Studying the impact of Top Marginal Income Taxes on Income Inequality

Evidence from U.S. State-Level Panel Data (1990–2020)

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Bachelor Thesis

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Does a high tax relax income inequality?

Abstract:

This study examines the relationship between top marginal state income tax rates and income inequality across 35 U.S. states from 1990 to 2020. It employs a panel dataset and fixed effects regression models, the study tests whether higher top marginal tax rates are associated with lower Gini coefficients, controlling for state-wise factors such as union density, unemployment, and state revenue. The results show that progressive taxation is modestly but consistently linked to reduced income inequality, particularly when labour institutions and fiscal capacity are considered. These findings highlight that while tax progressivity remains an important redistributive tool, its consequences depend on broader institutional and structural dynamics.

Keywords:

Marginal Income tax, Income Inequality, Gini Coefficient, Panel Data, United States, State-wise

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A nation's tax system is more than a revenue mechanism—it is a reflection of its values.
~Franklin D. Roosevelt

Introduction

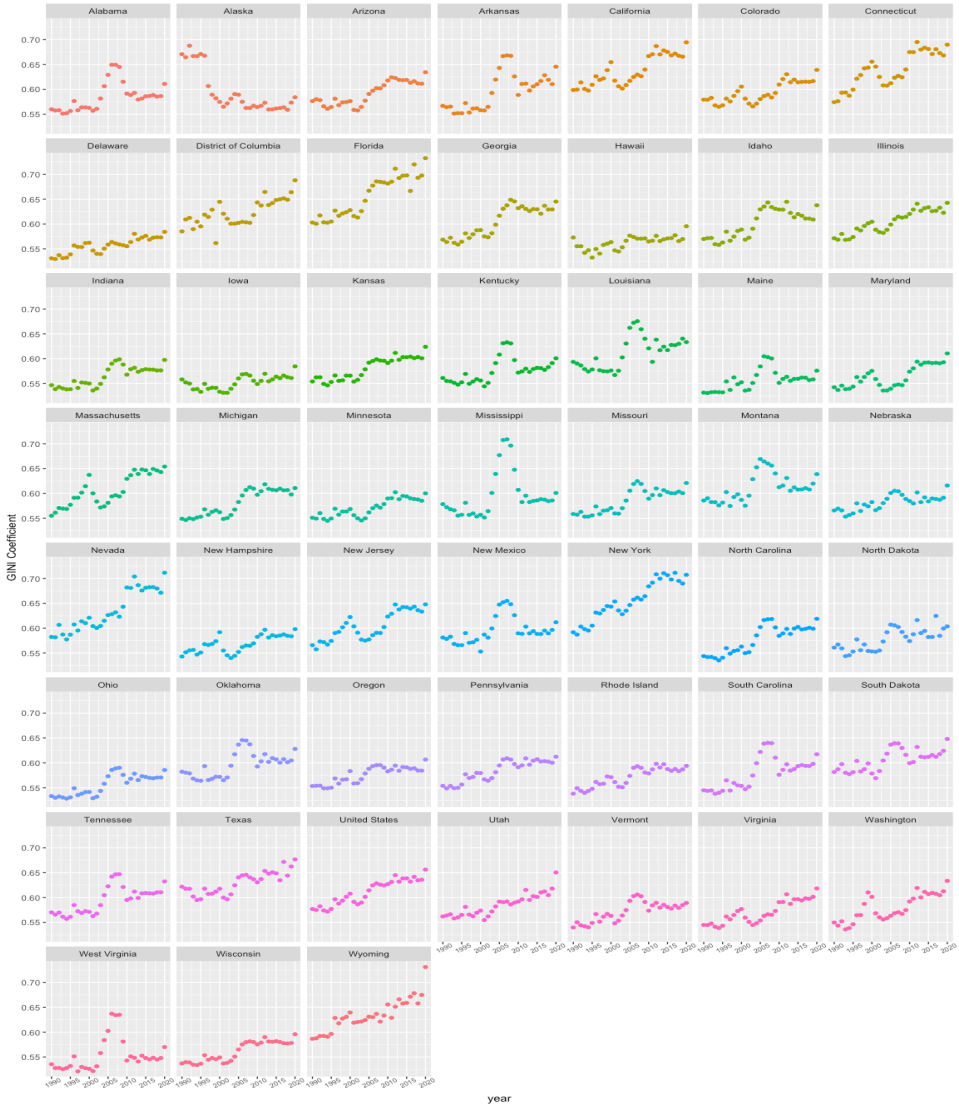
Income inequality in the United States has emerged as a defining economic and political challenge of the twenty-first century. It remains front and centre in high-level political debates as well as in everyday conversations. The widening gap in income distribution, exacerbated by events such as the 2008 financial crisis and the COVID-19 pandemic, has attracted widespread scholarly and policy attention. Income inequality, widely measured by the Gini coefficient, captures income disparities across individuals or households and influences a broad range of social and economic outcomes, including consumption patterns, economic opportunity, and intergenerational mobility. Understanding and addressing inequality is extremely essential for promoting economic equity.

Over the past four decades, income inequality in the United States has risen markedly. In 2021, the richest 1% of households earned, on average, almost 139 times more than the bottom 20%, a disparity that has widened substantially since the late 1970s (Economic Policy Institute, 2022). Between 1979 and 2021, the average income of the top 0.01% of households grew nearly 27 times faster than that of the bottom 20% (Saez & Zucman, 2016; Auten & Splinter, 2023). Moreover, geographic income disparities have intensified; from 1980 to 2021, income inequality across U.S. regions increased by over 40%, with per-capita incomes in the highest-earning areas now more than double those in the lowest (Frank, 2009; Chetty et al., 2014).

Figure 1 shows state-wise scatter plots of the Gini coefficient over the years 1990-2020 and it clearly shows how inequality is rising in all the states. These trends not only emphasize the magnitude of inequality but also highlight the need to urgently examine the fiscal and policy tools available to address it, particularly at the state level where significant fiscal autonomy exists. A recurring trend seen in most states is a sharp decrease in the Gini coefficient in the early 2000s followed by an increasing trend up to date. This temporary dip, from 2001 to 2003, coincides with the 2001 recession, which reduced high-end labour and capital income, narrowing the income distribution. However, the recovery that followed favoured top earners through rising capital gains and corporate profits, while median wages stagnated. As the Centre on Budget and Policy Priorities notes, federal tax cuts in 2001 and 2003 significantly boosted after-tax incomes at the top, contributing to the resurgence of inequality by the mid-2000s (CBPP, 2023). However, individual states vary a lot in the level of inequality and the taxes imposed at the state level and this relationship has been largely underexplored.

Fiscal policy, particularly in the U.S. tax system is a complex blend of federal, state, and local policies, which plays a critical role in shaping income distribution. States differ widely in their tax structures, ranging from those with highly progressive income taxes to those that levy no personal income tax at all. As argued by Hacker and Pierson (2010) tax policies often reflect broader ideological shifts and have the ability to sway elections, making taxation both a fiscal and a political issue. State-level variation provides a unique opportunity to assess how progressive taxation affects income distribution within a federal framework. This study thus focuses specifically on the role of top marginal state income tax rates as a policy tool to influence inequality

Figure 1. shows the trend in the Gini coefficient over time.



While national inequality trends are well-documented (Piketty & Saez, 2003; Auten & Splinter, 2023), the heterogeneity of inequality across individual U.S. states remains less explored. A federal system like that of the United States allows for considerable fiscal discretion, creating significant differences in the way states approach redistribution. States such as California and New York implement steeply progressive income tax systems, whereas Florida and Texas levy no personal income taxes at all. Understanding the implications of these structural variations is both empirically valuable and normatively urgent, as it reveals how different tax designs can either mitigate or exacerbate inequality within the same national context.

In addition to the variation in personal income tax structures, many U.S. states have undergone notable shifts in their broader fiscal strategies since the 1990s. Between 1991 and 2001, 41 out of 42 states with corporate income taxes experienced significant declines in effective corporate tax rates, resulting in an estimated $11 billion reduction in state

revenue by (Braunstein, E, 2004). At the same time, an increasing number of states have started relying on sales and excise taxes, which are inherently regressive, placing a heavier burden on low and middle-income earners. This structural shift away from progressive income and corporate taxation and toward regressive consumption-based models has not only narrowed states' redistributive capacity but also amplified existing income disparities. These developments highlight the importance of scrutinizing the role of progressive income tax instruments especially, top marginal rates, in state-level efforts to address inequality.

Against this backdrop, this thesis investigates whether and how top marginal state income tax rates affect income inequality across U.S. states from 1990 to 2020. I constructed a panel dataset at the U.S. state level, covering the years 1990 to 2020. The goal was to investigate the relationship between top marginal income tax rates and the Gini coefficient, controlling for a range of economic and institutional factors across states. There are two main questions this study aims to answer

Is there any relationship between progressive taxation in the United States and income inequality from 1990?

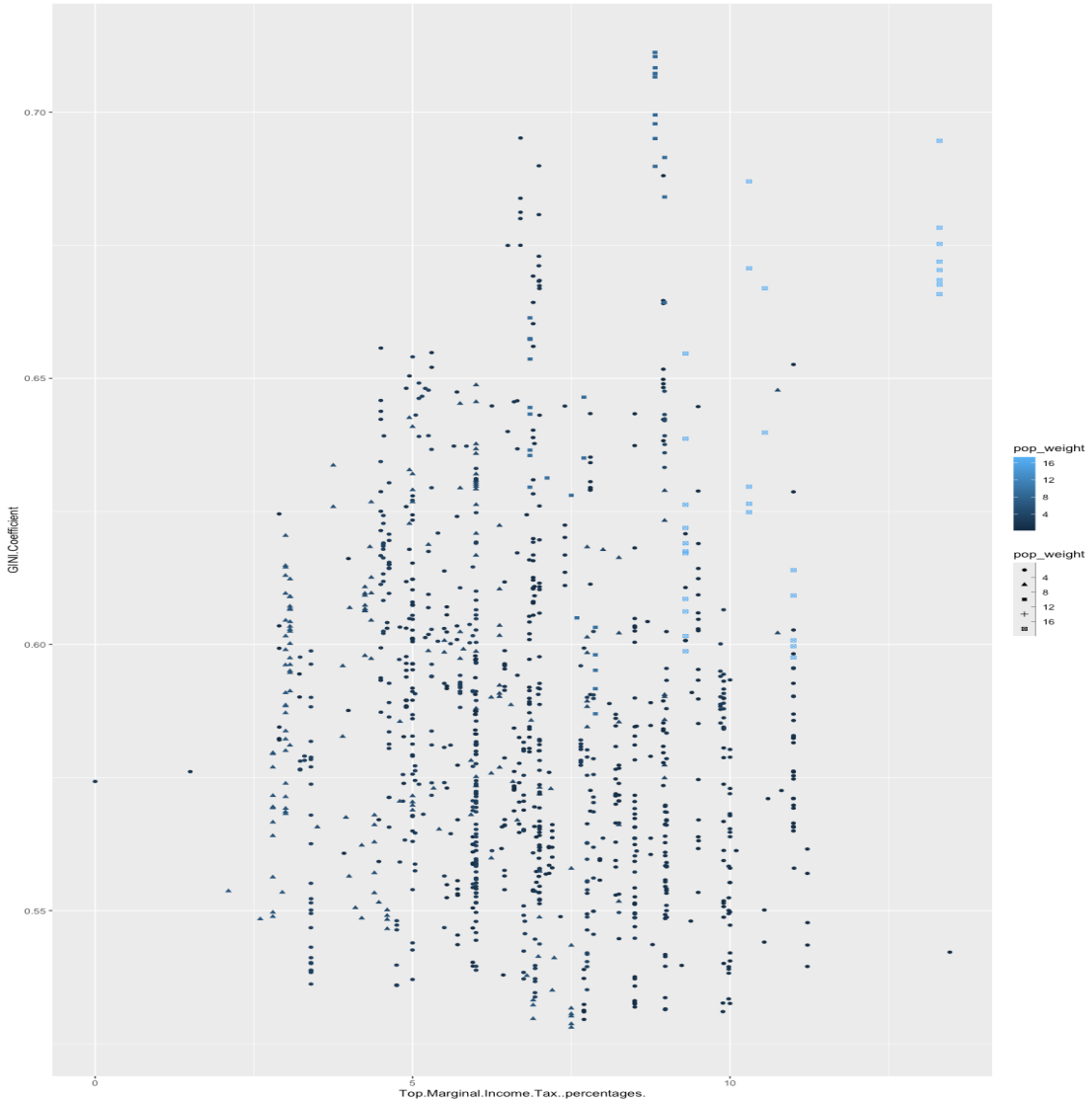
If such a relationship exists, do higher top marginal income tax rates tend to increase or decrease income inequality at the state level

Figure 2 shows a population-weighted scatter plot of top marginal income tax rates and Gini coefficients across United States reveals a complex relationship between tax progressivity and income inequality. States with higher top marginal tax rates often also display higher levels of income inequality. This pattern is especially pronounced among more populous states which have both progressive tax structures and elevated Gini coefficients. These states carry greater weight in the graph due to their larger populations. This reflects the fact that states with large urban centres and diverse labour markets often exhibit greater income dispersion regardless of tax policy. These states may also face challenges related to housing affordability, wage polarization, and regional economic segmentation that contribute to persistently high inequality. This also indicates a need to look at fiscal policy on a state level as an important tool to curb income inequality.

This observation suggests that tax rates alone are insufficient to explain differences in inequality across states. The effects of tax policy must be understood in relation to broader institutional, demographic, and economic conditions. Variables such as labour union strength, unemployment levels, and state GDP likely shape how progressive tax instruments function in practice. The visual relationship in the graph therefore supports the empirical strategy employed in this thesis, which relies on a panel data model with fixed effects to control for unobserved structural variation across states and over time.

Rather than assuming a consistent or linear relationship between taxation and inequality, the analysis proceeds on the premise that policy outcomes are contingent upon the context in which they operate. The population-weighted visualization offers an initial indication of this complexity and helps to motivate the more rigorous econometric investigation that follows.

Figure 2 Plotting top marginal income taxes from 1990 to 2020 weighted by state population



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The focus on top marginal rates is deliberate as they target high-income households, which have disproportionately benefited from recent economic growth Saez & Zucman (2016). In contrast to regressive forms of taxation like sales and property taxes, marginal income taxes serve as more direct and potentially progressive tools for redistribution (Altig & Carlstrom, 1995; Akhand & Liu, 2002). By analysing the effects of changes in top marginal tax rates using a state-level panel dataset and fixed effects models, this study aims to isolate the redistributive impacts of tax policy from broader economic and demographic trends.

The choice of the Gini coefficient as the primary measure of inequality is also intentional. The Gini coefficient captures disparities across the entire income distribution and is widely used in both academic research and policy evaluation. Its sensitivity to distributional changes makes it a fitting instrument for assessing the nuanced effects of state-level tax policies on income inequality.

One of the initial findings of this study is that the average Gini coefficient across U.S. states between 1990 and 2020 stands at 0.5878, highlighting a persistently high level of income inequality for a developed country. This suggests that inequality is not only entrenched but widespread at the subnational level. However, the analysis also reveals that top marginal income tax rates exhibit a statistically significant and negative relationship with the Gini coefficient. Specifically, a one percentage point increase in a state's top marginal income tax rate is associated with a 0.00207 reduction in the Gini coefficient. This effect remains robust even after controlling for factors such as unemployment, union density, total state revenue, and expenditure. These findings underscore the continued redistributive relevance of progressive taxation and suggest that state-level tax policy remains a potent tool for mitigating income inequality in the United States.

This thesis makes three key contributions. First, it constructs a comprehensive panel dataset combining economic, political, and institutional variables grounded in theory. Second, it estimates the correlational relationship between marginal income taxation and income inequality using within-state variation over time. Third, it situates its findings within broader debates on fiscal federalism, redistribution, and political economy, drawing on a range of foundational studies, including Troiano (2017), Altig and Carlstrom (1995), Mertens and Montiel Olea (2018), and Saez and Zucman (2014), that are discussed in detail in the following literature review.

By building on this prior research, this study not only seeks to empirically test the redistributive effects of top marginal tax rates but also contributes to a deeper understanding of the structural dynamics that mediate the relationship between taxation and inequality in the contemporary United States. This thesis goes through all the relevant literature and the main issues within the current research which is followed by a detailed methodology of how this research was conducted. This is followed by a discussion of the results and then concluding results.

2.Related Works

This chapter reviews three major strands in the literature on taxation and income inequality in the United States. In my view, the literature boils down to three main issues. First, the historical and theoretical perspectives on how tax policy shapes income distribution. Second, the empirical analyses that assess the redistributive capacity of tax progressivity, especially at the state level. Third, institutional critiques that examine the limitations of tax enforcement and design in achieving equitable outcomes. While each body of work has yielded valuable insights, relatively few studies have assessed how top marginal income

tax rates have impacted income inequality in the context of the diverse institutional and fiscal environments across U.S. states. This thesis contributes to filling this gap by analysing panel data at the state level from 1990 to 2020.

2.1 Historical and Theoretical Perspectives on Tax Policy and Income Distribution

Thomas Piketty and Emmanuel Saez (2003) provide one of the most influential historical accounts of the evolution of income inequality in the United States. Using detailed individual tax return data from 1913 to 1998, they document a sharp decline in the income share of the top one percent from the 1930s to the 1970s. This period was marked by extremely high marginal tax rates. They then show a reversal beginning in the 1980s, which coincided with major tax cuts during the Reagan administration. Their core argument is that tax policy does not merely correlate with inequality trends but plays a causal role in shaping income distribution. This happens both through direct fiscal effects and through behavioural responses from high-income earners. Their findings reignited academic and policy interest in progressive taxation as a serious lever for equity.

Building on this framework, Saez and Zucman (2016) shift the focus from income to wealth. They analyse capitalized income tax data and show that the bottom fifty percent of Americans own a negligible share of national wealth, while the top 0.1 percent has accumulated wealth at an exponential rate since the 1980s. One mechanism they identify is that lightly taxed high incomes tend to compound over time into greater wealth concentration. They argue that progressive taxation on both income and wealth is essential to address this dynamic.

Further theoretical support for the centrality of tax policy in shaping inequality comes from the dynamic general equilibrium model developed by Hubmer, Krusell, and Smith (2021), which investigates the drivers of wealth inequality in the United States from 1967 to the present. Calibrated to match historical U.S. data, their model attributes the post-1980 surge in wealth concentration primarily to declining progressivity in top income tax rates. The authors find that reduced tax burdens on high earners increase after-tax savings and capital returns, compounding long-term disparities. They also emphasize that portfolio return heterogeneity—where wealthier households consistently earn higher returns—exacerbates inequality over time. Their simulations show that without increases in tax progressivity, the wealth share of the top one percent is likely to continue rising over the next several decades. Although focused on national-level dynamics, their findings reinforce the relevance of tax progressivity as a causal mechanism, supporting this thesis's focus on state-level top marginal income tax rates as a determinant of income inequality.

Brüggemann and Yoo (2015) extend this line of theoretical inquiry using a general equilibrium model to evaluate the aggregate and distributional effects of raising taxes on top earners. Their results show that while taxing the richest one percent can reduce inequality significantly, the macroeconomic output costs are relatively modest, especially when revenues are redistributed through lump-sum transfers. This work adds nuance to the equity-efficiency debate, suggesting that high top-end tax rates may achieve redistributive aims without severely harming growth. These findings further support the theoretical rationale for evaluating top marginal income tax policy in a state-level context.

While these studies clearly demonstrate the importance of federal tax policy in shaping national inequality, they do not examine variation across states. States in the United States have substantial autonomy to set income tax rates, especially for high earners. This thesis

investigates whether the national-level theories proposed by Piketty, Saez, and Zucman hold when tested against state-level data. By using a panel of U.S. states from 1990 to 2020, I examine whether higher top marginal income tax rates are associated with changes in state-level Gini coefficients. This empirical test brings these broad historical and theoretical arguments into a more localized and varied institutional context.

2.2 Empirical Analyses of Tax Progressivity at the State Level

The second strand of the literature consists of empirical studies that use cross-sectional or panel data to test whether progressive taxation reduces income inequality. Akhand and Liu (2002) analyse data from all 50 states between 1977 and 1991. They estimate fixed effects regressions that control for time-invariant state characteristics. Their key finding is that the progressivity of marginal tax rates, rather than the average tax burden, has a statistically significant and negative association with income inequality. They argue that tax systems with steeper rate schedules compress income disparities more effectively. However, the study is limited to an earlier policy environment and does not reflect post-1990 developments. Similarly, Leigh (2008) uses a longer panel of U.S. states and finds that more progressive state income tax structures are associated with reductions in income inequality, further reinforcing the empirical consensus that marginal tax progressivity plays a meaningful redistributive role.

Bishop, Formby, and Thistle (1992) also use state-level data but focus on structural economic and demographic factors rather than tax policy directly. They find that variables like per capita property income, levels of educational attainment, and public education expenditure are significant predictors of state-level income inequality. Their work highlights the importance of including broader structural controls in any empirical model attempting to isolate the effect of tax policy.

Mertens and Montiel Olea (2018) use national time-series data from 1946 to 2012. They employ a narrative identification strategy to isolate exogenous tax shocks specifically changes in marginal rates unrelated to current macroeconomic conditions. Their results show that cuts in top marginal tax rates lead to disproportionately large increases in the reported incomes of high earners. These income responses are largely attributed to tax avoidance and income shifting rather than actual economic productivity gains. Their work reinforces the idea that reductions in top marginal tax rates disproportionately benefit the wealthy and have limited trickle-down effects.

A more recent contribution by Zidar (2019) strengthens this empirical strand by examining how the distribution of tax relief across income groups influences economic outcomes. Using a shift-share design that exploits variation in income composition across U.S. states, he finds that income tax cuts for the bottom 90 percent of earners lead to significantly higher employment growth, while tax cuts for the top ten percent, and especially the top one percent, have little to no effect on job creation. These findings challenge the assumption that top-end tax cuts drive broad economic gains and instead suggest that targeting lower-income groups yields more robust economic benefits. Although Zidar's analysis focuses on federal tax policy, the framework is relevant for understanding state-level variation as well. His evidence supports the idea that the effectiveness of tax policy depends not only on the rate structure but also on who it benefits. This thesis builds on that insight by investigating whether higher top marginal state income tax rates, which are

designed to apply to high-income earners, are associated with reductions in pre-tax income inequality across U.S. states.

Parsons and Naghshpour (2022) take a comparable approach, estimating the effects of income tax progressivity on Gini coefficients using fixed-effects panel data across states. Their findings corroborate the hypothesis that progressive tax structures help compress the income distribution, and their empirical strategy closely parallels the modelling framework used in this thesis.

This thesis builds on these findings by combining the panel approach of Akhand and Liu with the structural control framework of Bishop et al 1992. and the policy-specific focus of Mertens and Montiel Olea. A state-level fixed effects model covering 1990 to 2020 is constructed and focuses specifically on top marginal income tax rates. This choice isolates the redistributive intent of state policy. In addition to the core tax variable, I include controls for union density, state expenditure, GDP/ capita and employment rates to account for broader determinants of inequality. The central question is whether states with more progressive top-end tax policies exhibit systematically different inequality trends compared to those with flatter tax structures.

2.3 Institutional Critiques of Tax Design and Enforcement

The third and final strand of literature highlights institutional limitations in the enforcement and design of state tax systems. Troiano (2017) presents a compelling argument that increases in state income tax rates are not always associated with reductions in inequality. Using panel data across states, he finds that sometimes inequality rises following tax hikes. He identifies two mechanisms. First, enforcement disproportionately targets salaried middle-income earners whose wages are reported by third parties, while higher-income individuals can engage in legal tax avoidance and wealth shielding. Second, the allocation of tax revenues may primarily benefit already advantaged groups, by focusing on investing toward public universities thereby reducing the redistributive impact as these benefit the rich most.

A prominent institutional critique of state-level taxation comes from the Institute on Taxation and Economic Policies *Who Pays?* (2024) report, which presents one of the most comprehensive distributional analyses of state and local tax systems in the United States. The report finds that in 44 states, the poorest 20 percent of residents pay a higher share of their income in taxes than the richest one percent primarily due to regressive consumption-based taxes such as sales and excise taxes. On average, low-income families pay 11.4 percent of their income in state and local taxes, compared to just 7.2 percent for the top one percent. These disparities are most pronounced in states with no income tax or flat income tax systems that rely heavily on consumption taxes, such as Texas, Florida, and Washington. The report highlights how state tax policy design especially the balance between income versus sales taxation can undermine progressivity, even when nominal top marginal rates appear progressive. This evidence reinforces Troiano's (2017) argument that the redistributive capacity of tax policy hinges not only on statutory rates but also on the institutional configuration of tax systems and their enforcement mechanisms.

Altig and Carlstrom (1999) approach the issue from a macroeconomic modelling perspective. They simulate a life-cycle general equilibrium model and find that progressive marginal tax rates can reduce lifetime income inequality. Their model suggests a trade-off:

beyond a certain point, steeper tax rates may harm economic output more than they reduce inequality.

This thesis incorporates these critiques by not assuming a simple linear relationship between top tax rates and inequality. Instead, it controls for enforcement-relevant variables at the state level, including state expenditure, GDP per capita, unemployment rates and union rates. These controls act as proxies for how tax policy is implemented, who bears the real burden, and where tax revenues are channelled. By doing so, the empirical strategy remains sensitive to both institutional asymmetries and behavioural responses, as highlighted by Troiano and Altig and Carlstrom.

Consequently, the existing literature on taxation and income inequality in the United States can be grouped into three main strands: historical and theoretical arguments linking tax policy to distributional outcomes, empirical studies that assess the effect of tax progressivity using state- and national-level data, and institutional critiques that question the real-world effectiveness of tax systems due to enforcement and design limitations. Each strand contributes critical insights, but few studies have integrated these perspectives to evaluate the role of top marginal income tax rates in shaping inequality at the state level over an extended period. This thesis aims to bridge that gap. By leveraging panel data from 1990 to 2020 and incorporating both structural and institutional controls, it tests whether more progressive top-end tax policies are consistently associated with lower income inequality across U.S. states. The following chapter outlines the data sources and methodological framework used to carry out this analysis.

3. Data and Methodology

3.1 The aims of this study

This study constructs a panel dataset at the U.S. state level, covering the years 1990 to 2020. Data was retrieved from various official and publicly available sources and compiled into a unified dataset in a Microsoft Excel spreadsheet in the format required to run panel data regressions using R. Marginal Income taxes per state and Gini coefficient were manually compiled. Web scrapping was employed to compile data for state GDP and population while union density and state expenditure were manually entered. The goal was to investigate the correlation between top marginal income tax rates and the Gini coefficient, controlling for a range of economic and institutional factors across states. There are two main questions this study aims to answer

1. *Is there a relationship between progressive taxation in the United States and income inequality over a 30-year period?*

2. *If such a relationship exists, do higher top marginal income tax rates tend to increase or decrease income inequality at the state level?*

3.2 Core Variables

Table 1 presents the summary statistics for the main variables included in the analysis. The dataset consists of 1,116 state-year observations from 35 U.S. states between 1990 and 2020. The Gini Index, which measures pre-tax income inequality, has a mean of 0.5878 and ranges from 0.5281 to 0.7112. This spread suggests noticeable variation in income distribution across states and over time, which is necessary for evaluating the relationship between inequality and tax policy.

Table 1
Summary Statistics

Variable	Observation	Mean	Standard Deviation	Minimum	Maximum
GINI Index	1,116	0.5878	0.0345	0.5281	0.7112
Top Marginal Income Tax Rate	1,116	6.8364	2.1576	0	13.464
Total Revenue	1,116	48811041	63362246	3567695	482815834
Unemployment Rate	1,116	5.4751	1.9331	2.1	13.7
Union Density	1,116	12.791	5.6044	2	29.4

The top marginal income tax rate averages 6.84 percent. It ranges from zero in states with no personal income tax to a high of 13.46 percent. The variation is wide enough to test how differences in tax structure relate to inequality outcomes. States without a personal income tax or with no variation in their top rate were excluded from the final panel, so all remaining cases reflect actual policy differences.

Total revenue is measured in 2022 inflation-adjusted dollars. The average value is just under 49 million, with a large range from about 3.5 million to over 482 million. This reflects sharp differences in fiscal capacity and budgetary scope across states. The unemployment rate varies from 2.1 to 13.7 percent, with a mean of 5.48 percent. These values capture both periods of national recession and recovery, and they help account for broader economic shocks in the analysis.

Union density ranges from 2 to 29.4 percent, with an average of 12.79 percent. This variable reflects long-term institutional differences across states and plays an important role in explaining labour market power and wage compression. The spread is wide enough to allow for a meaningful test of its association with income inequality.

Overall, the summary statistics confirm that there is sufficient variation in both the dependent and independent variables. This supports the use of panel regression techniques and gives confidence that the results are being driven by real differences across states and years rather than by noise or limited variation in the data.

Top Marginal Income Tax Rates

State-level top marginal income tax rates were obtained from the OpenICPSR[1] Project. This dataset provides harmonized, annual information on the highest statutory personal income tax rate applicable in each U.S. state. The measure captures the top bracket in the individual income tax system and reflects changes over time and differences across states. The tax rate is expressed in percentage points, allowing for standardized cross-state comparisons. These values serve as the study's main explanatory variable, enabling the investigation of whether progressive tax policy reduces income inequality.

Gini Coefficient

Income inequality is measured using the Gini[2] coefficient, sourced from Mark W. Frank's dataset (2009). These annual, state-level Gini coefficients are derived from gross income reported on IRS tax returns, which include wages, business income, dividends, interest, and rental income, but exclude government transfers and tax-exempt income. The Gini coefficient ranges from 0 (perfect equality) to 1 (perfect inequality) and reflects pre-tax, pre-transfer income dispersion. Because the values are based on administrative rather than survey data, this measure provides an accurate picture of top-end income concentration. It is well-suited for longitudinal state-level analysis.

3.4 Control Variables

GDP per Capita

Real gross domestic product (GDP)[3] data serves as a proxy for overall economic development and is included to control for differences in wealth levels across states and over time. Data was sourced from the Federal Reserve Economic Data (FRED), reported in chained 2017 U.S. dollars to adjust for inflation. GDP per capita was calculated by dividing total GDP by annual state population, with population figures also retrieved from FRED[4] and originally compiled by the U.S. Census Bureau. Population statistics were collected annually and were in thousands of persons.

[1] https://www.openicpsr.org/openicpsr/project/208462/version/V1/view;jsessionid=091
[2] https://profiles.shsu.edu/eco_mwf/inequality.html
[3] https://fred.stlouisfed.org/release?rid=140
[4] https://fred.stlouisfed.org/tags/series?t=population%3Bstate

Total State Expenditure

Total state expenditure figures were sourced from the Urban Institute's State and Local Finance Initiative. These figures capture annual government spending across functions like education, health, and welfare, and are reported in inflation-adjusted 2022 U.S. dollars. Including this measure accounts for variation in the redistributive role of the state and helps reduce omitted variable bias, following findings from prior studies such as Lee (2021).

Union Density

Union density is defined as the percentage of wage and salary workers in each state who are union members. This data helps control for institutional labour market dynamics. Empirical research, including Hayes and Vidal (2015), has shown that higher union density is associated with lower income inequality and greater wage compression. This variable accounts for structural conditions that influence the earnings distribution across states.

Unemployment Rate

Unemployment rates were also taken from FRED and are expressed as the annual average percentage of the state's labour force that is unemployed. This variable controls for cyclical economic conditions that directly impact household income and inequality. It follows the approach of Hubmer et al. (2021), who include unemployment to isolate the institutional and fiscal effects on inequality.

3.5 Variable Construction and Panel Setup

This study constructs a novel panel dataset by compiling, cleaning, and organizing state-level data from multiple public sources for the period 1990 to 2020. The independent variable was the marginal income tax, and the dependent variable was the Gini Coefficient. Data for Union density, GDP/Capita, Employment Rates and State expenditure was used as control variables to isolate the relationship between the dependent and independent variable.

Data were gathered using a mix of direct downloads, web queries, and manual formatting. The dataset includes variables such as the GINI coefficient, top marginal income tax rates, unemployment rates, union density, GDP per capita, total revenue, and total expenditure. Where numerical values were embedded in text formats, such as in union density and financial indicators, they were extracted and standardized for analysis. Instances of zero entries in revenue fields were treated as missing data, on the assumption that these reflected incomplete or placeholder records.

To ensure meaningful empirical variation, fifteen states were excluded from the analysis because they either did not levy a state-level marginal income tax or maintained a constant top marginal rate throughout the study period. These states were identified and filtered based on the mean and variance of their top tax rates, ensuring that the regression results

were not distorted by non-informative cases. The final dataset contains 1,116 state-year observations across the remaining 35 states.

Panel data regression models were constructed in R, with both state and year fixed effects to control for unobserved heterogeneity across states and national shocks that may influence income inequality. Control variables such as union density, unemployment rate, GDP per capita, and total revenue were progressively introduced to improve model robustness and account for structural and economic factors that may confound the relationship between tax rates and inequality. Table 3.1 presents descriptive statistics for all variables used in the analysis, which demonstrate adequate variation across both states and time, validating the use of fixed-effects panel regression as the primary empirical strategy.

3.6 Acknowledging Data Limitations:

While the datasets used in this study are well-established and publicly available, there are some important limitations to consider. The Gini coefficient, although widely used to measure inequality, tends to be more responsive to changes in the middle of the income distribution than at the very top. This means it can miss rising inequality among the wealthiest groups (Cowell and Flachaire 2007). In addition, as Troiano (2017) and Saez and Zucman (2014) explain, high-income individuals often avoid taxes through methods like income shifting or placing money in offshore accounts. As a result, income based on tax return data may understate the actual level of inequality. Also, while total state expenditure is included to account for overall public spending, it does not capture how that money is used. For example, Troiano (2017) points out that higher education spending often benefits higher-income groups more. The analysis is also limited to the years 1990 to 2020. While three decades is a meaningful period for observing long-term trends, the study could not extend further back or forward due to data availability constraints. Finally, fifteen states were excluded from the analysis because they either had no state-level marginal income tax or showed no variation over time. This can be observed in the scatter plots for top marginal tax rates for each state in **figure 1** in the appendix. These include Alabama, Alaska, Florida, Louisiana, Mississippi, Nevada, New Hampshire, South Carolina, South Dakota, Tennessee, Texas, Virginia, Washington, West Virginia, and Wyoming. Dropping these states was necessary for the identification strategy but limits how much the findings can be generalized to states without progressive income tax systems. These limitations help contextualize the scope of the analysis and highlight the importance of interpreting the results within the boundaries of the available data.

3.7 Empirical Strategy

The empirical analysis employs a fixed effects panel regression model to control for unobservable, time-invariant differences across states, as well as year-specific shocks that could simultaneously affect all states. This method enables us to isolate and better estimate the impact of top marginal income tax rate and other control variables (unemployment rate, union density and total state revenue) on the GINI coefficient whilst accounting for state

specific heterogeneity that remains constant over time. Further, it is pertinent to mention that this thesis

There are 4 equations in total.

$$GINI_{it} = \beta_0 + \beta_1 TMITR_{it} + \alpha_i + \mu_{it} \quad (1)$$

$$GINI_{it} = \beta_0 + \beta_1 TMITR_{it} + \beta_2 UNEMP_{it} + \alpha_i + \mu_{it} \quad (2)$$

$$GINI_{it} = \beta_0 + \beta_1 TMITR_{it} + \beta_2 UNEMP_{it} + \beta_3 UD_{it} + \alpha_i + \mu_{it} \quad (3)$$

$$GINI_{it} = \beta_0 + \beta_1 TMITR_{it} + \beta_2 UNEMP_{it} + \beta_3 UD_{it} + \beta_4 TSR_{it} + \alpha_i + \mu_{it} \quad (4)$$

Where:

i is state

t is time period,

GINI is GINI Coefficient

TMIR is Top Marginal Income Tax Rate

UNEMP is Unemployment rate

UD is Union Density

TSR is Total State Revenue

$\boldsymbol{\mu}$ is Error Term

α_i represents fixed effects.

4.Results

This study investigates the relationship between income inequality and top marginal income tax rates across U.S. states from 1990 to 2020. Income inequality is measured using the Gini coefficient, while top marginal income tax rates serve as a proxy for state-level progressivity. Four sequential panel regressions were estimated, each incorporating additional control variables to isolate the role of tax policy and build a more robust understanding of inequality's structural determinants. Table 2 summarizes the key results.

Table 2
Panel Data Regressions

Variables	Type of Variable	(1)	(2)	(3)	(4)
Top Marginal Income Tax Rate	Continuous	-0.002071* (0.000753)	-0.002361*** (0.000751)	-0.000597 (0.000589)	-0.001821*** (0.000565)
Unemployment Rate	Continuous	-	0.001824*** (0.000449)	0.001229*** (0.000351)	0.001632*** (0.000333)
Union Density	Continuous	-	-	-0.007098*** (0.000269)	-0.005742*** (0.000269)
Total Revenue	Continuous	-	-	-	0.000000*** (0.000000)
Outcome variable: GINI Index					
Standard Errors in parentheses					
****** p<0.01, ** p<0.5, * p<0.1***					

4.1 Bivariate Regression: Tax Rate and Gini Coefficient

The first model is a bivariate regression in which the top marginal income tax rate is the sole explanatory variable. The estimated coefficient is –0.002071 and is statistically significant at the 10 percent level. This result suggests that, on average, a one percentage point increase in the top marginal income tax rate is associated with a 0.00207-point reduction in the Gini coefficient. Although the magnitude of the effect is relatively small, the direction of the relationship is consistent with economic theory and prior empirical findings. The result closely aligns with the work of Piketty and Saez (2003), who document how reductions in top income tax rates throughout the late twentieth century contributed to a sharp increase in top income shares in the United States.

This finding also resonates with the study by Akhand and Liu (2002), which emphasizes that the degree of tax progressivity, rather than the average tax burden, plays a central role in reducing income inequality. By focusing on the top marginal income tax rate, this study isolates a specific component of the tax code that is designed to target high-income earners, who have been the primary drivers of income concentration in recent decades.

However, several important considerations should be noted. As a simple bivariate model, this regression does not control for other relevant economic, institutional, or demographic variables that may confound the observed relationship. The relatively modest size of the coefficient may reflect behavioural responses to taxation, such as income shifting, legal tax avoidance, or changes in reporting behaviour among top earners. These behaviours are well documented in the empirical literature. For instance, Mertens and Montiel Olea (2018) show that reductions in top tax rates often lead to large increases in reported income among high earners, which may not reflect real productivity gains but rather strategic responses to tax incentives.

The statistical significance at the 10 percent threshold also warrants cautious interpretation. While the result is suggestive, it lacks the robustness typically associated with stronger significance levels. It is possible that state-specific anomalies or omitted variable bias may be influencing the estimate. Nonetheless, the negative sign of the coefficient is consistent with international evidence. Piketty and Zucman (2016), for example, demonstrate that countries which maintained progressive taxation throughout the postwar period experienced lower levels of both income and wealth inequality. In contrast, the United States, which significantly reduced top marginal tax rates beginning in the 1980s, saw a substantial rise in top-end income concentration.

Overall, this preliminary model provides initial empirical support for the hypothesis that higher top marginal income tax rates are associated with lower levels of income inequality. It reinforces the theoretical claim that progressive taxation can play a redistributive role in shaping pre-tax income distributions. At the same time, the limitations of this model highlight the importance of incorporating additional controls to produce more reliable and nuanced estimates. The following models expand on this foundation by sequentially adding labour market, institutional, and fiscal variables.

4.2 Adding Unemployment Rate

The second model introduces the unemployment rate as a control variable in order to account for cyclical labour market conditions that may influence income inequality. Once unemployment is included in the regression, the coefficient for the top marginal income tax rate becomes more negative, with an estimated value of –0.002361. It is now statistically significant at the 1 percent level, suggesting a stronger and more robust inverse relationship between top tax rates and income inequality after adjusting for labour market fluctuations. This reinforces the earlier finding that progressive tax policy is associated with lower levels of pre-tax income concentration.

The unemployment rate itself enters the model with a statistically significant coefficient of –0.0018. This result indicates that a one percentage point increase in the unemployment rate is associated with a 0.0018-point decline in the Gini coefficient. Although this relationship appears counterintuitive at first glance, it is important to note that the Gini measure used in this study captures **pre-tax, pre-transfer** income inequality. During periods of economic downturn, high-income individuals often face substantial losses in capital income, business earnings, or bonuses, which may lead to a narrowing of income disparities in gross terms. This phenomenon has been observed in prior research, where recessions temporarily reduce top income shares due to greater exposure to volatile income sources among the wealthy.

Nevertheless, it is important to distinguish between gross income and disposable income inequality. While pre-tax measures may exhibit compression during recessions, rising unemployment is widely understood to increase inequality in after-tax or consumption-based measures of well-being. Lower-income households tend to experience deeper and more persistent income shocks, and they have fewer financial buffers to absorb economic

losses. In this context, the negative relationship observed in this model may reflect a statistical artifact of pre-tax measurement, rather than an indication of improved economic equity.

The addition of the unemployment rate serves two key purposes. First, it controls macroeconomic volatility that may otherwise bias the estimated effect of tax policy. Second, it highlights the complex interaction between labour market dynamics and inequality. While tax rates appear to maintain their negative relationship with the Gini coefficient even after controlling for unemployment, the model also shows that labour market conditions themselves exert an independent influence on the income distribution.

This result underscores the importance of incorporating relevant economic controls when estimating the determinants of inequality. It also sets the stage for further refinement in the next specification, which introduces union density as an institutional variable reflecting the bargaining power of workers.

4.3 Adding Union Density

The third specification introduces union density as a control variable to better account for institutional labour market dynamics. Unionization plays a crucial role in shaping income distribution through its impact on wage setting, labour protections, and the broader political economy. By including union density, the model assesses whether the redistributive effects attributed to progressive taxation remain statistically significant when institutional labour strength is considered.

In this model, the coefficient for the top marginal income tax rate declines substantially in magnitude, falling to –0.000597, and becomes statistically insignificant. This attenuation suggests that part of the variation previously attributed to tax policy may, in fact, be due to differences in union strength across states. States with stronger unions often also feature more progressive political environments, which jointly influence tax policy, wage structures, and social spending. The correlation between unionization and tax progressivity likely results in multicollinearity, diminishing the independent explanatory power of each variable when included together.

Union density itself shows a large and statistically significant negative effect on income inequality. The estimated coefficient is –0.0071, and it is significant at the 1 percent level. This implies that a one percentage point increase in union membership among wage and salary workers is associated with a 0.0071-point decline in the Gini coefficient. This is a meaningful reduction, and the result is consistent with the findings of Western and Rosenfeld (2011), who argue that unions not only raise wages for their members but also establish normative wage-setting institutions that reduce wage dispersion throughout the labour market. Their study finds that the decline of unions in the United States has contributed substantially to the rise in wage inequality, particularly among non-college-educated men.

The continued statistical significance of the unemployment rate, with a positive coefficient of 0.0012, underscores the persistence of cyclical labour market forces in shaping inequality. Taken together, the results suggest that labour institutions and macroeconomic conditions both exert strong and independent effects on income distribution. They also reveal that tax policy alone may be insufficient to mitigate inequality if it is not accompanied by institutional mechanisms like unions that increase bargaining power and compress the wage structure from below.

4.4 Full Model: Adding Total Revenue

The final model includes all key explanatory and control variables: top marginal income tax rate, unemployment rate, union density, and total state revenue. The inclusion of total revenue, expressed in real terms, serves as a proxy for the fiscal capacity of state governments and their potential to redistribute income through spending. In this specification, the coefficient for the top marginal income tax rate regains statistical significance at the 1% level ($p < 0.01$), with a value of –0.0018. This reinforces the idea that accounting for omitted fiscal variables helps isolate the true effect of tax progressivity on inequality.

The unemployment rate remains statistically significant, with a coefficient of 0.0016, indicating that a one percentage point increase in unemployment is associated with a rise in the Gini index of approximately 0.0016 points. This further confirms unemployment as a key macroeconomic determinant of inequality across all specifications.

Union density continues to have a statistically significant and negative effect ($p < 0.01$), with a slightly smaller coefficient of –0.0057 compared to the earlier model. This attenuation likely reflects shared explanatory power with the total revenue variable. Nonetheless, the result confirms the enduring influence of unionization on reducing inequality.

Interestingly, the total revenue variable enters the model with a positive and statistically significant coefficient, albeit with an extremely small magnitude. On the surface, this appears counterintuitive, as higher state revenue is generally expected to be associated with lower inequality due to increased fiscal capacity for redistribution. However, this result may not indicate a failure of taxation itself but rather point to deeper reallocation issues within states. That is, states with high revenues may allocate a significant portion of their budgets toward functions such as higher education, infrastructure, or corporate incentives—areas that disproportionately benefit upper-income groups. In such cases, revenue generation may enhance state capacity without achieving redistributive outcomes.

This interpretation aligns with Troiano (2017), who finds that increases in state income tax revenue do not always reduce inequality due to two key institutional constraints. First, enforcement disproportionately targets middle-income salaried workers whose earnings are automatically reported, while wealthier individuals are more likely to engage in legal tax avoidance or income shielding. Second, public spending is often allocated in ways that do not benefit lower-income populations, for instance when state governments invest in flagship universities or property-based development programs. In other words, progressive

tax rates must be matched by equitable spending practices to achieve redistributive goals. This study's finding on total revenue thus reinforces the importance of not just how much is collected, but how effectively that revenue is deployed to address inequality.

4.5 Summary of Results

The sequential regressions in this study yield several robust and theoretically grounded insights. First, there is consistent evidence that higher top marginal income tax rates are associated with lower income inequality, particularly when institutional and fiscal factors are properly controlled for. Second, both union density and unemployment rate emerge as key structural determinants of income distribution. The negative effect of unionization and the positive effect of unemployment on inequality are stable across specifications and align with broader economic theory.

Finally, the ambiguous role of total state revenue highlights the importance of distinguishing between revenue capacity and redistributive intent. High revenues alone do not guarantee equitable outcomes; the composition of tax instruments and expenditure patterns also matter. These findings confirm the multidimensional nature of inequality and suggest that tax policy, while important, must be understood in conjunction with labour institutions and fiscal capacity.

Future research could extend this analysis by incorporating more granular spending data, testing interactions between tax and institutional variables, or employing instrumental variables to better identify causal effects. Nonetheless, the results of this study contribute to the growing literature affirming the redistributive role of progressive taxation and labour institutions in shaping the income distribution across U.S. states.

5.Conclusion

This thesis set out to examine the relationship between top marginal income tax rates and income inequality across U.S. states from 1990 to 2020. Using a state-level panel dataset and fixed effects regression models, the analysis found that higher top marginal tax rates are generally associated with lower levels of income inequality, as measured by the Gini coefficient. However, this relationship is modest in magnitude and sensitive to the inclusion of institutional and economic control variables such as unemployment, union density, and total revenue. These findings reaffirm the redistributive potential of progressive taxation but also highlight that tax policy alone is not a panacea for the deeply entrenched patterns of inequality observed in the United States.

One of the most important implications of this research is that addressing income inequality in the U.S. requires a multi-level governance approach. While the federal government sets broad fiscal and redistributive norms, states possess significant autonomy in determining income tax structures. This autonomy has led to considerable divergence in tax policy,

which in turn shapes the distribution of income across regions. Yet this decentralization also introduces challenges for empirical analysis and policy design. For instance, interstate migration of high-income earners—a behavioural response to differences in state tax regimes cannot be fully captured in this dataset. If wealthy individuals relocate to low-tax states, it could obscure or dilute the redistributive impact of high marginal rates in high-tax jurisdictions. Future research should attempt to account for such mobility through longitudinal tracking or micro-level data.

Moreover, this thesis stresses the importance of interpreting state-level tax policy in context**.** Progressive taxation can reduce inequality, but its efficacy depends heavily on complementary institutional factors, such as enforcement capacity, the strength of labour unions, and how tax revenues are allocated. For example, a state may have high top marginal rates, but if tax enforcement disproportionately targets middle-income earners or if revenues are channelled toward programs that benefit higher-income groups, the net redistributive effect may be limited. The modest size of the coefficients in the final regression models suggests that other structural forces such as labour market dynamics, capital accumulation, and demographic change—play a significant role in shaping income inequality. These findings echo the institutional critiques in the literature and underscore the limits of purely statutory reforms.

The results of this study contribute to a more nuanced understanding of fiscal federalism and redistribution in the United States. They show that while state tax policy matters, its influence must be evaluated considering broader economic, political, and institutional ecosystems. A meaningful national strategy to reduce inequality must therefore involve both federal oversight and state-level coordination**,** especially in designing policies that are both progressive and enforceable. Encouraging greater transparency, harmonization of tax codes, and targeted social spending could amplify the redistributive effect of state-level efforts.

In sum, this thesis provides empirical support for the idea that progressive top marginal income tax rates are associated with lower income inequality, but it also cautions against over-reliance on taxation alone. Income inequality is a multifaceted problem, requiring coordinated responses that span tax policy, labour regulation, education funding, and institutional reform. Future research should explore these intersections more deeply, particularly by integrating administrative data on migration, spending breakdowns, and tax compliance. Such efforts would help build a more holistic understanding of how policy instruments interact to shape economic outcomes across America's federal landscape.

6.Policy Recommendations

At the national level, recent discussions have re-emerged around extending or renewing components of prior tax reform legislation that reduced corporate tax rates and top marginal income tax burdens. These reforms, originally intended to encourage investment and economic growth, have yielded mixed outcomes, particularly regarding their long-term effects on income distribution. In this context, the findings of this thesis suggest that it is timely to evaluate how progressive taxation could serve as a more effective tool in

addressing persistent income inequality. States may consider reassessing the structure of their top marginal tax rates not only as a revenue mechanism but also as part of broader equity objectives. As recently reported by the Financial Times, current federal proposals aim to raise the top income tax rate for individuals earning above two and a half million dollars and direct the additional revenue toward middle income tax relief and healthcare funding. This reflects a broader shift toward using tax policy not only to raise revenue but also to reduce disparities across income groups.

To build on this effect, states should expand top income tax brackets for ultra-high earners and implement enforcement tools such as third-party income reporting and state-level minimum tax rules to limit avoidance. Equally important is the allocation of revenue. Tax policies that are accompanied by targeted public investment in education, healthcare, and infrastructure may enhance economic opportunity and reduce disparities more meaningfully. In high population regions where inequality is often more visible and concentrated, attention to income distribution in budget decisions is critical. Policies that support unionization and expand collective bargaining can help raise wages and reduce dispersion across industries. States should repeal right to work laws, promote sectoral bargaining, and ensure minimum wages keep pace with inflation. Pay transparency laws can also help close persistent wage gaps. On the fiscal side, states should shift from regressive sales taxes to more progressive models such as expanding earned income tax credits and taxing luxury goods and high-end real estate. Public revenues should be directed toward equity focused investments like universal preschool, tuition free community college, housing support, and mass transit which enhance long term opportunity. Federal state coordination is essential to ensure consistency with conditional funding tied to equitable tax and labour policies and multistate agreements to prevent tax base erosion. Together these measures can amplify the redistributive effect of taxation while addressing the structural foundations of inequality.

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References

Lee, H.-S. (2021). *State expenditures and inequality in the U.S.*https://www.researchgate.net/publication/350599939_State_expenditures_and_inequality_in_the_US

Akhand, H., & Liu, Y. (2002). The redistributive effect of income taxation in U.S. states. *Public Finance Review, 30*(4), 365–380. https://doi.org/10.1177/109114210203000405

Altig, D., & Carlstrom, C. T. (1995). Marginal tax rates and income inequality in a life-cycle model. *American Economic Review, 85*(5), 219–223. https://www.jstor.org/stable/2950994

Atems, B. (2020). Long-run relationship between income inequality and crime in the United States. *Applied Economics Letters, 27*(11), 857–861. https://doi.org/10.1080/13504851.2019.1646403

Barry T. Hirsch, David A. Macpherson, & Wayne G. Vroman. (2001). Estimates of union density by state. *Monthly Labor Review, 124*(7), 51–55. https://www.bls.gov/opub/mlr/2001/07/art3full.pdf

Bishop, J. A., Formby, J. P., & Thistle, P. D. (1992). Explaining interstate variations in income inequality. *The Review of Economics and Statistics, 74*(3), 353–361. https://doi.org/10.2307/2109495

Brüggemann, B., & Yoo, J. (2015). Aggregate and distributional effects of increasing taxes on top income earners. *SAFE Working Paper No. 113.* https://doi.org/10.2139/ssrn.2639673

Braunstein, E. (2004). Declining corporate income taxes in the 1990s: A state-by-state analysis of effective tax rates. *PERI Working Paper Series*, (91). University of Massachusetts Amherst, Political Economy Research Institute. https://www.peri.umass.edu/fileadmin/pdf/working_papers/working_papers_51-100/WP91.pdf

Chetty, R., Hendren, N., Kline, P., & Saez, E. (2014). Where is the land of opportunity? The geography of intergenerational mobility in the United States. *Quarterly Journal of Economics, 129*(4), 1553–1623. https://doi.org/10.1093/qje/qju022

Cohen, R., Lai, A., & Steindel, C. (2014). State income taxes and interstate migration. *Business Economics, 49*(3), 176–190. https://doi.org/10.1057/be.2014.25

Cowell, F. A., & Flachaire, E. (2007). Income distribution and inequality measurement: The problem of extreme values. *Journal of Econometrics, 141*(2), 1044–1072. https://doi.org/10.1016/j.jeconom.2007.01.002

Duncan, D., & Sabirianova Peter, K. (2016). Unequal inequalities: Do progressive taxes reduce income inequality? *International Tax and Public Finance, 23*(5), 762–783. https://doi.org/10.1007/s10797-016-9412-5

Frank, M. W. (2009). Income inequality in the United States by state, metropolitan area, and county. *Economics Bulletin, 29*(3), 2007–2020. https://www.accessecon.com/Pubs/EB/2009/Volume29/EB-09-V29-I3-P200.pdf

Hacker, J. S., & Pierson, P. (2010). *Winner-Take-All Politics: How Washington Made the Rich Richer—and Turned Its Back on the Middle Class.* Simon & Schuster. https://www.simonandschuster.com/books/Winner-Take-All-Politics/Jacob-S-Hacker/9781416588702

Hayes, T. J., & Medina Vidal, D. X. (2015). Fiscal policy and economic inequality in the U.S. states: Taxing and spending from 1976 to 2006. *Political Research Quarterly, 68*(2), 392–407. https://doi.org/10.1177/1065912915578461

Hubmer, J., Krusell, P., & Smith, A. A. (2021). Sources of U.S. wealth inequality: Past, present, and future. *NBER Working Paper No. 29160.* https://doi.org/10.3386/w29160

Hungerford, T. L. (2013). Changes in income inequality among U.S. taxpayers between 1991 and 2006: The role of wages, capital income, and taxes. *Congressional Research Service Report R42131.*https://crsreports.congress.gov/product/pdf/R/R42131

Institute on Taxation and Economic Policy. (2024). *Who pays? A distributional analysis of the tax systems in all 50 states* (7th ed.7). https://itep.org/whopays/

Lee, H. S. (2025). State expenditures and inequality in the US. *The Social Science Journal*, *62*(1), 152-165. https://doi.org/10.1080/03623319.2021.1900670

Leigh, A. (2008). Do redistributive state taxes reduce inequality? *National Tax Journal, 61*(1), 81–104. https://doi.org/10.17310/ntj.2008.1.04

Lerman, R. I., & Yitzhaki, S. (1994). Effect of marginal changes in income sources on U.S. income inequality. *Public Finance Review, 22*(4), 403–417. https://doi.org/10.1177/109114219402200401

Mertens, K., & Montiel Olea, J. L. (2018). Marginal tax rates and income: New time series evidence. *Quarterly Journal of Economics, 133*(4), 1803–1884. https://doi.org/10.1093/qje/qjy021

Braunstein, E. (2004). Declining corporate income taxes in the 1990s: A state-by-state analysis of effective tax rates. *PERI Working Paper Series*, (91). University of Massachusetts Amherst, Political Economy Research Institute. https://www.peri.umass.edu/fileadmin/pdf/working_papers/working_papers_51-100/WP91.pdf

Parsons, B., & Naghshpour, S. (2022). Panel data analysis on income tax progressivity and Gini coefficient. *Journal of Applied Business and Economics, 24*(2), 188–200. https://doi.org/10.33423/jabe.v24i2.5073

Piketty, T., & Saez, E. (2003). Income inequality in the United States, 1913–1998. *Quarterly Journal of Economics, 118*(1), 1–39. https://doi.org/10.1162/00335530360535135

Saez, E., & Zucman, G. (2014). Wealth inequality in the United States since 1913: Evidence from capitalized income tax data. *NBER Working Paper No. 20625.* https://www.nber.org/papers/w20625

Saez, E., & Zucman, G. (2016). Wealth inequality in the United States and the role of taxes. *Econometrica, 87*(1), 103–131. https://doi.org/10.3982/ECTA15429

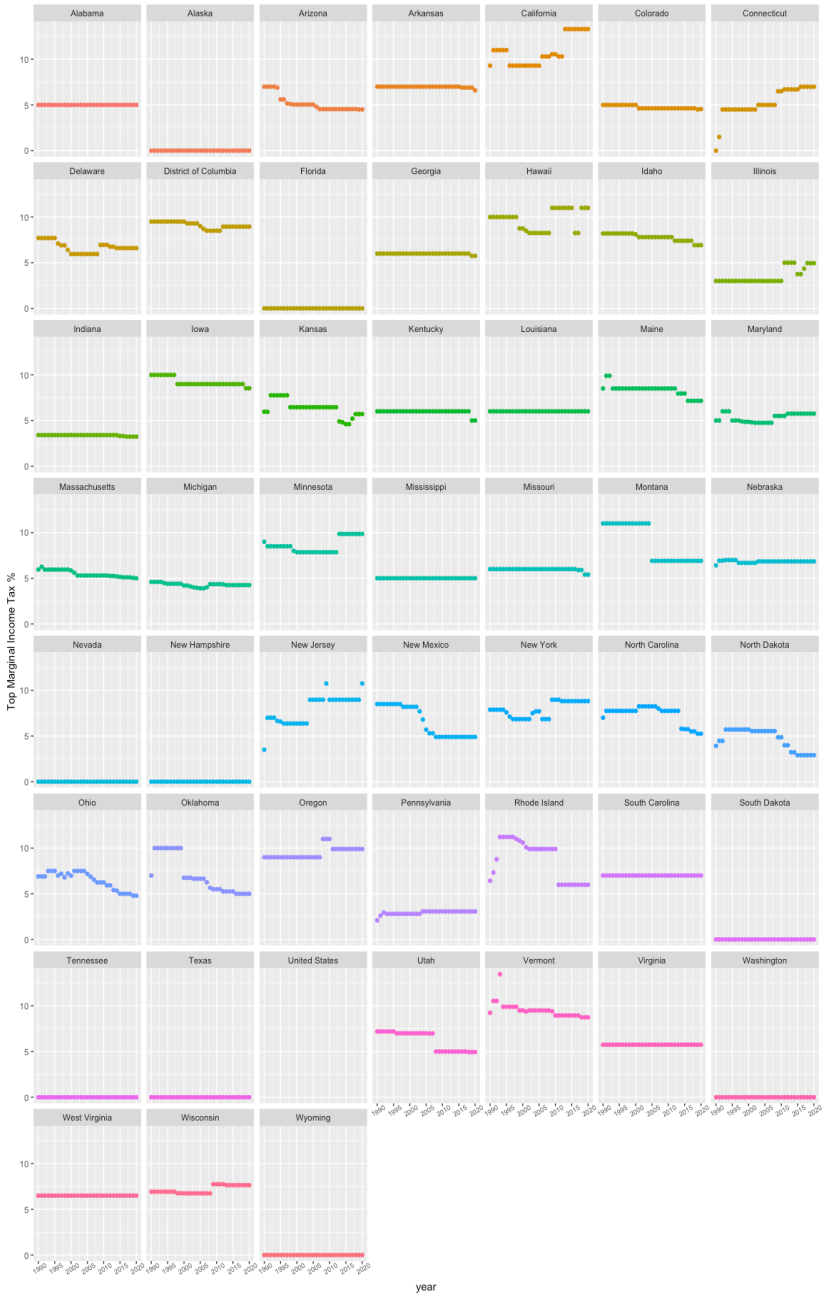
Singh, S., Kumar, S., & Kumar, P. (2023). An empirical study on Trump's Tax Cut and Jobs Act and its impact on the global business environment. *International Journal of Economics and Management Studies, 10*(6), 42–49. https://www.researchgate.net/publication/371911976

Troiano, U. (2017). Do taxes increase economic inequality? A comparative study based on the state personal income tax. *NBER Working Paper No. 24175.* https://doi.org/10.3386/w24175

Western, B., & Rosenfeld, J. (2011). Unions, norms, and the rise in U.S. wage inequality. *American Sociological Review, 76*(4), 513–537. https://doi.org/10.1177/0003122411414817

Appendix A

Figure 3 showing marginal tax rate variation over time



Appendix B

AI has been used to help with formatting and grammatical errors to ensure a high-quality academic paper. AI assistance was also employed while coding in R to suggest packages to make sure output is clear.