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Fiscal opportunity coupled with political willingness? Unpacking the effects of TELs and partisan governments on income inequality in the American states, 1986–2020

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Abstract

Governments shape policy outcomes using two distinct mechanisms: rules and discretion. A simple decomposition strategy is proposed for distinguishing between these policymaking mechanisms on income inequality in the American states from 1986 to 2020. This analytical strategy is easily applicable to other policy settings. The statistical evidence, for the most part, that income inequality observed in the American states is generally unaffected by both TELs and partisan control of state governments—the lone exception being unified Republican state governments operating under a TEL. The decomposition evidence, however, shows that this is primarily the result of discretionary policymaking differences among partisan governments. This study underscores the importance of disentangling policy mechanisms that jointly occur when evaluating the consequences of government policymaking authority.

Keywords: American states; income inequality; partisan governments; policymaking rules and discretion; tax and expenditure limitations

Widening income disparities among citizens have transpired in both the United States and elsewhere around the world in recent decades (e.g., Atkinson and Piketty, 2010). Much of this problem is attributed to the income gains made by super-wealthy citizens and powerful interests (Piketty and Saez, 2003; Sommeiller and Price, 2014). Rising income inequality is a serious public policy problem worthy of government attention. Expanding income inequality, for instance, has been associated with increased political polarization (e.g., McCarty *et al.*, 2006), greater disparities favoring campaign contributions made by the wealthiest U.S. citizens (Bonica and Rosenthal, 2018), and more broadly, democratic erosion (e.g., Boix, 2003; cf. Scheve and Stasavage, 2017; Waldner and Lust, 2018). In the American states, two primary policy mechanisms are documented in the analysis of income inequality: (1) the discretionary policymaking authority exercised by partisan governments,

and (2) whether a state government has formal tax and expenditure limitations (TELs) as a fiscal rule.

Discretion pertains to the ability of government officials to use the various policymaking levers at their disposal, subject to constraints imposed by other governmental decision-makers. Discretionary policymaking authority is exercised by partisan governments through various levers of government authority to favor either business or labor interests (e.g., Vogel, 2003; Kenworthy and Pontusson, 2005; Brady and Leicht, 2008). Specifically, left-leaning partisan governments' preferred policies resulting in redistributing income in favor of the working class while right-leaning partisan governments' preferred policies that yield a more favorable income distribution for affluent citizens at the expense of less affluent citizens (e.g., Kelly, 2009; Kelly and Witko, 2012; Bartels, 2016; Franko and Witko, 2018).

Rules represent institutional constraints that can either limit or empower policymakers' ability to exercise their discretionary governmental authority. TELs serve as a fiscal rule that favors the distribution of income toward affluent citizens and away from both middle and lower socioeconomic groups, regardless of discretionary policymaking undertaken by partisan governments. TELs act as a constraint on government efforts to reduce income inequality through various channels. TELs contribute to restricting expenditures, including those devoted to redistributive policies and programs aimed at reducing income inequality. For example, higher levels of K-12 public school expenditures are associated with both higher wages and reduction in adult poverty rates (Jackson *et al.*, 2016). TELs can also restrict the amount and mix of revenue sources relied on by states. Lower levels of revenue reduce discretionary resources to limit growth in funding to address social policy problems including the areas of public housing, education, and health care, plus redistributive policies to increase the minimum wage (Kelly and Witko, 2012; Hatch and Rigby, 2015). Finally, TELs exacerbate income inequality by altering market-based tax incentives for affluent individuals (Gruber and Saez, 2002). Recent research finds that TELs are positively correlated with higher market-based income inequality in the American states (Deller *et al.*, 2021).

Unfortunately, existing studies are incapable of identifying how these distinct rule and discretionary policymaking mechanisms shape income inequality in the American states. At a given point in time, each state governs under the joint condition of a specified fiscal rule (*TEL or No TEL*), and partisan government elected to hold office (*Unified Democratic, Unified Republican, or Divided Partisan*) that controls discretionary policymaking authority. Isolating the distinct effects of rules from discretionary policymaking can address the conditions when each mechanism is capable of exerting policy effects on income inequality. This study addresses both concerns by proposing a simple decomposition analytical strategy that is capable of delineating how the interplay between TELs and partisan governments shape income inequality in the American states. Fiscal rule effects isolate the differential effect between a state operating under a TEL versus no TEL on state income inequality for a given partisan government regime (*Between—TEL, Within—Partisan Effects*). Discretionary policymaking effects isolate the differential effects between partisan government regimes for a given a fiscal rule (*Between—Partisan, Within—TEL Effects*). The statistical evidence from a panel of American states from 1986 to 2020 underscore the limits of both rules and discretionary policymaking to shape policy outcomes. Specifically, the empirical tests reveal that income inequality is generally unaffected by whether a state has a TEL or is dependent upon which political party controls state governments. One notable exception emphasizes the importance of policy compatibility between rules and discretion as policymaking conditions that enhance unified Republican governments' ability to shift the income distribution to benefit affluent citizens at the expense of non-affluent citizens when operating under a state TEL restriction. Albeit estimated with some imprecision, the decomposition analysis reveals that the magnitude of these unified Republican government effects on income inequality under TELs are primarily driven by discretionary policymaking differences among partisan governments, and not TEL fiscal rules. More broadly, these findings suggest that evidence

of policymaking effects on income inequality with varying rules and partisan governments are prone to falsely overstating the ability of institutions to shape income inequality. Isolating policymaking effects on policy outcomes requires a decomposition of each mechanism's contribution to policy outcomes.

1. TELs, partisan politics, and income inequality in the American states

The stylized facts regarding how partisan politics shapes income inequality is firmly established. Left-leaning (Democratic) political parties advocate for income redistribution since they tend to represent the policy interests of labor, whereas right-leaning (Republican) political parties tend to be staunch advocates for business (e.g., Kenworthy and Pontusson, 2005; Kelly, 2009, 2020; Bartels, 2016). In the American states, unified partisan control of governors and state legislatures are often necessary to ensure the transmission of partisan policy preferences into state policies which requires robust control of government policymaking levers by a single party (Barrilleaux *et al.*, 2002)—a point substantiated in studies analyzing the partisan government basis of income inequality (e.g., Kelly, 2009; Kelly and Witko, 2012; Bartels, 2016; Franko and Witko, 2018; Berkowitz and Krause, 2020). Elected partisan government regimes employ the discretionary levers of policymaking authority to attain their respective preferred distribution of income. Partisan government differences involving income inequality can also be manifested through social safety net programs when state governments exercise discretion in public finance, administrative rulemaking, and autonomy with respect to program administration (Bruch *et al.*, 2018). Grumbach (2018) finds that partisan control of state governments yields differential policy outcomes in socioeconomic policy areas such as health and welfare, housing and transportation, labor, and taxation.

Although offering an important empirical policy-based foundation for the study of income inequality, existing studies are unable to properly ascertain whether the underlying policy sources of income inequality is attributable to the exercise of discretionary authority by partisan governments, or instead reflects ruled-based policy constraints that limit partisan governments from attaining their desired policy goals. Current research analyzing the effect of government policymaking on income inequality does not consider each source as jointly operating in tandem. TELs serve as a critical fiscal rule that affects the distribution of income within American states. TELs impose a set of budget constraints that restrict the ability of state governments to generate revenue or make expenditures through constitutional or statutory provisions (Mullins and Joyce, 1996; Mullins and Wallin, 2004). TELs exacerbate income inequality by constraining state government's fiscal choices (Deller *et al.*, 2021: 36). For instance, income inequality is negatively correlated to the funding of transfer programs (Almeida, 2020). Similarly, higher levels of central government expenditures (often restricted by TELs) are associated with increasing income shared for lower income groups without affecting income shares for affluent citizens (Roine *et al.*, 2009). The influence of TELs goes beyond formal fiscal channels by shaping market-conditioning incentives, such as education and research and development rooted in the tax incentives that shape economic activity and choices (Langer, 2001; Deller *et al.*, 2021: 636). In addition, TELs can indirectly exacerbate income inequality by allowing affluent citizens to shift income to less taxed sources, such as when government social expenditures decline in response to the lowering of corporate and marginal tax rates (Nolan *et al.*, 2019; Nallareddy *et al.*, 2022).

As of 2020, thirty-three states have at least one TEL including states that require a supermajority vote to raise new taxes or revenues (Tax Policy Center, 2020). The TELs that restrict state finances can be traditionally classified as revenue limits, expenditure limits, appropriation limits, or a combination of them (Kioko, 2011). Revenue limitations seek to restrict state governments' taxing authority by reducing revenue generation, while expenditure and appropriation limits restrict these governments'

spending authority. Spending authority limitations are the most common form of TEL, with 25 states limiting spending in 2020.[1]

Although the impact of state government TELs achieving the purpose of limiting taxation and expenditure growth is mixed (e.g., cf. Bae and Gais, 2007; Kousser *et al.*, 2008; Bae and Jung, 2011; Eliason and Lutz, 2018), extant research suggests that this fiscal mechanism exerts income distributional effects. Alternative explanations for such mixed evidence are offered, ranging from the idea that TELs may only impact certain expenditure categories (Amiel *et al.*, 2014) to exempt select expenditure categories within the General Fund (Kioko, 2011) to state government's circumventing TELs by utilizing debt or non-tax revenue sources to enhance capital expenditures (Kioko and Zhang, 2019).

TELs constitute a status quo bias in state policymaking insofar that these fiscal rules represent an institutional constraint that exacerbates income inequality that is distinct from discretionary policymaking activities of electoral institutions (Hacker and Pierson, 2010; Enns *et al.*, 2014). TELs restrict discretionary policies that both distribute and redistribute government benefits, and hence, exert downstream effects on income inequality in three primary ways. First, TELs can impose expenditure restrictions to decrease spending on redistributive policies and social spending aimed at reducing income inequality. Lower income inequality levels or growth occurs in states with the expansion of redistributive policies (Hatch and Rigby, 2015), including higher minimum wage laws (Kelly and Witko, 2012; see also, Franko and Witko, 2018). State governments' policymaking efforts at addressing such problems has downstream consequences for income inequality (e.g., Franko and Witko, 2018; Grumbach, 2018). When TELs limit funding of social spending and redistributive policies, income inequality is likely to increase. Second, TELs impose restrictions on state resources that may disproportionately benefit affluent residents while harming less affluent residents. States restricted in their ability to generate revenue from taxation, often shift reliance on revenue sources from taxes and intergovernmental aid to miscellaneous revenue sources (Amiel *et al.*, 2014). Finally, TELs might alter tax rates, and hence, incentivize state residents with higher wealth to shift their assets to lower taxed areas or decrease their income share by working less (Gruber and Saez, 2002). Although a positive correlation is observed between TELs and state market-based income inequality (Deller *et al.*, 2021), it remains unclear whether this fiscal mechanism exerts an effect on income inequality that is not confounded by partisan control of state governments. The decomposition framework advanced below estimates the distinct income inequality effects emanating from the presence or absence of a TEL versus discretionary behavior of partisan governments.

2. Decomposition of partisan politics and TEL effects on income inequality: identifying rules versus discretion mechanisms of government policymaking

Disentangling the policymaking mechanisms involving TELs and partisan control over the levers of state government requires evaluating the distinct influence of each component on income inequality in the American states. Table 1 depicts a framework for analyzing *joint* combinations of TELs and partisan government regimes that exist in the American states. Formal policy restrictions via a TEL (*fiscal opportunity*) makes it more conducive that the discretionary policies made by Republican partisan governments (*political willingness*) exacerbate income inequality since both rules and discretion are policy compatible under this governance arrangement (*Policy Compatible: Maximum Inequality)*. An absence of a TEL is policy compatible with facilitating Democratic partisan governments' ability to create policies that target benefits to non-affluent citizens in a manner that limits affluent citizens' ability to enhance their income (*Policy Compatible: Minimum Inequality)*.

Instances where these policymaking mechanisms are incompatible occur when a unified Republican (Democratic) partisan government seeks to adopt policies that reduce (increase) income

[1]States operating under a TEL might experience revenue or expenditure growth if restrictions are confined to estimates. Delaware, Iowa, Mississippi, Oklahoma, and Rhode Island have appropriation limitations and thus, limits are restricted to the initial authorized budget balance.

Table 1. Alternative TEL and discretionary policymaking mechanism regime joint combinations

	Discretionary policymaking regime		
TEL regime	Unified democratic	Divided control	Unified republican
No TEL	Policy compatible (*minimum inequality*)	Mixed	Policy incompatible
TEL	Policy incompatible	Mixed	Policy compatible (*maximum inequality*)

inequality, but do not operate under a TEL (existence of a TEL) restriction that works at cross-purposes with respect to discretionary policymaking efforts. Incompatible policymaking rules offer a challenge for discretionary policymaking by unified partisan governments since they must offset either the absence or presence of a TEL to attain policies consistent with their desired level of income distribution. For example, unified Republican governments operating without the complementary benefit of a TEL fiscal rule imposes greater challenges on them to shape policy outcomes. This is because sole reliance on discretionary policymaking to shape policy outcomes requires greater transaction costs associated with democratic governance in terms of policy effort, compromise, and concerted action due to competing policy interests and the power of veto override proof supermajorities in state legislatures (McGrath *et al.*, 2018). Finally, divided partisan control of state governments represents a mixed combination of policymaking mechanisms since partisan control of government is neither aligned nor at odds in relation to the TEL regime. It is plausible that the potency of a given TEL regime might take on greater importance when discretionary policymaking is fragmented between political parties in U.S. state governments.

2.1. Analytical strategy: decomposition of rule-based versus discretionary policymaking effects

To distinguish between TEL and partisan government control effects on income inequality, six joint policymaking conditions previously denoted in Table 1 are considered. These joint policymaking mechanisms reflect various combinations of TEL regimes (*No TEL, TEL*) and discretionary policymaking authority (*Unified Democratic Control [UDC] Governments, Divided Partisan Control [DPC] Governments, and Unified Republican Control [URC] Governments*). In notation form, these joint policymaking conditions are defined as:

$$\mathrm{T}_{No\ TEL\ |\ UDC},\ \mathrm{T}_{TEL\ |\ UDC};\quad \mathrm{T}_{No\ TEL\ |\ DPC},\ \mathrm{T}_{TEL\ |\ DPC};\quad \mathrm{T}_{No\ TEL\ |\ URC},\ \mathrm{T}_{TEL\ |\ URC}. \tag{1}$$

These joint policymaking conditions allow for the evaluation of how rule and discretionary policymaking mechanisms are associated with income inequality in the American states. Under conditions of policymaking compatibility, income inequality should be maximized under unified Republican governments operating under a TEL restriction ($\mathrm{T}_{TEL\ |\ URC}$), while minimized in the absence of a TEL when Democratic party controls state governments ($\mathrm{T}_{No\ TEL\ |\ UDC}$).

Decomposition of policymaking effects is obtained by isolating the effect for each type of policymaking mechanism, while holding fixed the remaining policymaking mechanism. In turn, this produces a set of *between-within* policymaking mechanism estimates, where the *between* component isolates the effect of a particular policymaking mechanism of interest, while the *within* component pertains to the remaining fixed policymaking mechanism. Isolating the effects of TELs on income inequality requires holding partisan government regime fixed necessitates an analysis of the between-TEL regime, within-partisan government effect. Analytically, these TEL effects are defined accordingly under each respective partisan government regime:

$$\begin{aligned}
\mathrm{T}_{TEL-No\ TEL\ |\ UDC} &= \mathrm{T}_{TEL\ |\ UDC} - \mathrm{T}_{No\ TEL\ |\ UDC} \\
\mathrm{T}_{TEL-No\ TEL\ |\ URC} &= \mathrm{T}_{TEL\ |\ URC} - \mathrm{T}_{No\ TEL\ |\ URC} \\
\mathrm{T}_{TEL-No\ TEL\ |\ DPC} &= \mathrm{T}_{TEL\ |\ DPC} - \mathrm{T}_{No\ TEL\ |\ DPC}
\end{aligned} \tag{2}$$

The fiscal rule effects displayed by equation (2) isolate the effect of TELs on income inequality within each discretionary policymaking (partisan government control) regime.

Isolating the effects of income inequality attributable to partisan governments' control over the levers of authority requires evaluating differential treatment effects separately for *No TEL* and *TEL* fiscal conditions, while holding each partisan government regime fixed. Predicated on equation (1), the estimable quantities of interest for evaluating partisan government regime discretionary policymaking effects on income inequality are defined as follows:

$$\begin{aligned} \mathrm{T}_{URC-UDC \mid No\ TEL} &= \mathrm{T}_{URC \mid No\ TEL} - \mathrm{T}_{UDC \mid No\ TEL} \\ \mathrm{T}_{URC-DPC \mid No\ TEL} &= \mathrm{T}_{URC \mid No\ TEL} - \mathrm{T}_{DPC \mid No\ TEL} \\ \mathrm{T}_{DPC-UDC \mid No\ TEL} &= \mathrm{T}_{DPC \mid No\ TEL} - \mathrm{T}_{UDC \mid No\ TEL} \end{aligned} \tag{3a}$$

and

$$\begin{aligned} \mathrm{T}_{URC-UDC \mid TEL} &= \mathrm{T}_{URC \mid TEL} - \mathrm{T}_{UDC \mid TEL} \\ \mathrm{T}_{URC-DPC \mid TEL} &= \mathrm{T}_{URC \mid TEL} - \mathrm{T}_{DPC \mid TEL} \\ \mathrm{T}_{DPC-UDC \mid TEL} &= \mathrm{T}_{DPC \mid TEL} - \mathrm{T}_{UDC \mid TEL} \end{aligned} \tag{3b}$$

In equations (3a) and (3b), the effect of partisan governments on income inequality relies on holding the TEL regime fixed. It is important to note that the methodological innovation advanced in this study is rooted in (1) the need for a multiplicative model specification to evaluate distinct policy rule and discretionary policymaking effects, and (2) deriving the correct set of *between-within* and *within-between* hypothesis tests, to properly isolate the effects of policy rules, from those of discretionary policymaking effects, on policy outcomes. With the analytical foundations firmly established, the data and methods are discussed in the next section.

3. Data and methods

Panel data for 49 U.S. state governments from 1986 to 2020 ($N \times T = 1{,}715$) are analyzed to evaluate the isolated effects attributable to TELs and partisan government regimes on income inequality in the American states.[2] All income measures for the American states focus on market-based (adjusted gross [pre-tax]) income that includes not merely wages and salaries, but also capital income, proprietorship income, and cash and in-kind payments from various government programs such as Social Security, Aid to Families with Dependent Children, Supplemental Nutrition Assistance Program (SNAP), and health insurance (see Owyang and Shell, 2016: 2, Note 2).[3] Market-based income measures account for a wide range of income that reflects how most government policies shape pre-tax income through education, welfare, and employment opportunities (Franko, 2021: Note 7; see also, Hayes and Medina Vidal, 2015).[4] At present, obtaining both reliable and consistent data of post-tax income in the American states to construct income inequality measures is infeasible.[5] Nonetheless, market-based income measures of income inequality derived from IRS tax filings have several advantages in terms of both coverage (both individuals and income sources) and reduced bias compared to survey-based measures generated from CPS and ACS sources (Schwendel and Mohtadi, 2019: 5–7).

[2]Nebraska is excluded since it has a non-partisan, unicameral legislature.

[3]Both income from intergovernmental transfers and interest payments on state and local bonds are excluded from market-based income inequality measures (see Deller *et al.*, 2021: 623).

[4]These sources of market income greatly outweigh the impact of direct cash transfers on income inequality (see Franko, 2021: Note 7; see also, McCall and Percheski, 2010).

[5]The U.S. federal government's Current Population Survey (CPS) and American Community Survey (ACS) and Luxembourg Income Study (LIS) data, where the latter is based on the former, suffer from under sampling in smaller states, as well as incomplete measurement through time (LIS Correspondence with first author, 11-14-2023; CPS/ACS Correspondence with first author, 11-14-2023). These data are unavailable in the World Income Database (WID) (WID Correspondence with first author, 11-16-2023).

The first dependent variable measuring state income inequality is the Atkinson index, which is bounded between zero and 100 (percentage terms), with higher values indicating greater income inequality. Income inequality is also measured using Theil's entropy index, which is an unbounded derivative of statistical information theory where larger values indicate greater income inequality.[6] Both index measures capture the overall distribution of income among all residents within a state for a given year. In addition, measures of income inequality isolating affluent citizens' incomes representing the top decile of the income distribution are also analyzed (e.g., Frank, 2014, 2023; Sommeiller and Price, 2014). These measures are based on income shares for the Top 10% and Top 1% income groups per state-year developed by Frank (2014, 2023) and Sommeiller and Price (2014).[7] Higher values of these measures signify higher income inequality as the income share is rising per income share group. Focusing on both overall income inequality and top decile income shares of affluent citizens allows one to ascertain the socioeconomic nature of income inequality.[8]

The treatment variables are defined as a series of binary indicator variables based on the six combinations of TEL regime and partisan control of state government denoted in equation (1). A TEL fiscal regime is defined when a state is operating under any type of TEL (e.g., revenue limit, expenditure limit, or a combination of revenue and expenditure limits) for a given year, and zero otherwise. The absence or existence of a TEL is derived from state statutes and constitutions (Kioko, 2011; Rueben *et al.*, 2018). U.S. partisan state government regimes are classified as follows: (1) divided party control in which no single party controls the governorship and enjoy partisan majorities in both legislative chambers; (2) unified Democratic party control is comprised of a Democrat governor and Democratic party majorities in both state legislative bodies; and (3) unified Republican party control of the governorship and Republican majority control of both legislative chambers.

Both the absolute and relative frequencies for each combination of policymaking mechanisms are displayed in Figure 1. Inspection of Figure 1 from left to right shows that TEL restrictions are observed in 56.50% ($N \times T = 969$) of the sample, while the remaining 43.50% ($N \times T = 746$) of the state-year observations do not operate under TEL restrictions. A little more than half the sample observations occur under divided partisan control of state governors and legislatures (50.20%, $N \times T = 861$), while unified Democratic and Republican control of state governments are roughly balanced by making up approximately a quarter of the sample, respectively (UDC: 23.27%, $N \times T = 399$; URC: 26.53%, $N \times T = 455$). The baseline treatment group consists of state-years where divided partisan control of governor and legislature operates under No TEL restrictions ($N \times T = 380$, 22.16% of sample observations). The additional treatment covariates that correspond to regression covariates are as follows: (1) divided partisan control subject to TEL restrictions ($N \times T = 481$, 28.05% of sample observations), (2) unified Democratic party control not subject to TEL restrictions ($N = 173$, 10.09% of sample observations), (3) unified Democratic party control subject to TEL restrictions ($N \times T = 226$, 13.18% of sample observations), (4) unified Republican control not subject to TEL restrictions ($N \times T = 193$, 11.25% of observations), and (5) unified Republican control subject

[6]Data for both the Atkinson index and Theil's entropy index were collected from Frank (2014, 2023). Income inequality measures with inferior properties (Gini Coefficient and Relative Mean Deviation indices) are analyzed in the supplementary analyses located in the *Online Appendix* document (Appendix D). Both the Gini coefficient and Relative Mean Deviation income inequality index measures fail to satisfy the weak principle of transfers that permits the reallocation of income without an associated change in inequality (e.g., see Frank, 2014). The Gini coefficient is further problematic since it is also non-decomposable, and thus subgroups in the population can experience an increase in inequality with the overall inequality measure showing a decrease (e.g., see Frank, 2014).

[7]Adjusted real gross income (ARGI) based measures are preferable to *Current Population Survey* estimates from the U.S. Department of Labor that are known to underestimate incomes for affluent citizens in the top decile of the income distribution, especially those in the top 1% (Burkhauser Richard *et al.*, 2012; see also, Berkowitz and Krause, 2020: 311, Note 6).

[8]The upper decile of the income distribution is where income has surged the most according to prior studies (e.g., Piketty and Saez, 2003; Atkinson and Piketty, 2010; Sommeiller and Price, 2014).

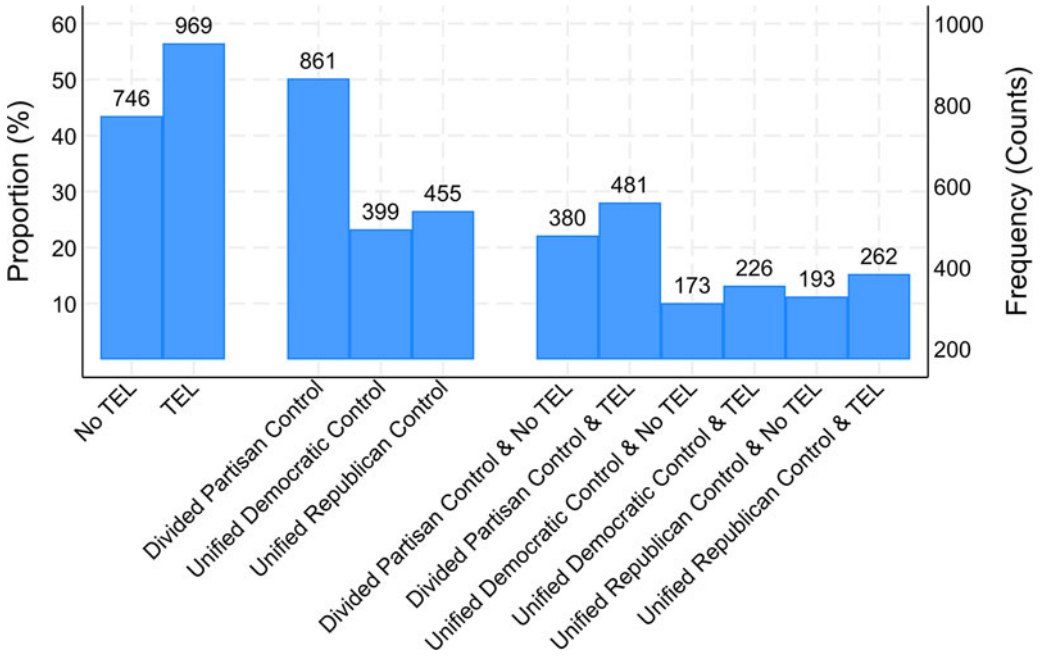

Figure 1. Distribution of no TEL/TEL and partisan control in the American states, 1986-2020.

to TEL restrictions (N × T = 262, 15.28% of sample observations).[9] These groups represent distinct combinations of fiscal rules and partisan governments that can shape state-level income inequality. Descriptive statistics for all variables broken down by these six treatment conditions, as well as the overall sample, are presented in Table A2 appearing in the *Online Appendix* document.

To offer empirical leverage that distinguishes between rule-based and discretionary policymaking effects on income inequality in the American states, the estimating equation of interest can be expressed in generalized form:

$$Inequality_{it} = \alpha + \sum_{j=1}^{2}\sum_{k=1}^{3} \beta_{jk}\,(R_{it} \times D_{it}) + \pi_m X_{m\,it} + \delta_i S_i + \phi_t T_t + \varepsilon_{it}, \tag{4}$$

where income inequality is a linear function of the six combinations of fiscal rules, R_{it} (i.e., No TEL & TEL) and discretionary policymaking control over state political institutions, D_{it} (i.e., divided partisan control, unified Democratic control, and unified Republican control), an m vector of control covariates (X_m), plus state (S_i) and year (T_t) unit effects, and a residual disturbance term (ε_{it}). Robust standard error estimates are cluster-adjusted by state.

The vector of control covariates accounts for several variables posited to be correlated with income inequality. State economic policy liberalism is an annual measure accounting for a myriad of economic policies (e.g., regulation policies, licensing polices, labor policies, and income and sales tax policies) instituted by state governments for a given year (Caughey and Warshaw, 2022). Although this measure is by no means exhaustive of how each state's economic policies contribute to income inequality, it nonetheless provides information to which policies are adopted by those holding power within state governments. In addition, inflation-adjusted state real per capita income,

[9]The breakdown of state-year observations for each of these six treatment groups appears in Appendix Table 1 (*Breakdown of State-Year Observations and Descriptive Statistics for Various Rule–Discretion Combinations*) at the end of this manuscript document.

state unemployment and poverty rates are also accounted as control covariates in statistical models of income inequality Federal Reserve Bank 2023,[10] as well as budget stabilization funds (i.e., rainy day funds), which can enhance state governments' fiscal capacity to attenuate income inequality since these funds are intended to mitigate against both revenue shortfalls and expenditure shocks (Douglas and Gaddie, 2002; Hou, 2003; Rosewicz *et al.*, 2020). Access to slack fiscal resources permits states to supplement the fiscal constraints posed by TELs. Slack state fiscal resources are operationalized as state rainy day fund balances, measured as s budget stabilization fund(s) and reserve accounts available for revenue shortfalls as a proportion of general fund expenditures denoted in the National Association of State Budget Officers' *Fall Fiscal Survey of the States*.

Finally, a pair of fiscal instruments relating to austerity policies that might exacerbate income inequality are balanced budget requirements (BBRs) and a legislative supermajority voting to raise revenues or increase taxation rooted in either the state constitution or statutory law. The former measure is operationalized as a binary indicator where a state either lacks or has a strict BBR (see Hou and Smith, 2006; Rueben *et al.*, 2018; Smith and Hou 2013).[11] The legislative supermajority requirement binary indicator is similarly equal to 1 when a state has such fiscal provisions, and 0 when they do not.

4. Statistical findings

4.1. Decomposition of TEL and partisan government control effects

The regression estimates based on equation (4) appear in Table 2. The baseline (omitted) policymaking regime group is given by $T_{DPC \mid No\ TEL}$, and coefficient entries for both $T_{UDC \mid TEL}$ and $T_{URC \mid TEL}$represent the total effect denoted by summing these partial (interaction) coefficients with their respective partisan government regime *No TEL* coefficients. In all but in a few instances, the regression coefficient estimates reveal that income inequality deviations in relation to the baseline policymaking regime of divided partisan control operating under an absence of a TEL ($T_{DPC \mid No\ TEL}$) are statistically trivial in terms of both magnitude and precision.

The exceptions arise for the policymaking regime compatible with maximizing income inequality, unified Republican control under a TEL fiscal rule ($T_{URC \mid TEL}$). The income shares for the Top 10% and Top 1% of the income distribution within a given state yield the highest income inequality for this policymaking regime compared to divided partisan control state governments operating in absence of a TEL ($T_{DPC \mid No\ TEL}$). Inspection of state-year observations in these two policymaking conditions (see Appendix Table A3 in the *Online Appendix*), $T_{URC \mid TEL}$ and $T_{DPC \mid No\ TEL}$ reveals that these income inequality differences are neither driven by regional nor political distinctions.

The primary advantage of this decomposition approach is to obtain insight into isolating the distinct, independent effects of rules (TELs) and discretion (partisan government control) on income inequality that is not feasible in prior studies on this topic. The decomposition estimates analyzing distinct fiscal rule and partisan government control effects on income inequality appear in Table 3. To facilitate meaningful comparison of effect sizes across different income inequality measures, standardized differential treatment effect estimates are computed as the percentage of the within-state standard deviation of each respective income inequality (or share) outcome variable, i.e., (*estimated treatment effect differential/within-state SD for income inequality or share*)*100. The top panel of Table 3 reveals that decomposition of fiscal rule effects from these model estimates (*Between-TEL, Within-Partisan Government Regime*). These findings clearly indicate a lack of a statistically

[10]Data from the University of Kentucky Center for Poverty Research's (2023) national welfare dataset and Federal Reserve Bank of St. Louis FRED database, respectively.

[11]BBRs are classified as strict-BBRs if they include any one of the following rules: (1) the governor must sign a balanced budget; (2) no deficit is allowed to be carried over into the next fiscal year or biennium; and (3) the legislature must pass a balanced budget accompanied by either controls on supplementary appropriations or deficit spending (Rueben *et al.*, 2018; Kioko and Lofton, 2021).

Table 2. Evaluating fiscal rules and partisan control of governments effects on income inequality in the American states, 1986–2020

Treatment covariates	Atkinson	Theil	Top 10%	Top 1%
Divided partisan control: TEL				
$[T_{DPC \mid TEL}]$	0.063	−0.321	−0.097	−0.252
	(0.369)	(1.862)	(0.590)	(0.524)
Unified democratic control: No TEL				
$[T_{UDC \mid No\ TEL}]$	0.012	0.351	0.047	0.141
	(0.212)	(1.190)	(0.306)	(0.285)
Unified democratic control: TEL				
$[T_{UDC \mid TEL}]$	−0.071	−0.228	−0.256	−0.049
	(0.153)	(0.821)	(0.326)	(0.252)
Unified republican control: No TEL				
$[T_{URC \mid No\ TEL}]$	0.288	1.949	0.508	0.243
	(0.289)	(1.861)	(0.406)	(0.383)
Unified republican control: TEL				
$[T_{URC \mid TEL}]$	0.188	**1.495***	**0.812*****	**0.437****
	(0.199)	**(0.836)**	**(0.300)**	**(0.210)**
Controls	Yes	Yes	Yes	Yes
State & year unit effects	Yes	Yes	Yes	Yes
AIC	4976.602	10,809.50	7026.062	6347.861
BIC	5227.172	11,060.07	7276.632	6598.431
Number of observations (panels)	1,715 (49)	1,715 (49)	1,715 (49)	1,715 (49)

Notes: Entries are regression coefficients, with *Unified Democratic Control: TEL* & *Unified Republican Control: TEL* representing the linear combination of these respective coefficients summed to their respective partisan regimes operating under No TEL. *Divided Partisan Control: No TEL* is the baseline (omitted) comparison group. State cluster-adjusted robust standard errors appear inside parentheses. Additional control covariates: *State Economic Policy Liberalism, State Real Per Capita Income, State Unemployment Rate, State Poverty Rate, State Rainy Day Fund Balances, Supermajority Tax Increase Requirements,* and *State Strict Balanced Budget Restrictions*.
* $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$.

discernible TEL effect on income inequality in all 12 possible instances. The negative direction of these standardized differential treatment effect estimates is opposite of expectations that TELs contribute to income inequality, while most effect sizes are of a modest substantive nature (below 10%) compared to the within-state standard deviation of each income inequality measure. One can infer from these estimates that TELs fail to exert a statistically discernible impact on income inequality in the American states during an era where it was expanding.

Similarly, the *Between-Partisan Government, Within-TEL Regime* results appearing in the bottom panel of Table 3 reveals similar null findings regarding state partisan government influence shaping income inequality in the American states with one notable exception—unified Republican partisan governments operating under a TEL have a 27.105% higher relative level of income share for those in the top decile (Top 10%) compared to unified Democratic governments constrained by a TEL. Unlike the *Between-TEL, Within-Partisan Government Regime* estimates that isolate the effects of TELs on income inequality while holding partisan government control fixed, both the sign and magnitude of these latter set of estimates are generally consistent with expectations that unified Republican (Democratic) state governments should use discretionary policy levers in a manner that increases (reduces) income inequality, with divided partisan governments falling somewhere between these poles. Unified Republican partisan government regimes are responsible for the largest magnitude partisan effects, especially in the presence of a TEL. Overall, the evidence indicates that TELs exert an asymmetric effect on income inequality. Unified Democratic governments lacking a TEL seemingly operate under fiscal or policy constraints external to this fiscal rule, thus inhibiting their capacity to improve incomes for non-affluent citizens. Yet, TELs serve as a policy complement, and not a policy substitute, regarding unified Republican state governments' efforts to stimulate incomes for affluent citizens vis-à-vis non-affluent citizens. This evidence makes sense since the capacity to fund social programs for the poor and working classes are constrained by the tandem of fiscal rules and discretionary policymaking activities.[12]

[12]We thank an anonymous *PSRM* referee for noting these alternative implications from these findings.

Table 3. Evaluating the decomposition of fiscal rule and partisan control of governments on income inequality in the American states, 1986–2020 (Table 2 model estimates)

Treatment covariates	Atkinson	Theil	Top 10%	Top 1%
Between TEL–within partisan government regime				
TEL—No TEL | DPC				
$[T_{TEL-No\ TEL\ |\ DPC}]$	2.107	−2.454	− 2.516	−8.024
	(12.277)	(14.213)	(15.382)	(16.703)
TEL—No TEL | UDC				
$[T_{TEL-No\ TEL\ |\ UDC}]$	−2.760	−4.504	−7.895	−6.619
	(8.739)	(11.297)	(11.226)	(13.139)
TEL—No TEL | URC				
$[T_{TEL-No\ TEL\ |\ URC}]$	−4.014	−3.719	8.682	7.429
	(15.779)	(18.628)	(15.818)	(18.838)
Between partisan government—within TEL regime				
DPC—UDC | No TEL				
$[T_{DPC-UDC\ |\ No\ TEL}]$	0.374	2.480	1.254	4.653
	(6.830)	(8.406)	(8.115)	(9.418)
URC—UDC | No TEL				
$[T_{URC-UDC\ |\ No\ TEL}]$	8.921	11.286	12.225	3.389
	(10.315)	(14.158)	(12.736)	(13.879)
URC—DPC | No TEL				
$[T_{URC-DPC\ |\ No\ TEL}]$	9.295	13.766	13.479	8.042
	(9.331)	(13.149)	(10.780)	(12.651)
DPC—UDC | TEL				
$[T_{DPC-UDC\ |\ TEL}]$	4.809	−0.761	4.041	−6.877
	(14.990)	(17.200)	(17.189)	(19.511)
URC—UDC | TEL				
$[T_{URC-UDC\ |\ TEL}]$	9.274	14.097	**27.105****	16.468
	(8.036)	(9.237)	**(10.303)**	(11.134)
URC—DPC | TEL				
$[T_{URC-DPC\ |\ TEL}]$	4.466	14.858	23.065	15.096
	(16.626)	(17.243)	(16.827)	(23.952)
Hypothesized partisan-rule regime maximum difference				
URC | TEL—UDC | No TEL				
$[T_{URC\ |\ TEL\ -\ UDC\ |\ No\ TEL}]$	6.547	9.594	**19.922***	10.770
	(10.884)	(12.277)	**(10.770**)	(13.271)

Notes: Entries are standardized differential treatment effect estimates (percentage terms) based on each respective income inequality outcome measure's within-state standard deviation. *Divided Partisan Control: No TEL* is the baseline (omitted) comparison group. State cluster-adjusted robust standard errors appear inside parentheses. Additional control covariates: *State Economic Policy Liberalism, State Real Per Capita Income, State Unemployment Rate, State Poverty Rate, State Rainy Day Fund Balances, Supermajority Tax Increase Requirements,* and *State Strict Balanced Budget Restrictions*.
* $p \leq 0.10$, ** $p \leq 0.05$.

Clearly, the decomposition of rule and discretionary policymaking mechanisms offer much less sanguine empirical evidence compared to prior studies that uncover both strong and consistent statistical findings that TELs or partisan governments play a vital role in contributing to income inequality in the American states. Still, it is worth noting that this study is limited insofar that it cannot focus on the myriad of individual policies that might manifested for income inequality. For example, a recent study shows that SNAP participation rates are higher under unified Democratic state governments compared to unified Republican control (Elkaramany and Edwards, 2024). This study is also limited since these data are unable to distinguish between changes to lower income versus higher income.

4.2. Summary of sensitivity analyses

In the *Online Appendix* document, several sensitivity checks are performed based upon the analyses conducted in this manuscript. One set of sensitivity checks analyzes alternative restricted model

specifications that omit control covariates. Appendix B reports the regression model estimates (Table B1), as well as the corresponding standardized differential treatment effect estimates (Table B2) for model specifications excluding all control covariates except for state and year unit effects (*fully restricted models*), as well as *partially restricted models* which augment the fully restricted models by incorporating a pair of statistically significant control covariate predictors observed in the unrestricted model specifications reported in Tables 2 and 3 (i.e., state per capita real income and state rainy day fund balances). The results from these sensitivity checks are similar compared to those based on the unrestricted model specification—especially those based on the partially restricted model specification. These decomposition estimates for both the full and partially restricted model specifications yield rather similar findings as those based on the unrestricted model specifications reported in the manuscript. Simply, fiscal rules do not exert a distinct effect on income inequality, holding partisan government control constant. Out of a possible 48 instances of partisan government influence over income inequality, only in two specific instances are partisan government effects observed when evaluating the difference between unified Republican and unified Democratic governments operating under a TEL fiscal regime ($T_{URC-UDC \mid TEL}$).[13]

Appendix C evaluates the potential biasing effects from endogenous fiscal rule changes by omitting 12 state panels where fiscal rules change at least once during the 1986-2020 sample period. This analysis comprises a reduced panel of 37 states covering 35 years (1,295 observations) that represents omitting 24.49% of the full sample of observations (1,715 observations). The aim of this exercise is to evaluate how sensitive the statistical findings are to the omission of these panels. This analysis is based on the unrestricted model specifications for comparability purposes to the reported model estimates and hypotheses tests. Although these joint policymaking condition estimates yield similar substantive findings to those presented in Table 2 (cf. Table C1), the effects of TELs under a divided partisan control regimes ($T_{DPC \mid TEL}$) exhibit stronger negatively statistical associations with income inequality for each income inequality measure, albeit remain estimated with considerable imprecision in each instance, when excluding 12 state panels that alter their fiscal rules during the sample period.[14] These effects are manifested in several decomposition estimates evaluating both rule and discretionary policymaking effects involving divided partisan governments. As stated earlier, it is plausible that TEL regimes might exert greater policy effects when discretionary policymaking authority is fragmented between political parties controlling state governments. The general pattern of estimates suggests that omission of state panels with fiscal rule changes overstate the effect of TELs on income inequality under divided partisan control (see Top Panel, Table B2). In addition, omitting these cases also exaggerates the influence of partisan governments on income inequality, especially under TEL fiscal regimes compared to No TEL regimes.[15] Perhaps these findings represent statistical artifacts since in every instance these fiscal rule changes resulted in a transition from an absence of a TEL to adopting this fiscal rule, with only two instances reverting back to No TEL after a limited experiment with this fiscal rule (Illinois in 2012 and Wisconsin in 2016).

Appendix D evaluates alternative income inequality measures in the form of both the Gini Coefficient and Relative Mean Deviation. These alternative measures of income inequality have inferior properties relating to accurate measurement of the unequal distribution of income (see *Note 6*). The alternative income shares measures capture the super-wealthy highest income fractile groups (Top 0.1% and Top 0.01%) publicly available for our panel design analyzing the American states. We

[13]These exceptional cases are for the Theil income inequality index and Top 10% income share based on a partially restricted model specification.

[14]These 12 states include Connecticut (1991), Florida (1994), Illinois (2012 & 2016), Indiana (2003), Iowa (1993), Maine (2005), New Jersey (1992), North Carolina (1991), Ohio (2006), Rhode Island (1992), Utah (1989), and Wisconsin (2001 & 2012).

[15]For No TEL regimes, the two instances of partisan government effects are more numerically modest and estimated with less precision ($p \leq 0.10$) compared to six instances of strong and statistically significant partisan government effects on income inequality under TEL regimes.

anticipate that the latter pair of income share measures will be more prone to detect government policymaking effects since the super-wealthy have benefitted the most from rising income inequality during the past several decades (e.g., Piketty and Saez, 2003; Atkinson and Piketty, 2010; Sommeiller and Price, 2014). These joint policymaking condition covariates yield similar substantive findings to those presented in Table 2 (cf. Table D1). These alternative set of decomposition estimates appearing in Table D2 are substantively identical insofar that there is only a single instance where these standardized differential treatment effect estimates are statistically discernible—comparing unified Republican partisan control relative to unified Democratic partisan control while operating under a TEL regime ($T_{URC-UDC \mid TEL}$). This significant partisan government effect is only observed for a summary-based income inequality measure (*Relative Mean Deviation*) presented in Table 3.

Appendix E replicates the analyses reported in this manuscript, except disaggregates TELs by type. In the first set of analyses appearing in Tables E1 and E2, TELs are distinguished between those that do not require a legislative supermajority override provision (*Non-LSMOP TEL*) from those that do face such a requirement (*LSMOP TEL*). It is possible that 'sturdier' TELs with an LSMOP requirement yield greater effects on income inequality compared to those TELs which do not impose this barrier to relax this fiscal rule. In addition, a complementary set of sensitivity analyses appearing in Tables E1 and E2 focuses on the TEL 'source' by distinguishing between Expenditure Only TELs from 'Other' TELs which are comprised of states with a TEL whose source are as follows: revenue, expenditure and revenue, or appropriation. It is possible that different TEL sources might yield heterogenous fiscal rule effects. The statistical evidence from this pair of sensitivity checks seeking to distinguish between alternative TEL types is generally consistent with the reported results, with a few notable exceptions. These sensitivity checks provide substantively similar estimated compared to those reported in the manuscript based on (1) differences between unified Republican control regime operating under a TEL ($T_{URC \mid TEL}$) and divided partisan control in the absence of a TEL ($T_{DPC \mid No\ TEL}$) mainly restricted to affluent citizens' income shares, and (2) statistical null findings regarding TEL effects under these alternative TEL regimes.[16] Although there are six instances out of a possible 72 where partisan government effects on income inequality are observed, these occurrences are primarily linked to whether or not a state TEL has a legislative supermajority override provision (five such instances). In these exceptional instances, LSMOP TELs tend to have somewhat larger partisan effects on income inequality for both unified Republican and divided partisan governments (see Table E1). Nonetheless, the evidence from these sensitivity checks uncovers limited evidence of tangible partisan differences involving income inequality between unified Republican partisan control states and unified Democratic control states when evaluating the concentration of income held by affluent citizens in the top decile and percentile of the income distribution across the American states.

5. Discussion

Disentangling the consequences of different policymaking mechanisms requires isolating the effect of each policy mechanism's contribution to policy outcomes. This is critical for government policymaking that is a product of legally-sanctioned activities of elected officials involving the exercise of government authority (*discretion*), while operating under either the absence or existence of legal-based constraints (*rules*). Because rules and discretion often operate in conjunction with one another in the exercise of policymaking authority by governments, estimating these distinct policymaking effects permits valid empirical leverage for understanding policy outcomes.

This study has advanced a simple decomposition analytical strategy for empirically evaluating the distinct impact for each of these policymaking mechanisms on policy outcomes. In the present study,

[16]In only two instances is a statistically nontrivial *Between-TEL—Within-Partisan Regime* effect on income inequality observed among the possible 72 hypothesis tests (see first page of Table E2).

these policymaking mechanisms are TELs and partisan control of governments, while the policy outcomes are represented by income inequality in the American states. TELs constitute a rule-based policymaking mechanism that institutes fiscal constraints intended to exacerbate income inequality that disproportionately benefits affluent citizens at the expense of non-affluent citizens. Partisan governments enjoy discretionary policymaking powers that enable them to utilize various levers at their disposal to apportion more favorable outcomes to preferred constituency groups at the expense of opposition constituency groups.

Although many studies highlight the importance of either partisan governments or TELs in predicting income inequality in the American states (e.g., Kelly, 2009; Kelly and Witko, 2012; Franko and Witko, 2018; Deller *et al.*, 2021), these studies are unable to isolate the contribution of these distinct policy mechanisms in shaping income inequality since they do not offer a comparative-static analysis of each policymaking mechanism's impact on income inequality. These studies are susceptible to yielding biased estimates of governmental effects on income inequality, while also prone to observational equivalence critiques involving both TEL and partisan government regime policymaking mechanisms. Existing research designs cannot distinguish how income inequality is affected by TELs versus discretionary policymaking authority exercised by democratic institutions.

The evidence from this study offers a more sober perspective regarding elected officials' influence over downstream policy outcomes in single-party dominant 'deep Red' Republican or 'deep blue' Democratic states since such effects are predicted on complementary fiscal rules being aligned with partisan governments' policy preferences. With few exceptions, the evidence underscores the limited capacity of fiscal rules and partisan governments to influence income inequality within the American states. In those instances where such income inequality effects are observed, they center on policy compatibility conditions where unified Republican state governments operate under a TEL. Although unified Republican state governments can affect the income distribution through shifting the allocation of tax incentive or expenditure allocations (e.g., tax expenditures), a lack of a TEL restriction might mitigate the consequences of this partisan regime's discretionary policymaking efforts since fiscal tradeoffs are less acute.[17]

Our hope is that future research analyzing how policymaking mechanisms influence policy outcomes will seriously consider the joint context by which rules and discretion operate, as well as make further advances into disentangling such effects of these policymaking mechanisms, when conducting policy evaluation.

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