the president is a Democrat/Republican and both the U.S. Senate and House have Democratic/Republican majority.