Corporate Income Tax Rates and Household Consumption

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Abstract

Household consumption drives is a key component of both social welfare and aggregate economic activity. Although corporate income taxes (CIT) are not levied directly on households, they can affect household consumption through various incidence channels. We estimate the aggregate effects of CIT rate changes on household consumption and consumption inequality. We find that a one-percentage-point change in the CIT rate is associated with a 0.4% decline in household consumption. The changes in consumption are more pronounced among households headed by less-educated parents, those belonging to ethnic minorities, and households with lower liquidity. Using a direct measure of consumption dispersion, we find a positive correlation between consumption inequality and CIT rate changes, driven by spending on relatively discretionary non-food and high-price goods, and products in highly concentrated markets. Finally, we show that our results are concentrated around tax increases. Tax decreases have a statistically insignificant effects. Our findings contribute to the literature on the economic consequences of corporate taxation by showing how CIT rates affect household consumption levels and inequality.

Keywords: Corporate Income Tax; Household Consumption; Consumption Inequality

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1 Introduction

Household consumption is a key driver of economic activity, and there is significant interest in how government fiscal policies affect it (e.g., Attanasio and Pistaferri, 2016). We examine how changes in one important fiscal policy, the corporate income tax (CIT) rate, affect household consumption. Prior literature has shown that the incidence of the CIT flows through to individuals through multiple channels, including corporate profits and asset prices, wages, and product prices (e.g., Jacob et al., 2023; Suárez Serrato and Zidar, 2023). However, incidence studies have generally considered specific channels in isolation, devoting limited attention to how these channels interact or aggregate to affect individuals' well-being. Therefore, instead of specific incidence channels, we focus on aggregate implications for household consumption, a salient and direct proxy for individual utility. This facilitates a more complete picture of the welfare effects of the CIT.

We characterize the effects of CIT rate changes on household consumption as driven by the household's exposure to each of the incidence channels and, in tandem, the sensitivity of consumption to each channel. Exposure refers to how likely the household is to experience the incidence channel (e.g., a change in wages), and sensitivity refers to how much consumption changes in response to a change in that channel (e.g., the marginal propensity to consume out of wages). We expect that there is heterogeneity in both exposure and sensitivity, and this leads to heterogeneity in observed consumption responses. For example, wage-earners have different exposure profiles than corporate owners, and low-liquidity households with limited ability to consume from savings will have higher sensitivity than more liquid households.[1] This framework also allows us to consider the distributional consequences of CIT rate changes. If changes in household consumption cause consumption levels to converge, then this would be lead to a decrease in consumption inequality. Alternatively, rate changes could cause consumption to diverge, increasing inequality.

[1] Of course, households can have multiple incidence exposures and different sensitivities across channels; net consumption effects are a consequence of aggregation across incidence channels.

Simply stated, our research question in this paper is how CIT rate changes affect household consumption, with attention to effects on consumption inequality. To answer our research question, we estimate, in a staggered difference-in-differences design, the effect of changes in U.S. state-level CIT rates on household consumption. Using aggregated product-level consumption data from NielsenIQ, we find that a one percentage point change in the state CIT rate is associated with a change in household consumption of approximately -0.4 percent. This elasticity suggests that a significant portion of the CIT burden falls on local (in-state) households. Next, the dynamic tests show that treated households (i.e., those in states that change CIT rates) and control households (in states not changing CIT rates) follow similar consumption trends before CIT changes, supporting the parallel-trends assumption. Consumption shifts significantly in the year a CIT rate changes.

We explore several alternative specifications to evaluate the robustness of our main results. First, we exclude state-years with a gross receipts tax base to alleviate concerns that our baseline findings may be driven by these non-standard tax regimes. Second, we re-estimate the baseline model using a stacked difference-in-differences (DID) approach, which mitigates bias arising in two-way fixed effects models with staggered treatment timing by avoiding the use of early-treated units (i.e., households in states with CIT rate changes) as controls for later-treated ones (Goodman-Bacon, 2021). Third, we restrict the sample to households located in county pairs along state borders to alleviate concerns about confounding state-year variation in economic conditions that might influence our estimates of CIT rate change effects. The results remain robust across these alternative specifications.

We next consider how the burden or benefit of CIT changes on consumption is shared across households and products. Prior research shows that household characteristics, such as liquidity constraints, access to credit, and behavioral factors, shape responses to changes in economic conditions (Jappelli and Pistaferri, 2010). In addition, household exposure and sensitivity to CIT-induced

changes in consumer prices (Baker et al., 2023; Jacob et al., 2023) and wages (Fuest et al., 2018; Giroud and Rauh, 2019) can vary, leading to heterogeneous changes in consumption. As a result, CIT rate changes may lead to changes in consumption inequality.

To assess this possibility, we examine which households are more affected by CIT changes and which types of products drive these patterns. Policymakers are particularly concerned about the distributional consequences of economic policies, especially for potentially disadvantaged groups defined by education or race (Gorbachev, 2011; Grier et al., 2024; Lawrance, 1991). Minority households tend to hold less wealth and have more limited access to credit, reducing their ability to smooth consumption and making them more sensitive to CIT increases (Gorbachev, 2011). They also have less scope to adjust labor supply (e.g., hours worked) to offset tax increases. Consistent with this concern, we find that non-white and less-educated households exhibit greater sensitivity to CIT rate changes, consistent with a higher marginal propensity to consume. Lower savings buffers and tighter liquidity constraints make these households more likely to adjust consumption in response to the effects of changes in CIT rates operating through the various incidence channels discussed above..

We next use a direct measure of consumption inequality based on household differences in consumption across households, within product groups (e.g., coffee). Consistent with results above, we find a positive relation between CIT rates and consumption inequality. Furthermore, the effects of CIT changes are concentrated among relatively discretionary products where liquidity-constrained households are more likely to cut back: non-food and high-priced categories. We also find stronger inequality effects in products sold in concentrated markets, where producers may be more able to pass price increases on to consumers. Taken together, these results suggest that CIT rate changes can affect consumption inequality via heterogeneous effects across households and product market characteristics. Notably, the effects of CIT rate changes on consumption inequality differ from

previously-documented effects on income (e.g., Nallareddy et al., 2022), plausibly because consumption is more sensitive to incidence channels for liquidity-constrained households, even though unconstrained, high-income households may experience greater income shifts.

In additional analyses, we examine whether there are heterogeneous impacts of CIT rate increases and decreases. We find an asymmetric effect, with tax increases associated with significant decreases in consumption and increases in inequality, but tax decreases yielding an insignificant response. This is consistent with firm owners being more likely to pass the cost of tax increases on to their employees and customers while retaining the benefit from any decreases for themselves (Fuest et al., 2018).

Our paper makes several contributions. First, we contribute to the tax literature by providing evidence of the impact of CIT rate changes on household consumption. The prior literature has extensively examined firms' real and reporting responses to corporate taxation (Lester and Olbert, 2025), with studies investigating the effects of corporate tax rates on firms' accounting method (Coles et al., 2022), capital structure (Heider and Ljungqvist, 2015), innovation (Mukherjee et al., 2017), investment (Djankov et al., 2010; Lester and Langenmayr, 2018; Romer and Romer, 2010), bank transparency (Andries et al., 2017), employment and business reallocation (Giroud and Rauh, 2019; Glaeser et al., 2023), product prices (Baker et al., 2023), and the distribution of the corporate tax burden among workers, landowners, and firms (Suárez Serrato and Zidar, 2016). Much of this literature focuses on the direct effects of corporate taxes, i.e., whether corporate taxes are borne by shareholders, employees, consumers, or asset owners in general (Auerbach, 2006, 2018; Clausing, 2011; Dyreng et al., 2022; Olbert, 2025). By showing the effect of CIT rate changes on both the level (mean) and dispersion (variance) of household consumption, we provide evidence of the net effect of these incidence channels on household behavior and welfare, providing further clarity on the scope of important economic consequences of CIT rates. Importantly, our estimates imply that

CIT rates have different effects on income and consumption inequality. While CIT rates have been shown to be negatively related to income inequality (Nallareddy et al., 2022), we find that they are positively related to consumption inequality. This implies a potential downside of CIT rate increases in serving to increase inequality across households.

Second, it advances the understanding of household consumption behavior. Because consumption provides a more direct and accurate measure of economic well-being than other measures, such as income (Attanasio and Pistaferri, 2016; Meyer and Sullivan, 2023), researchers have increasingly focused on household consumption dynamics (Baker, 2018; Ganong and Noel, 2019; Garmaise et al., 2024). We provide novel evidence that household consumption responds to changes in the CIT rate, even though such tax policy changes are not directly targeted at households, thereby offering new insights into the determinants of consumption. Moreover, our results on consumption inequality shed light on the incidence heterogeneity of CIT effects across households. We further show that the positive correlation between consumption inequality and CIT rate changes is concentrated in relatively discretionary (i.e., non-food and high-priced) goods and is more pronounced in highly concentrated product markets, highlighting that discretionary spending and firm market power are important channels through which consumption disparities are amplified.

Third, we introduce a novel measure of consumption inequality to the accounting literature. Our measure, based on Attanasio and Pistaferri (2014, 2016), exploits differences in spending across households within a state-product category-year triple. While we use the measure in a corporate tax setting focused on state-year and product group variation, it could be used to explore consumption inequality effects related to other dimensions of variation (e.g., other state or county-level policies or events; product manufacturer characteristics).

Lastly, this paper has policy implications, as it furthers our understanding of the implications of CIT rates. The CIT rate fluctuates widely both temporally and geographically. The Tax Cuts

and Jobs Act, passed at the end of 2017, decreased the top U.S. federal corporate tax rate from 39% to 21%. In 2024, several countries reached an agreement for a minimum CIT rate of 15% (Bunn and Bray, 2025). Although our study focuses on state-level corporate taxes, we view our estimates of the economic consequences of CIT rate changes as useful for policymakers in assessing the potential impact of recent CIT rate adjustments and those under consideration.[2]

2 Prior Literature and Theoretical Development

2.1 The Importance of Household Consumption

Household consumption is a fundamental driver of economic activity and a critical measure of individual welfare (Attanasio and Pistaferri, 2016; Meyer and Sullivan, 2023). Since the postwar period, household consumption expenditures have accounted for between 58% and 68% of U.S. GDP.[3] Unlike income or wealth, which capture resources available to households, consumption expenditures more directly capture resources used to generate utility, contributing to household welfare. Furthermore, households can use savings, borrowing, and transfers to intermediate or smooth the effects of income shocks on consumption. Thus, focusing on variation in income and wealth can over- or under-state effects of policy changes and economic shocks on household utility. Besides the closer link to well-being, consumption outcomes capture effects along multiple indirect incidence channels related to household income, wealth, and prices paid.

Moreover, focusing on consumption inequality is particularly informative for evaluating the distributional consequences of fiscal policies. Household consumption responses to policy changes are heterogeneous: those with limited liquid wealth or tighter borrowing constraints typically exhibit higher marginal propensities to consume and therefore experience larger contemporaneous spend-

[2]Our study focuses on top-line CIT rates. We do not explore other levers available to policymakers, including deductions, credits, exemptions, special opportunity zones, intellectual property (IP) boxes, etc.

[3]Personal consumption expenditures as a share of GDP, taken from `https://fred.stlouisfed.org/series/DPCERE1Q156NBEA`, accessed October 6, 2025.

ing adjustments following shocks (Aladangady, 2017; Jappelli and Pistaferri, 2010; Kaplan et al., 2014). At the same time, a large literature documents that consumption inequality tends to rise more slowly than income inequality because households partially smooth shocks through savings, borrowing, and informal insurance arrangements (Attanasio and Pistaferri, 2016; Blundell et al., 2008). Policy changes can therefore affect not only average consumption but also the dispersion of consumption across households as reflected in consumption inequality.

Given the importance of household consumption, many fiscal policies are designed to directly affect it (Tagkalakis, 2008), often with the goal of altering distributional outcomes. However, a growing body of research investigates the indirect effects on consumption of policies primarily targeted elsewhere (Foulis et al., 2026; Li et al., 2025; Serrato, 2018). This is important because even if those polices meet their stated goals, they may induce negative effects on consumption that offset other benefits. In this paper, we choose to focus on one particular fiscal policy not directly targeted at household consumption—the corporate income tax rate. As we discuss in the subsequent section, changes in CIT rates can affect household consumption through several channels, but to our knowledge, no other research has explicitly examined aggregate implications for household consumption and consumption inequality. The aggregate downstream effects (i.e., not only the intermediate incidence channels) are important as household- and welfare-interested policy makers frequently consider CIT reforms in efforts to meet fiscal and other social goals.

2.2 Corporate taxes and consumption

Corporate taxes represent one of the prime fiscal tools available to governments. They are imposed by a variety of national and sub-national jurisdictions and can represent a significant cost for firms (Olbert, 2025). While the corporate income tax is levied on firms, its incidence is ultimately borne by individuals, including the owners of the corporation, its employees, its customers, and the owners

of various factors of production whose value depends on corporate and consumer demand (Gentry, 2007).

Prior research has investigated several parallel channels through which this incidence flows. First, the corporate profit and asset price channel: firm owners bear the burden of the taxes if they accept lower profitability imposed by increased taxes. In addition, capital owners could respond by shifting capital to non-corporate forms of business not subject to the tax. This would raise the cost of capital for corporations. Both mechanisms reduce the returns to corporate owners, thereby diminishing the resources available for saving, reinvestment in the firm, and ultimately, consumption. Consistent with this, Suárez Serrato and Zidar (2023) estimate that 40 percent of the corporate tax falls on owners.

Second, the wage channel: firm owners could choose to shift at least a portion of the tax burden to labor by reducing their compensation. This would reduce the amount of income available to labor for savings and consumption. Consistent with at least a portion of the corporate tax incidence falling on labor, Suárez Serrato and Zidar (2023) and Fuest et al. (2018) estimate that workers bear about 35 and 50 percent of the corporate tax burden, respectively. Moreover, Fuest et al. (2018) documents that this burden falls disproportionately on low-skilled, young, and female workers, highlighting its potential distributional consequences.

Third, the price channel: firms could choose to incorporate the increased tax cost into prices, effectively passing the tax burden to consumers. Consistent with this, Jacob et al. (2023) and Baker et al. (2023) find that variation in local business taxes is associated with variation in consumer prices.

Prior research generally focuses on each of these channels in isolation and does not consider how they interact within a single household or households in aggregate. Examining the effects of net household consumption is important because households could take on multiple roles in this

framework. For instance, a household member who is an employee could also own shares in their employer. An owner of one firm will be a customer of others. As such, the interactions of the different channels could result in different effects on overall consumption than would be expected by just considering the results of each of them separately.

In addition, focusing on changes in incidence on an individual channel ignores that CIT changes will also change government tax revenues. These changes will affect government transfers and funding for public services, which will affect the tax incidence for households receiving these transfers and services.[4] For example, consider a household subject to a cut in wages after a tax increase. If increased tax revenues flow back to them in the form of transfers or services, the net effect on their individual consumption will be mitigated.

Finally, the effect of these interactions is likely to vary across households due to household characteristics, such as liquidity, labor market flexibility, and the marginal propensity to consume out of income and wealth shocks. Kaplan et al. (2014) shows that lower-liquidity households have a larger marginal propensity to consume out of transitory income shocks. Zidar (2019) shows that tax cuts targeting lower-income groups generate much stronger effects on economic activity than those aimed at higher-income groups, and analytical studies suggest that lower-income households are more responsive to tax policy due to higher marginal propensities to consume and greater labor supply elasticities (Ferriere and Navarro, 2025). While prior work on personal taxation has extensively documented heterogeneity in household consumption and labor supply responses (Cloyne and Surico, 2017; Guner et al., 2012), the overall impact of corporate taxation on consumption inequality, albeit indirectly via multiple channels, remains largely unexplored.

In summary, prior research primarily identifies the incidence of CIT on individual wages, capital asset profits and values, and consumer prices. The focus on individual channels ignores how those

[4]The effect may be concurrent or shifted in time via public sector borrowing.

channels might interact within a single household, and how concurrent changes in government spending might moderate the benefit or burden of CIT changes. Our study addresses both by estimating the effect of CIT rate changes on household consumption and consumption inequality directly, providing the first evidence of the net welfare consequences of CIT changes at the household level.

2.3 A framework for heterogeneous consumption effects

To illustrate how the incidence channels documented in prior literature can drive how CIT changes cause changes in consumption and consumption inequality, we propose a framework where the effect on household consumption (ΔC) is determined by the interaction of two components: exposure to the incidence channel and sensitivity of consumption to changes along that incidence path. We note that this framework does not represent a formal model that we explicitly test, but rather allows us to demonstrate the sources of variation in consumption responses that drive our subsequent results.

Exposure represents the degree to which a household's economic resources change in response to a given incidence channel. A household's exposure will be determined by its relationship with the firm, and the firm owners' choices regarding how to pass on the incidence of the tax. Employees will be exposed to the wage channel, owners through the corporate profit and asset price channel, and customers through the price channel. Households may also be affected through public sector expenditures, e.g., grants and subsidies affected by corporate tax revenues. A household that takes none of these roles will be unexposed to the rate change, and a household with multiple roles will face exposure across multiple dimensions.

Sensitivity represents how an individual household's consumption responds to a change in the economic environment driven by a given incidence channel. Prior research finds there is substantial heterogeneity in how household consumption responds to changes in economic resources. Responses

vary with liquidity constraints and credit access (Jappelli and Pistaferri, 2010); income levels and price sensitivity (Becker et al., 1991; Ferriere and Navarro, 2025; Johnson et al., 2006; Peersman and Wauters, 2024); risk preferences and income volatility (Alan et al., 2018); cash-on-hand and age (Christelis et al., 2019); as well as borrowing constraints and housing wealth (Aladangady, 2017). As such, we expect sensitivity to be largely influenced by the external economic resources and human capital the household has available. Wealthier households, for instance, can draw on accumulated savings to smooth consumption in response to an income shock, yielding lower sensitivity; liquidity-constrained households cannot, yielding higher sensitivity.

For simplicity, we illustrate the CIT-inequality link in an example where incidence only passes through the wage channel, but the intuition applies to an extended framework including the other channels. Suppose there are 3 representative households: A, B, and C. Let β_i denote household i's exposure to the CIT change due to the focal incidence channel. Households A and B are employed and equally exposed to the wage channel while C is not: $\beta_A = \beta_B > \beta_C > 0$. This implies that, for example, a decrease in the CIT increases wages for A and B, but does not change C's wages.

The sensitivity of consumption to the incidence channel is given by γ_i for household i. Household A is more liquidity constrained than households B and C, who are assumed to have the same economic resources: $\gamma_A > \gamma_B = \gamma_C > 0$. As such, household A will be more sensitive to the change in wages than the other two households.

Abstracting from other factors, we can write the effect of the CIT change on household i as the product of the household's exposure to the incidence channel (i.e., wage change) and the sensitivity of consumption to incidence (i.e. how much other wealth they have to smooth). That is, $\Delta C_i = \beta_i \times \gamma_i$. The total change in consumption will be the sum of changes induced by all the incidence channels the household is exposed to.

With this simple framework, focusing on the single incidence channel, we have:

$$\Delta C_A = \beta_A \gamma_A > \Delta C_B = \beta_B \gamma_B > \Delta C_C = \beta_C \gamma_C = 0.$$

This framework illustrates two distinct sources of heterogeneity in consumption responses. Households A and B experience larger changes in consumption than household C because they bear the incidence of the CIT change. Household A experiences a larger change in consumption than household B because of its greater sensitivity to the incidence channel. The effect on consumption inequality will be determined by whether the greater change in consumption moves household A closer to the other households (decreased inequality) or further away (increasing inequality). So, the effect on inequality also depends on starting points, which we have abstracted away from in this simple framework. Nevertheless, if the most exposed and sensitive households bear a disproportionate share of the burden, CIT changes are likely to widen inequality.

3 Data and Summary Statistics

In this section, we introduce the datasets used in our analysis, explain the sample construction, and provide summary statistics. Our main analysis focuses on a matched panel of annual household consumption data and state tax variables from 2004 to 2019. We begin the sample period in 2004 when household consumption data starts, and end the sample in 2019, before the onset of the COVID-19 pandemic. We provide additional details about the variable definitions in Appendix A.

3.1 NielsenIQ Household Consumption Data

The NielsenIQ Consumer Panel Data provide a longitudinal panel of approximately 40,000 to 60,000 U.S. households each year, covering all continental states and major markets. The panel is geo-

graphically representative and demographically balanced. Participating households use in-home scanners or a mobile app to record all retail purchases, enabling NielsenIQ to continuously collect detailed information on product identifiers, types, expenditures, and the timing and location of purchases.[5] In addition to consumption information, the dataset includes rich household characteristics such as income range, labor force participation, marital status, race, educational background, the presence of children, etc.

NielsenIQ provides household projection weights to adjust for sampling differences between panel households and the broader population, and its documentation indicates that these weights sum to the total number of U.S. households. Using these weights, we construct state-year total consumption in NielsenIQ as the weighted sum of household consumption within each state-year and compare this measure with state-year total consumption from the Bureau of Economic Analysis (BEA). In levels, the weighted NielsenIQ aggregates closely track BEA total consumption, with a correlation of 0.98; in changes, the correlation is 0.39. Both are significant at the 1% level. The strong correlation suggests that the NielsenIQ panel provides a broadly representative measure of consumption at the state-year level.

[Insert Table 1]

Table 1 presents summary statistics for the main variables we use in our analyses. Our final sample with non-missing consumption and control variables consists of 845,143 household-year observations, corresponding to 718,780 household-year observations with non-missing first-difference variables used in our main regressions. We winsorize total household consumption at the top and bottom 1% of the distribution to minimize the influence of outliers. On average, a household spends

[5]Each product in the NielsenIQ Consumer Panel Data is assigned a unique Universal Product Code (UPC), which serves as its identifier. NielsenIQ organizes UPCs hierarchically into 1,075 product modules, 125 product groups, and 10 departments: health and beauty aids, dry grocery, frozen foods, dairy, deli, packaged meat, fresh produce, non-food grocery, alcohol, and general merchandise. We do not capture spending on housing, transportation, education, and other services. We use UPCs to identify products, and use product group codes to aggregate products in consumption inequality tests.

$7,790 in total each year on the consumption categories that NielsenIQ tracks. For household demographics, the average household size is 2.34 members; about 19% of households have both heads with less than a college education; and approximately 83% of households are White. The median reported household income falls in category 21, corresponding to $50,000-$59,999. We are unable to provide a more granular measure of income as NielsenIQ provides only ranges of household income rather than specific numbers. For the regression analysis, we utilize the ordinal variable for income assigned by NielsenIQ, where higher values represent higher income ranges.

3.2 State Tax-related Data

We obtain information on the corporate income tax rate, indicator for gross receipts-based taxation, personal income tax rate, sales tax rate, and unemployment insurance rate data from Giroud and Rauh (2019), whose sample spans from 1997 to 2012.[6] Following their methods, we update these variables through 2019 using Commerce Clearing House (CCH) State Tax Smart Charts and data from the Department of Labor. In our sample period, between 2004 and 2019, there were 70 CIT rate reductions and 8 CIT rate increases.[7] Table 1 presents the summary statistics of state-level corporate income tax rates. The mean (median) value of the CIT rate is 6.51% (6.90%), similar to the distribution of the CIT rate in Giroud and Rauh (2019).

We also control for a variety of other changes in state corporate tax policy in order to isolate the effect of CIT rate changes on consumption. Our starting point is the list of state corporate tax policy variables used in Suárez Serrato and Zidar (2018).[8] We start with the inclusion of the following variables from their data: sales and property apportionment weights, the number

[6] Available at: `https://www.journals.uchicago.edu/doi/full/10.1086/701357?mobileUi=0`.

[7] Consistent with much of the empirical literature, we focus on changes in state CIT rates rather than apportionment rules, deductions, or credits also relevant to the calculation of state-level corporate tax liabilities. See Suárez Serrato and Zidar (2018) for a related discussion and evidence on how tax characteristics beyond the top rate affect tax receipts and aggregate economic activity.

[8] Available at: `https://zidar.princeton.edu/publications/structure-state-corporate-taxation-and-its-impact-state-tax-revenues-and-economic`.

of years of loss carry back and loss carry forward, and indicators of whether the state imposes a franchise tax, allows for the deduction of federal income tax, allows for federal accelerated or bonus depreciation, has R&D tax or investment tax credits, eliminates 'nowhere' income from physical sales, and whether it allows unitary business to submit combined reporting. To that list, we add whether that state uses a factor-based nexus standard. As Suárez Serrato and Zidar (2018) end their dataset in 2010, we use the Commerce Clearing House (CCH) State Tax Handbooks to manually collect the information necessary to extend the data to the end of our sample period. See Appendix A for detailed variable definitions.

The summary statistics of state-year-level corporate tax policy variables are presented in Table 1. The statistics are generally consistent with Suárez Serrato and Zidar (2018). For example, as in that paper, roughly half of the state-years have throwback rules (0.51) and franchise taxes (0.42), most states follow accelerated depreciation schedules (0.85), and about 43% of the states in the pooled sample use combined reporting rules.

3.3 Other Data

We also control for the following state-year-level characteristics, as they capture the overall economic, political, demographic, and policy environment of a state, which could independently influence household consumption patterns and may be correlated with changes in tax policy. State-year-level general revenue is provided by the U.S. Census Bureau (Census), and the mean (median) value of the logarithm of general revenue is 16.88 (16.91). State-year-level labor union coverage rates, unemployment rates, and unemployment insurance (UI) tax rates on total wages are obtained from the U.S. Bureau of Labor Statistics. The mean (median) labor union coverage rate is 11.96% (11.60%). The mean (median) unemployment rate is 5.63 (5.13), and the mean (median) unemployment insurance tax rate on total wages is 0.76% (0.71%). The indicators of state legislature

and government control and demographic variables are from the Census. State UI rates are sourced from the Department of Labor's "Significant Provisions of State UI Laws". The summary statistics for these variables are also shown in Table 1.

To examine the effects on household consumption inequality, we use the NielsenIQ Consumer Panel Data to measure changes in consumption inequality across geographic areas. Detailed descriptions of the dataset are provided before the corresponding empirical results in Sections 6.

4 Research Design

Our research design focuses on changes in CIT levied by U.S. states. U.S. firms bear non-negligible state CIT, with, on average, about 21% of total income taxes that firms pay represented by state CITs (Heider and Ljungqvist, 2015). Moreover, state tax rates move substantially over time. We exploit the staggered changes in state-level CIT rates to investigate the causal effects of CIT changes on household consumption. The underlying assumption of our identification strategy is that, without the state CIT rate changes, the consumption of treated households (i.e., households in state-years experiencing CIT rate changes) would evolve over time in the same way as that of control households (i.e., households in other state-years), conditional on control variables. If the state corporate income tax changes move along with local economic conditions or other state policies that may affect household consumption at the same time, our estimates would be biased. To alleviate this concern, we control for time-varying state-year-level characteristics and state corporate tax policy variables that may be affected by local economic conditions, elections, or other state policies.

We implement a staggered difference-in-difference (SDD) methodology in first differences to conduct the analysis. The first difference estimation removes unobserved time-invariant factors at the household and state levels. Compared to corresponding levels estimator implementations of

the SDD with fixed effects, the first-difference estimator can better address concerns related to repeated treatments and sequences of treatments of heterogeneous magnitude and direction, e.g., a CIT rate increase followed several years later by a CIT rate decrease (Heider and Ljungqvist, 2015). According to NielsenIQ's sampling design, certain households are more likely to be included in the sample due to their characteristics relative to the general population. To address this sampling bias, we conduct all empirical analyses using the household sampling weights provided by NielsenIQ. We use the following specification:

$$\Delta Log(Total\ Consumption)_{ist} = \beta \Delta TaxRate_{st} + \gamma_1 \Delta X_{st} + \gamma_2 \Delta Y_{ist} + \phi_s + \lambda_t + \epsilon_{ist} \qquad (1)$$

where $\Delta Log(Total\ Consumption)_{ist}$ is the change in the logarithm of consumption expenditure of household i in state s from year $t-1$ to year t. $\Delta TaxRate_{st}$ is the change in the CIT rate in state s from year $t-1$ to year t.[9]

ΔX_{st} are changes in state-year-level characteristics, state corporate tax policy variables, and state political factors that may influence consumption. Specifically, the state-year controls include state sales tax rates, unemployment insurance rates, personal income tax rates, state infrastructure spending as a percentage of GDP, the logarithm of government subsidies, total state expenditure, general revenue, real state GDP, labor union coverage, the unemployment rate, unemployment insurance tax revenue rate on the total wages, indicators for Democratic control of the governorship and state legislature, the population growth rate, and the shares of the population that are Caucasian, working-age adults, underage individuals, and those holding a bachelor's degree or higher. The state corporate tax policy variables include changes in sales and property apportionment weights, number of years of loss carry back and loss carry forward, and indicators of franchise tax,

[9] Our tax change variables are expressed in percentage points, where a 1 percent change in the tax rate is valued as 1 for $\Delta TaxRate_{st}$, rather than 0.01.

federal income tax deductible, federal accelerated depreciation, federal bonus depreciation, R&D tax credit, investment tax credit, state eliminates 'nowhere' income from physical sales, allowing unitary business to submit combined reporting, and factor-based nexus standard. We provide the definitions of all control variables in Appendix A.

Following Giroud and Rauh (2019), we also allow for states that collect tax on gross receipts to have different effects on household consumption by adding a dummy variable, $Gross\ receipt\ tax\ flag_{st}$, that equals one if the state taxes corporations on the non-standard gross receipts basis. We include an interaction term between $\Delta TaxRate_{st}$ and $Gross\ receipt\ tax\ flag_{st}$ to allow for the heterogeneous effect of CIT rate change in states with a non-standard corporate tax base.[10] ΔY_{ist} are changes in household-year-level characteristics, including changes in household size, the presence of children in the household, the type of household residence, household income, marital status, and employment status of male and female heads-of-households. Since we use the first-difference estimator, time-invariant state and household characteristics like state geography and household education have been absorbed. We also add state fixed effects ϕ_s and year fixed effects λ_t. When using a first-difference estimator, state fixed effects capture state-level time trends. ϵ_{ist} is the error term. Standard errors are clustered at the state level. The coefficient of interest is β, which estimates the effects of CIT rate changes on household consumption.

Before proceeding, we note one limitation of our setting. State CITs generally apply to the apportioned income of all firms with sufficient activity in the state, regardless of domicile. Consequently, multi-state firms may be less affected by a single-state CIT change than geographically concentrated firms, since the change represents a smaller share of their total tax burden and may elicit weaker behavioral responses. The magnitude of this effect depends on how aggressively a state's tax rules 'pull in' income from out-of-state firms. Our controls for variation in apportion-

[10]See Giroud and Rauh (2019, p. 1268) and Pogue (2007) for further discussions of the small number of states which used gross receipts or gross receipts less a small number of allowed expenses for their corporate tax base.

ment formulas, throwback rules, and nexus standards are included to account for this dynamic. Importantly, this limitation is unlikely to threaten our findings substantially, as most U.S. firms operate within a single state.[11] Even if a significant portion of goods consumed in a state is produced by out-of-state firms, any resulting bias would likely attenuate our estimates. The effects on the proposed incidence channels would be more muted, rendering our findings conservative.

5 CIT Rate Changes and Household Consumption

5.1 Main Results

Table 2 presents the results for the effect of CIT rate changes on total household consumption. In Column (1), we control for state-year-level characteristics and state corporate tax policy variables, state and year fixed effects, and cluster standard errors at the state level. Our estimates imply that changes in CIT rates and household consumption are negatively correlated: a one percentage point change in the CIT rate is associated with a -0.4 percent change in consumption.[12] In Column (2), we add household-year-level controls and find consistent results.

[Insert Table 2]

5.2 Dynamic Effects

In this section, we estimate a dynamic effects model, allowing for leading and lag relations between CIT rate changes and household consumption. This serves two purposes. First, it allows us to examine pre-treatment consumption trends. If these trends are parallel between "treated" households in states with CIT rate changes and "control" households in states without, it provides suggestive evidence supporting the parallel trends assumption critical to our SDD estimation. In particular,

[11] For example, Guo (2023) observe that 97% of U.S. manufacturing firms are single-state.

[12] The coefficients of $\Delta TaxRate_{st}$ in the first and second columns are both -0.004, indicating that the expected household consumption changes by about $e^{-0.004} - 1 \approx -0.004$

this also helps address concerns about reverse causality, which could manifest as divergent consumption patterns prior to CIT rate changes enacted in response to consumption dynamics. Second, the dynamic estimates enable us to assess whether the consumption effects persist or reverse over time, which is an important distinction, as persistent effects carry significantly greater policy implications than transient or reversing ones. Notably, our regressions are estimated in changes, so one-time changes without reversals lead to persistent level effects.

We construct interaction terms between tax change variables and year-specific dummies covering the dynamic event window. Specifically, we generate terms of the form $\Delta TaxRate_{s,f_0} \times \mathbb{1}_{t=n}$, where f_0 denotes the year of the CIT rate change and n ranges from -2 to $+4$, corresponding to the event-time years relative to the tax change. These interactions capture the differential effects of tax changes from two years before to four years after the CIT rate change. If no CIT rate change occurs in a specific year within the seven-year window, Δ Tax Rate is set to zero. We use the year three years prior to the CIT rate change ($n = -3$) as the benchmark year.

[Insert Figure 1]

Figure 1 shows the dynamic effects of CIT rate changes on households. The vertical bars denote 90% confidence intervals around each coefficient estimate. Note that the regression is estimated in first differences, so the coefficients capture expected changes in consumption. We find that the timing of observed effects lines up with the timing of tax changes. Specifically, we find no significant effects in the years preceding the tax changes, but observe substantial effects in the tax change year. This provides suggestive evidence against either reverse causality or a common driver whose impact would be in effect before the CIT rate changes.

5.3 Robustness Checks

5.3.1 Exclusion of Non-Standard Taxation State-Years

Our main analysis accounts for tax regime heterogeneity using numerous controls as well as interacting the CIT rate change variable with an indicator for states that calculate corporate income taxes based on gross-receipts. CIT taxes calculated on gross receipts, or some other non-standard tax base, means that firms in those states are not able to take advantage of deductions available to firms in states where the CIT is imposed on profits. This could mean that firm owners in gross receipt tax states are more sensitive to changes in the CIT rate, particularly at less profitable firms, and thus exhibit different incidence choices. For example, they might impose a larger share of the incidence on workers since they do benefit from the wage deduction, resulting in different consumption patterns than states that tax profits.

To see whether our results may be driven by states with these non-standard tax regimes, we conduct a robustness test excluding state-years with a gross-receipts tax base. The results are reported in Column (1) of Table 3. The significantly negative coefficient on $\Delta TaxRate$ indicates that our results are robust to dropping state-years where taxes are levied on corporate gross receipts, consistent with our main results.

[Insert Table 3]

5.3.2 Stacked DID Estimation

Recent research has highlighted potential biases introduced by time-varying effects in staggered DID regressions (Baker et al., 2022; Goodman-Bacon, 2021). To address this concern, we estimate a stacked DID model, following Wing et al. (2024). This approach requires that earlier treated units are not used as controls for later treated units in ways that could bias our estimates. Specifically,

for each tax change year in our sample, we identify (1) the set of focal households that experienced a tax change in that year t, and (2) the set of control households that did not experience any tax change between five years before and five years after t. This yields a separate "cohort" for each year, which includes all treated households that experience a tax change and a set of control households that are never treated in that stack's window. Control households can serve for multiple cohorts if they are never treated in that cohort's 11-year window (five years before and five years after). We include state-cohort and year-cohort fixed effects to ensure our analysis is within-cohort. The results are shown in Column (2) of Table 3. The coefficient on $\Delta TaxRate$ in Column (2) of Table 3 is significantly negative. This result is consistent with our main findings, where CIT rate changes are associated with opposite-direction consumption changes.

5.3.3 Border County Tests

Another potential concern impeding the causal interpretation of the relationship between CIT rate changes and household consumption is that state governments may adjust tax rates in anticipation of changes in local economic conditions (Giroud and Rauh, 2019). Our research design already accounts for changes in key state-year-level demographic, political, and economic characteristics, such as population growth, whether a certain party holds control over the state's executive and legislative branches of government, state sales tax, personal income tax, unemployment insurance, unemployment rates, labor union coverage, GDP, state government general income and expenses, and various state corporate tax policy variables. However, states may adjust CIT rates due to local economic factors that are not captured by these controls. To address this potential confounding issue, prior literature focuses on comparisons between counties along state borders to study how state taxation affects business activity in states that change policies compared to those that do not (e.g., Holcombe and Lacombe, 2004; Ljungqvist and Smolyansky, 2016). The underlying idea is that

economic conditions are similar for contiguous counties on either side of the border. Accordingly, we use treated households' cross-border neighbors to establish a counterfactual household consumption response, which allows us to isolate the effect of local economic variation that would occur in the absence of a tax change. Specifically, we use a subsample consisting of 1,222 county-pair-year groups involving households in contiguous counties on either side of a state border, such that in year t, households in one county experience a CIT rate change while households in the contiguous county do not. We additionally control for county-pair $\times$ year fixed effects to account for time-varying unobserved economic conditions shared by each pair of contiguous counties.

Column (3) of Table 3 shows the results. Narrowing the sample of control households to those sharing arguably similar local economic conditions increases the economic magnitude of the sensitivity of household consumption to CIT rate changes from the baseline. The coefficient on $\Delta TaxRate$ is -0.018 and significant at 5% level, consistent with our prior findings that CIT rate changes are negatively associated with changes in household consumption.

6 CIT Rate Changes and Consumption Inequality

Income tax rates have distributional consequences, plausibly affecting not just welfare levels but also welfare inequality. In this section, we examine whether changes in CIT rates have differential effects across households, leading to effects on consumption inequality. We first analyze heterogeneity in average household responses and then proceed to direct measures of consumption inequality. Understanding heterogeneous effects is essential for identifying which groups bear the burden of CIT changes and for contributing to the broader debate on the distributional consequences of corporate tax policy (Fuest et al., 2018). Direct measures of consumption inequality provide additional evidence and exploit finer variation in our data, particularly at the product group level.

6.1 Heterogeneous Effects Across Household Characteristics

In this section, we examine how household responses to CIT changes vary across household characteristics. In terms of our conceptual framework, we expect these characteristics to capture variation in both a household's exposure and sensitivity to changes in the incidence of the CIT.

We begin by examining how the effects vary by race. Policymakers are particularly concerned about the distributional consequences of economic policies for potentially disadvantaged groups (Gorbachev, 2011; Grier et al., 2024; Lawrance, 1991). Prior work shows that non-white and less-educated households tend to hold less wealth and face more limited access to credit (Gorbachev, 2011), reducing their ability to smooth consumption, making them more sensitive to any changes in their exposure to CIT incidence.

[Insert Table 4]

Table 4 reports the results based on the specification shown in Column (2) of Table 2. In Column (1), we interact the tax change variable with Non_White_{ist}, which equals one if not all household members are Caucasian and zero otherwise. The estimates indicate that the relation between CIT rate change and consumption is negative but statistically insignificant for white households, while this relation is significantly negative for non-white households. This pattern suggests that CIT rate changes may disproportionately affect non-white households, potentially through greater exposure to declines in firm investment, hiring, and wages, and greater sensitivity to those changes due to lower ability to smooth consumption.

We next examine heterogeneous responses based on household education. Limited education can weaken households' bargaining power in the labor market and further constrain their consumption-smoothing capacity, increasing their sensitivity to CIT changes. In Column (2), we interact the tax change variable with $Low_Education_{ist}$, which equals one if the highest education level of the

household head is below a college degree, and zero otherwise. We find that CIT rate changes have no significant effect on higher-educated households, but significantly impact consumption among lower-educated households. This asymmetric pattern is consistent with lower-educated households exhibiting a greater sensitivity to changes in incidence, consistent with their lower economic resources.

Finally, we examine heterogeneity by household liquidity. We expect stronger effects of CIT changes among liquidity-constrained households, who have a higher marginal propensity to consume out of transitory income shocks (Kaplan et al., 2014). To test this, we first construct measures of household liquidity that more directly capture a household's discretionary spending capacity. In Column (3), we interact the tax change variable with $H_FoodRatio_{ist}$, an indicator equal to one if the household's food-to-nonfood spending ratio in the prior year is at or above the sample median.[13] Because food is typically considered a necessity (e.g., Blundell et al., 2008), a higher share of spending on necessities indicates lower liquidity. We find that tax changes are significantly negatively correlated with consumption among lower-liquidity households, but have no significant effect on higher-liquidity households. This pattern suggests that tax changes impact their budget constraints, contributing to a higher sensitivity to changes in exposure to CIT incidence.

In Column (4), we use an alternative proxy for liquidity by interacting the tax variable with $H_LowpriceRatio_{ist}$, an indicator equal to one if the household's ratio of spending on low-price goods to high-price goods in the prior year is at or above the sample median. A higher share of low-price goods in total consumption can likewise indicate lower discretionary income and tighter liquidity. We find that the coefficient on $\Delta TaxRate \times H_LowpriceRatio$ is significantly negative, consistent with tax-induced financially constrained households increasing consumption when economic conditions improve. When combined with our other results, the significant reaction to tax

[13]The observation number difference between Column (3)-(4) and (1)-(2) stems from missing consumption department (i.e., product category) information.

changes in Columns (3) and (4) suggests that tax changes may disproportionately impact more liquidity-constrained consumers.[14] Taken together, these results based on household consumption patterns highlight the central role of household liquidity in shaping the consumption response to CIT rate changes.

6.2 Consumption Inequality

Having examined whether CIT rate changes disproportionately affect the consumption behavior of certain households, we next investigate the impact of CIT rate changes on overall consumption inequality as manifested in cross-household differences in consumption patterns. While heterogeneity tests highlight differences across households with specific observable characteristics, such as education or minority status, our inequality measures employed in this section capture the dispersion of consumption across households more directly, and incorporate variation both within and across household groups. This approach allows us to assess the aggregate distributional consequences of CIT changes, providing insight into whether such changes widen or narrow overall consumption inequality, a concern that is likely of primary interest to policymakers (McKay and Wolf, 2023).

Following prior studies (e.g., Attanasio and Pistaferri, 2014, 2016), we capture consumption inequality in aggregate using variation in how much households within a state-year differ in their spending within consumption categories. Specifically, we compute the standard deviation of per-capita consumption within each state-product group-year across households. This allows us to quantify and compare distributional shifts within and across different product categories while taking into account varying economic conditions across different jurisdictions. [15] To reduce noise

[14] We acknowledge a possible price-incidence confound if CIT changes disproportionately affect high-priced goods (e.g., Baker et al., 2023). However, this mechanism predicts larger consumption responses among households that buy more high-priced goods. Instead, we find the response is concentrated among liquidity-constrained households, making this confound unlikely to drive our results.

[15] For example, consider the consumption of coffee, including coffee beans, ground, liquid, and soluble coffee, and coffee substitutes in 2015. Our *Consumption_Inequality* measure for this product group-year is as low as 0.981 in the District of Columbia, indicating that per-capita coffee spending is relatively tightly clustered around the state mean, but as high as 1.578 in North Dakota, implying substantially greater heterogeneity across households. Relative

in the standard-deviation estimates from small cell sizes, we require sufficient observations within each state-product-group-year cell. We therefore drop cells with fewer than 30 households.[16] Consistent with the main analyses, we employ a first-difference specification to remove unobserved time-invariant factors at the state and product group levels. In addition, we control for the same set of state-year covariates as in Table 7.

[Insert Table 5]

Table 5 reports the results. Column (1) includes state and year fixed effects, while Column (2) further adds product group fixed effects. Across both specifications, the coefficient on $\Delta TaxRate$ is 0.007 and statistically significant at the 5% level. These findings indicate that changes in CIT rates are positively associated with consumption inequality, implying CIT increases tend to widen inequality and decreases will lessen it. When combined with the earlier evidence that CIT rate changes have heterogeneous effects across households, this suggests that changes in CIT rates may disproportionately affect consumption among disadvantaged households, and through this potentially widen consumption inequality.

Our focus on consumption inequality in this and the previous section yields results that differ from prior evidence examining CIT rates and income inequality. Nallareddy et al. (2022) find that CIT rate changes are negatively associated with income inequality. Focusing on rate cuts, they find that the positive effects for high-income individuals outpace more modest income effects for low-income individuals. In contrast, we find that CIT rate changes are positively associated with consumption inequality. Tax cuts, for instance, have more positive effects on low-consumption households, potentially due to greater sensitivity to a variety of incidence channels. As consumption is more closely tied to welfare than income (e.g., McKay and Wolf, 2023), this result has implications

to DC, dispersion in North Dakota is roughly 60% higher in standard-deviation terms.

[16]The results are robust to alternative minimum cell-size thresholds of 20 or 40 households.

for expected effects of CIT rate policy on inequality in household welfare.

6.3 Heterogeneous Effects on Consumption Inequality Across Product Types

After documenting the overall effects of CIT changes on consumption inequality, this section investigates whether these effects differ across product types. Examining product-group level responses helps identify which categories of consumption are most sensitive to CIT-induced disparities.

We first distinguish between food and non-food items. As discussed earlier, food is typically considered a necessity (e.g., Blundell et al., 2008). We expect more constrained households to exhibit larger consumption changes for relatively discretionary non-food items in response to CIT changes. Given that relatively constrained (e.g., low-liquidity) households are expected to be more sensitive to CIT rate changes, we predict that the change in inequality is larger for non-food spending than for spending on food.

[Insert Table 6]

Table 6 presents the results. In Columns (1) and (2), we interact the tax change variables with Non_Food_{gst}, which equals one for non-food products and zero otherwise. CIT rate changes have no significant effects on consumption inequality for food products. The positive and significant coefficient ($p < 5\%$) on $\Delta TaxRate \times Non_Food$ indicates that changes in the CIT rate are positively associated with inequality in the relatively discretionary consumption of non-food products.

We next distinguish between high and low price product groups. Similar to the discussion for food expenditures, we expect more constrained households to adjust their consumption of higher-priced goods more than lower-priced alternatives, leading to larger effects of CIT rate changes for inequality in those product types. To test this, in Columns (3) and (4), we interact the tax change variable with $High_Price_{gst}$, a dummy variable equal to one if the average product price of the group in the state exceeds the median. The results show that CIT rate changes do not

significantly affect consumption inequality for low-price products. In contrast, the coefficient on $\Delta TaxRate \times High_Price$ is positive and significant at the 10% level, indicating that the positive association between CIT changes and inequality is reflected primarily in high-price product groups.

Finally, we examine whether inequality effects vary based on product market concentration. Local product market concentration plausibly reflects supplier firms' market power and thus the extent to which CIT rate changes can be passed through to consumer prices and wages, amplifying distributional effects across households. To test this, in Columns (5) and (6), we interact the tax change variable with $High_HHI_{gst}$, an indicator equal to one if the local product market is highly concentrated and zero otherwise. Market concentration is measured using the Herfindahl-Hirschman Index (HHI), constructed from squared brand-level expenditure shares within product group-state-year. The estimates show that CIT rate changes have insignificant effects on consumption inequality in less concentrated markets. Moreover, the coefficient on $\Delta TaxRate \times High_HHI$ is positive and significant at the 10% level or better, indicating that the effect on consumption inequality is concentrated in product groups in concentrated markets. As noted above, we interpret this as reflecting possible firms with greater market power facing less competitive pressure and more readily passing the corporate tax burden onto consumers and employees.

7 Additional Tests

7.1 Asymmetric effects of CIT rate increases and cuts

Our framework characterizes changes in household consumption in response to CIT rate changes as be driven by the household's exposure and sensitivity to CIT rate incidence channels. Our analysis thus far treats CIT rate increases and decreases symmetrically, but there are potential reasons for exposure and sensitivity to incidence channels to be different for CIT rate increases versus CIT

rate cuts.

Regarding exposure: if firm owners choose to vary how much they pass through effects of CIT rate changes depending on whether the firm experiences a tax increase or decrease, this could result in a differential consumption responses due to asymmetric incidence. For example, owners may retain the benefits of tax cuts for themselves, but pass costs of tax increases to employees and consumers. This would induce an asymmetry in exposure, with firm owners being more exposed to tax cuts, and employees and consumers to tax increases. Because we assume that firm owners will generally be less sensitive to changes (i.e., due to greater underlying liquidity) than households composed of employees and consumers (who may be more liquidity-constrained), this would then predict a greater change in consumption after tax increases than tax decreases.

Consumption sensitivity may also differ depending on increases versus decreases in wages, asset prices, and consumer prices. Households may be more likely to increase consumption expenditures when wages rise, relative to the propensity to consume less when wages fall. Alternatively, price increases may lead to substitution in consumption goods (i.e., shifts towards low-price goods within-category) rather than changes in the level of expenditures. So, sensitivities to the incidence channels may be asymmetric.

Research specifically examining the incidence of corporate taxes has either not examined increases and decreases separately ((Suárez Serrato and Zidar, 2016)) or found conflicting results. Specifically, Baker et al. (2023) find evidence that prices changes following tax changes, without splitting tax increases and tax cuts effect, whereas Jacob et al. (2023) finds that prices increase after tax increases but exhibit no change after tax decreases. Fuest et al. (2018) find that wages significantly decrease after tax increases, but exhibit no significant effect after decreases.[17]

[17]Closer to our focus, Mertens and Ravn (2012) use macro data to show that reductions in various federal tax liabilities, including personal and corporate income, payroll, and excise taxes, raise per capita consumption. However, their approach does not isolate CIT effects, and other tax types may influence consumption more directly. Moreover, their use of aggregate data limits insights at the household level.

In this section, we examine whether there is an asymmetric effect on household consumption and consumption inequality between tax increases and cuts. We replace the single variable $\Delta TaxRate_{st}$ with two variables, $Tax_increase_{st}$ and Tax_cut_{st} to measure tax increases and tax cuts separately. $Tax_increase_{st} = \Delta Tax_Rate \times \mathbb{1}_{\Delta Tax_Rate>0}$ is the level of tax increase in state s in year t, where $\mathbb{1}_X$ is the standard indicator function for condition X. $Tax_cut_{st} = \Delta Tax_Rate \times \mathbb{1}_{\Delta Tax_Rate<0}$ is the level of tax cut in state s in year t.[18]

[Insert Table 7]

Table 7 reports the results. The specifications in column (1) in Table 7 mirror those of column (2) of Table 2, and the specifications in the column (2) in Table 7 mirror those of column (2) of Table 5, with the main effect split as described. In column (1), the regression estimates imply that a one percentage point increase in the CIT rate reduces household consumption by about 0.4 percent (statistically significant at the 5% level), while the coefficient on CIT rate cuts is negative (implying positive consumption effects) but not statistically significant. In Column (2), the estimates suggest that CIT increases are positively associated with consumption inequality, whereas CIT rate cuts have no statistically significant effect on inequality. In summary, the empirical results show that while CIT rate increases seem to depress consumption and exacerbate consumption inequality, we cannot conclude that CIT rate decreases have a significant impact on household consumption or consumption inequality.

7.2 Income inequality

Prior studies document a close link between income and consumption inequality, as disparities in consumption often reflect underlying income differences (e.g., Aguiar and Bils, 2015). To examine this channel, we use the IPUMS-ACS dataset to analyze the relationship between CIT rate

[18] $Tax_increase_{st} = \Delta Tax_Rate$ if $\Delta Tax_Rate > 0$ while $Tax_increase_{st} = 0$ if $\Delta Tax_Rate \leq 0$. $Tax_cut_{st} = \Delta Tax_Rate$ if $\Delta Tax_Rate < 0$ while $Tax_cut_{st} = 0$ if $\Delta Tax_Rate \geq 0$. Thus, $Tax_increase_{st} \geq 0 \geq Tax_cut_{st}$.

changes and income inequality, measured as the standard deviation of personal income at the state-year level. IPUMS-ACS harmonizes data from the U.S. Census and the American Community Survey and provides detailed information on individual income, industry of employment, location, and household characteristics. Because the first-difference specification already accounts for time-invariant state characteristics, and given the limited number of state-year observations in this analysis, we include only year fixed effects to preserve identifying variation. We also control for the same set of state-year level covariates as in Table 7. The results, reported in Appendix Table A3, show no statistically significant relationship between CIT rate changes and state-year income inequality. This null finding does not rule out distributional adjustment. One possible explanation is that income inequality may adjust along margins that translate only weakly into consumption. For example, higher earners may have higher exposure to tax-induced shifts, while their consumption is relatively insensitive to income changes.

8 Conclusion

In this study, we examine whether state-level CIT changes influence household consumption. Using household-year-level data from NielsenIQ, we find that CIT rate changes are negatively associated with household consumption. Dynamic analyses reveal that consumption adjustments occur in the same year as CIT rate changes. We find no evidence of pre-trends before CIT rate changes, alleviating endogeneity concerns related to reverse causality or secular trends.

We find that the negative effects of CIT rate changes on consumption are stronger among non-Caucasian and below-college-educated households. These results suggest that CIT rate changes may exacerbate racial and education-based consumption inequality. We also use consumption patterns as proxies for household liquidity and find that CIT rate change effects on consumption are mainly reflected in liquidity-constrained households. Consistent with this, we observe a significantly

positive correlation between overall consumption inequality and CIT rate changes, driven primarily by spending on non-food and high-price goods, with the inequality effects especially pronounced in highly concentrated product markets where businesses may be more able to pass on cost increases to customers. These findings highlight policy-relevant distributional consequences of CIT rate changes. In additional analyses, we discuss asymmetric effects between tax increases and tax cuts, and find that CIT rate increases depress consumption and exacerbate consumption inequality, whereas CIT rate decreases have insignificant effects.

Overall, this paper provides new evidence on how corporate tax rates affect household consumption, a critical component of both household welfare and overall economic activity. We show that changes in corporate income tax rates are associated with meaningful shifts in household spending. Moreover, these effects are not evenly distributed, as consumption inequality moves in the same direction as corporate tax rate changes. Given the central role of household consumption in driving the U.S. and global economies, our findings highlight policy-relevant distributional and plausibly macroeconomic consequences of corporate tax policy.

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Figure 1: Consumption around CIT Increases and Cuts

This Figure presents regression coefficients, δ_n estimated from the following specification:

$$\Delta Log(Total\ Consumption)_{ist} = \sum_{n=-2}^{4} \delta_n \Delta TaxRate_{s,f_0} \times \mathbb{1}_{t=n} + \gamma_1 \Delta X_{st} + \gamma_2 \Delta Y_{ist} + \phi_s + \lambda_t + \epsilon_{ist} \quad (2)$$

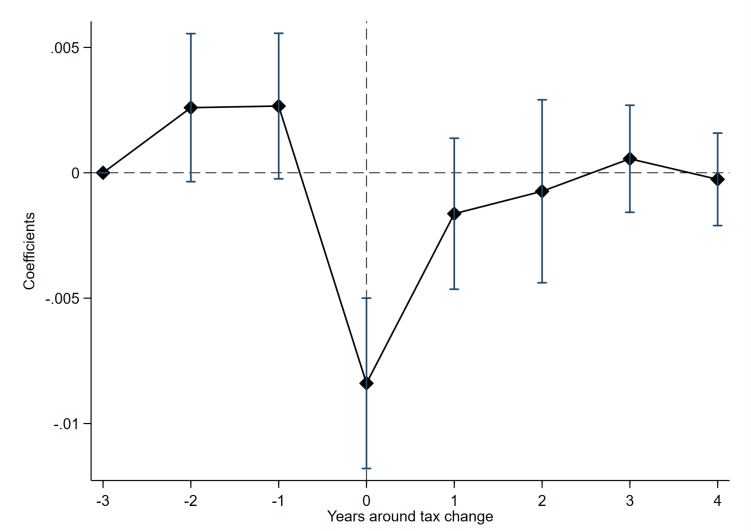


Table 1: Summary Statistics

This table presents descriptive statistics of the variables used in our analysis. Variable definitions can be found in Appendix A.

	Obs.	Mean	SD	25th Pctl	50 Pctl	75 Pctl
Household–Year Level Dependent Variable						
Total Consumption ($)	845,143	7790.00	4575.58	4459.86	6743.08	9968.87
Household–Year Level Control Variables						
Household_Size	845,143	2.34	1.27	1.00	2.00	3.00
Resid_House	845,143	0.78	0.41	1.00	1.00	1.00
Children	845,143	0.21	0.41	0.00	0.00	0.00
HH_Income	845,143	20.13	6.02	16.00	21.00	26.00
Head_Emp	845,143	1.00	0.76	0.00	1.00	2.00
Married	845,143	0.61	0.49	0.00	1.00	1.00
Low_Education	845,143	0.19	0.39	0.00	0.00	0.00
Non_White	845,143	0.17	0.38	0.00	0.00	0.00
H_FoodRatio	688,711	0.47	0.50	0.00	0.00	1.00
H_LowpriceRatio	688,827	0.49	0.50	0.00	0.00	1.00
State–Year Level Variables						
Corporate Income Tax rate (%)	797	6.51	2.74	5.50	6.90	8.50
Δ TaxRate (%)	797	-0.04	0.33	0.00	0.00	0.00
Tax_increase (%)	797	0.02	0.17	0.00	0.00	0.00
Tax_cut (%)	797	-0.06	0.28	0.00	0.00	0.00
Gross receipt tax flag	797	0.07	0.25	0.00	0.00	0.00
Personal Income Tax (%)	797	5.26	2.92	3.90	5.75	7.00
Sales Tax (%)	797	4.98	1.95	4.00	5.60	6.25
PayrollApportionmentWeight	797	16.31	14.01	0.00	25.00	25.00
SalesApportionmentWeight	797	67.16	28.31	50.00	50.00	100.00
PropertyApportionmentWeight	797	16.31	14.01	0.00	25.00	25.00
LossCarryback	797	0.71	1.12	0.00	0.00	2.00
LossCarryforward	797	17.56	17.84	10.00	20.00	20.00

Continued on next page

Table 1 – Continued from previous page

	Obs.	Mean	SD	25th Pctl	50 Pctl	75 Pctl
FranchiseTax	797	0.42	0.49	0.00	0.00	1.00
FedIncomeTaxDeductible	797	0.08	0.28	0.00	0.00	0.00
AllowFedAccDep	797	0.85	0.35	1.00	1.00	1.00
FederalBonusDepreciation	797	0.28	0.45	0.00	0.00	1.00
RDTaxCredit	797	0.68	0.47	0.00	1.00	1.00
Pscappthrowback	797	0.51	0.50	0.00	1.00	1.00
Appcombrpt	797	0.43	0.50	0.00	0.00	1.00
Investmenttaxcredit	797	0.47	0.50	0.00	0.00	1.00
FactorNexus	797	0.08	0.28	0.00	0.00	0.00
Unemp. Insurance Rate (%)	797	7.15	2.18	5.40	6.80	8.84
UI_Wage_Rate (%)	797	0.76	0.36	0.48	0.71	0.94
Unemploy_Rate (%)	797	5.63	2.13	4.05	5.13	6.83
Labor Union Coverage (%)	797	11.96	5.37	7.30	11.60	15.70
Infras_GDP (%)	797	0.00	0.00	0.00	0.00	0.00
Log_General_Revenue	797	16.88	0.92	16.11	16.91	17.48
Log_Real_GDP	797	12.16	1.03	11.22	12.17	12.95
Log_Subsidy	797	13.10	1.06	12.18	13.20	13.99
Log_Exp	797	17.01	0.95	16.23	17.06	17.63
Legis_Demo_Control	797	0.36	0.48	0.00	0.00	1.00
Govern_Demo	797	0.43	0.50	0.00	0.00	1.00
Pop_Growth	797	0.01	0.01	0.00	0.01	0.01
White_Pop	797	0.81	0.12	0.74	0.83	0.89
Bachelor_Pop	797	0.20	0.04	0.17	0.19	0.23
Adultlabor_Pop	797	0.63	0.01	0.62	0.63	0.64
Nonadult_Pop	797	0.24	0.02	0.22	0.24	0.25
State–Product group–Year Level Variables						
Consumption_Inequality	84,769	1.19	0.22	1.06	1.16	1.29
Non_Food	84,769	0.44	0.50	0.00	0.00	1.00
High_Price	84,769	0.49	0.50	0.00	0.00	1.00
High_HHI	84,769	0.48	0.50	0.00	0.00	1.00

Table 2: Effects of CIT Rate Changes on Household Consumption

This table presents regression outputs using the following specification:

$$\Delta Log(Total\ Consumption)_{ist} = \beta \Delta TaxRate_{st} + \gamma_1 \Delta X_{st} + \gamma_2 \Delta Y_{ist} + \phi_s + \lambda_t + \epsilon_{ist} \quad (3)$$

where $\Delta Log(Total\ Consumption)_{ist}$ is the change in the logarithm of consumption expenditure of household i in state s from year $t-1$ to year t. $\Delta TaxRate_{st}$ is the change in the CIT rate in state s from year $t-1$ to year t. We include the gross receipt tax flag, and an interaction term between $\Delta TaxRate_{st}$ and $Gross\ receipt\ tax\ flag_{st}$ to allow for states that collect tax on gross receipts to have different effects on household consumption. X_{st} are state-year-level characteristics and corporate tax burden control variables, where state-year-level characteristics include sales tax rate, unemployment insurance rate, unemployment insurance tax revenue rate on the total wages, unemployment rate, personal income tax rate, logarithm of general revenue, logarithm of real GDP, labor union coverage, whether Democrats hold control over the state governorship and state legislature, population growth rate, percentages of the population that are Caucasian, adult labor, non adult, holding a bachelor degree or higher, respectively, state spending on infrastructure as a percentage of GDP, logarithm of government subsidy, and logarithm of total expenditure, and state corporate tax burden variables include sales and property apportionment weights, number of years of loss carry back and loss carry forward, indicators of franchise tax, federal income tax deductible, federal accelerated depreciation, federal bonus depreciation, R&D tax credit, investment tax credit, state eliminates 'nowhere' income from physical sales, allowing unitary business to submit combined reporting, and factor-based nexus standard. Y_{st} are household-year-level characteristics including household size, the type of household residence, the presence of children in the household, household income, marital status, and employment status of household heads. λ_t and ϕ_s are year and state fixed effects, respectively. Column (1) presents a baseline specification with state-year-level controls. Column (2) add household-year-level controls. Standard errors, clustered at the state level, are shown in parentheses below the coefficient estimates. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	(1)	(2)
	Δ Log (Total Consumption)	
Δ TaxRate	-0.004*	-0.004*
	(0.002)	(0.002)
Δ TaxRate × Gross receipt tax flag	0.003	0.003
	(0.003)	(0.003)
Gross receipt tax flag	0.006*	0.006
	(0.004)	(0.004)
Δ Sales Tax	0.003	0.003
	(0.004)	(0.004)
Δ Personal Income Tax	0.002*	0.002
	(0.001)	(0.001)
Δ Unemp. Insurance rate	0.000	0.000
	(0.000)	(0.000)
Δ UI_Wage_Rate	0.001	0.002
	(0.007)	(0.007)
Δ Unemploy_Rate	-0.002	-0.002
	(0.001)	(0.001)
Δ Labor Union Coverage	-0.001	-0.001
	(0.001)	(0.001)
Δ Log_General_Revenue	0.046**	0.044**
	(0.021)	(0.021)
Δ Log_Real_GDP	0.084	0.085
	(0.055)	(0.055)

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Table 2 – Continued from previous page

VARIABLES	(1) Δ Log (Total Consumption)	(2) Δ Log (Total Consumption)
Δ Legis_Demo_Control	0.000	0.000
	(0.002)	(0.002)
Δ Govern_Demo	-0.001	-0.001
	(0.003)	(0.003)
Δ Pop_Growth	0.022	0.029
	(0.171)	(0.173)
Δ White_Pop	-0.342	-0.358
	(0.386)	(0.382)
Δ Bachelor_Pop	0.331*	0.318*
	(0.173)	(0.172)
Δ Adultlabor_Pop	-0.122	-0.120
	(1.043)	(1.039)
Δ Nonadult_Pop	0.724	0.688
	(1.275)	(1.267)
Δ Infras_GDP	3.650	3.838
	(5.713)	(5.669)
Δ Log_Subsidy	0.002	0.002
	(0.003)	(0.003)
Δ Log_Exp	-0.012	-0.011
	(0.021)	(0.021)
Δ Household_Size		0.013***
		(0.001)
Δ Resid_House		0.000
		(0.003)
Δ Children		0.002
		(0.003)
Δ HH_Income		0.001*
		(0.000)
Δ Married		0.033***
		(0.004)
Δ Head_Emp		-0.003
		(0.002)
State Corporate Tax Burden Controls	Yes	Yes
State FE	Yes	Yes
Year FE	Yes	Yes
Cluster(state)	Yes	Yes
Observations	718,790	718,780
R-squared	0.008	0.010

Table 3: Robustness Checks for the CIT Rate Change Effects on Consumption for Households

This table reports robustness tests for our baseline results from Table 2. In Column (1), we exclude state-years where establishments were subject to the non-standard forms of corporate taxation. Column (2) reports the results based on stacked DID analysis. In stacked DID regressions, for each tax change year in our sample, we identify the set of the focal households that experienced a tax change from year $t-1$ to year t, and the set of control households that did not experience any tax change between five years before and five years after t, yielding separate "cohort" for each year, which include all treated households that experience a tax change and a set of control households that are never treated in that cohort's window. We include state-cohort and year-cohort fixed effects to ensure our analysis is within a given cohort. The standard errors are clustered at the state-cohort level. In Column (3), we limit the sample to households in contiguous counties on either side of a state border, such that from year $t-1$ to year t, households in one county experience a tax shock while households in the neighboring county do not. We control for county-pair $\times$ year fixed effects to account for common local economic factors. Other variables are the same as those in Table 2. Variable definitions can be found in Appendix A. Standard errors are shown in parentheses below the coefficients. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

SPECIFICATION	(1) Exclude Non-Standard Taxation State-Years	(2) Stacked DID	(3) Border County-Pairs
VARIABLES	Δ Log (Total Consumption)		
Δ TaxRate	-0.004*	-0.007*	-0.018**
	(0.002)	(0.004)	(0.008)
Household-year-level Controls	Yes	Yes	Yes
State-year-level Controls	Yes	Yes	Yes
State FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Cluster(State)	Yes	Yes	Yes
Observations	600,807	2,625,837	48,864
R-squared	0.010	0.009	0.028

Table 4: Heterogeneous Effects of CIT Rate Changes on Consumption by Household Characteristics

This table presents regression outputs using the following specification.

$$\begin{aligned}\Delta Log(Total\ Consumption)_{ist} = \beta_1 \Delta TaxRate_{st} \times HHCharact_{ist} + \beta_2 \Delta TaxRate_{st} \\ + \gamma_1 \Delta X_{st} + \gamma_2 \Delta Y_{ist} + \phi_s + \lambda_t + \epsilon_{ist}\end{aligned} \tag{4}$$

where $\Delta Log(Total\ Consumption)_{ist}$ is the change in the logarithm of consumption expenditure of household i in state s from year $t-1$ to year t. $\Delta TaxRate_{st}$ is the level of tax rate change in state s from year $t-1$ to year t. We control for the gross receipt tax flag, and interaction terms of $\Delta TaxRate_{st} \times Gross\ receipt\ tax\ flag_{st}$, $\Delta TaxRate_{st} \times Gross\ receipt\ tax\ flag_{st} \times HHCharact_{ist}$, and $Gross\ receipt\ tax\ flag_{st} \times HHCharact_{ist}$ to allow for states that collect tax on gross receipts to have different effects on household consumption. $HHCharact_{ist}$ in Columns (1) to (4) are indicators equal to 1 (and 0 otherwise) if the household includes non-Caucasian members, both household heads' highest education is lower than college, the household's ratio of spending on food to non-food is equal to or above the sample median, and the household's ratio of spending on low-price to high-price products is equal to or above the sample median, respectively. Other variables and fixed effects are the same as those in Table 2. Standard errors clustered at the state level are shown in parentheses below the coefficients. All variables are defined in the Appendix. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
VARIABLES	Δ Log (Total Consumption)			
Δ TaxRate × Non_White	-0.009*			
	(0.005)			
Δ TaxRate × Low_Education		-0.009***		
		(0.003)		
Δ TaxRate × H_FoodRatio			-0.005*	
			(0.003)	
Δ TaxRate × H_LowpriceRatio				-0.005**
				(0.002)
Δ TaxRate	-0.002	-0.002	-0.001	-0.001
	(0.003)	(0.003)	(0.003)	(0.002)
household-year-level Controls	Yes	Yes	Yes	Yes
State-year-level Controls	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Cluster(State)	Yes	Yes	Yes	Yes
Observations	718,780	718,780	687,974	688,095
R-squared	0.010	0.010	0.011	0.011

Table 5: Effects of CIT Rate Changes on Consumption Inequality

This table presents regression outputs using the following specification.

$$\Delta Consumption_Inequality_{gst} = \beta \Delta TaxRate_{st} + \gamma_1 \Delta X_{st} + \phi_s + \lambda_t + \theta_g + \epsilon_{gst} \quad (5)$$

where $\Delta Consumption_Inequality_{gst}$ is the change in standard deviation of the logarithm of the household per-capita consumption of product group g in state s from year $t-1$ to year t. $\Delta TaxRate_{st}$ is the level of tax rate change in state s from year $t-1$ to year t. We control for the gross receipt tax flag, and interaction terms of $\Delta TaxRate_{st} \times Gross\ receipt\ tax\ flag_{st}$ to allow for states that collect tax on gross receipts to have different effects on household consumption. We also add state fixed effects ϕ_s, year fixed effects λ_t, and product group fixed effects θ_g. ϵ_{gst} is the error term. In all columns we cluster standard errors at the state level. Other state-year-level control variables are the same as those in Table 2. All variables are defined in the Appendix. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)
VARIABLES	Δ Consumption_Inequality	
Δ TaxRate	0.007**	0.007**
	(0.003)	(0.003)
State-year-level Controls	Yes	Yes
State FE	Yes	Yes
Year FE	Yes	Yes
Product Group FE	No	Yes
Cluster(State)	Yes	Yes
Observations	83,013	83,013
R-squared	0.398	0.401

Table 6: Heterogeneous Effects of CIT Rate Changes on Consumption Inequality by Product Types

This table presents regression outputs using the following specification.

$$\begin{aligned}\Delta Consumption_Inequality_{gst} = \beta_1 \Delta TaxRate_{st} \times Prod.Charact_{gst} + \beta_2 \Delta TaxRate_{st} \\ + \gamma_1 \Delta X_{st} + \phi_s + \lambda_t + \theta_g + \epsilon_{gst}\end{aligned} \tag{6}$$

where $\Delta Consumption_Inequality_{gst}$ is the change in standard deviation of the logarithm of the household per-capita consumption of product group g in state s from year $t-1$ to year t. $\Delta TaxRate_{st}$ is the level of tax rate change in state s from year $t-1$ to year t. We control for the gross receipt tax flag, and interaction terms of $\Delta TaxRate_{st} \times Gross\ receipt\ tax\ flag_{st}$, $\Delta TaxRate_{st} \times Gross\ receipt\ tax\ flag_{st} \times Prod.Charact_{gst}$, and $Gross\ receipt\ tax\ flag_{st} \times Prod.Charact_{gst}$ to allow for states that collect tax on gross receipts to have different effects on household consumption. $Prod.Charact_{gst}$ in Columns (1) and (2) are indicators equal to 1 (and 0 otherwise) if the product is not food. $Prod.Charact_{gst}$ in Columns (3) and (4) are indicators equal to 1 (and 0 otherwise) if the average product price of the group in the state equals or exceeds the median. $Prod.Charact_{gst}$ in Columns (5) and (6) are indicators equal to 1 (and 0 otherwise) if the local product market is highly concentrated. We also add state fixed effects ϕ_s, year fixed effects λ_t, and product group fixed effects θ_g. Other state-year-level control variables are the same as those in Table 2. Standard errors clustered at the state level are shown in parentheses below the coefficients. All variables are defined in the Appendix. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES			Δ Consumption_Inequality			
Δ TaxRate × Non_Food	0.006**	0.007**				
	(0.003)	(0.003)				
Δ TaxRate × High_Price			0.006*	0.006*		
			(0.003)	(0.003)		
Δ TaxRate × High_HHI					0.005*	0.005**
					(0.002)	(0.002)
Δ TaxRate	0.004	0.004	0.004	0.004	0.004	0.004
	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)
State-year-level Controls	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Product Group FE	No	Yes	No	Yes	No	Yes
Cluster(State)	Yes	Yes	Yes	Yes	Yes	Yes
Observations	83,013	83,013	83,013	83,013	83,013	83,013
R-squared	0.398	0.401	0.398	0.401	0.398	0.401

Table 7: Effects of Corporate Tax Rate Increases and Decreases on Consumption Outcomes

This table presents regression outputs using the following specification.

$$\Delta ConsumptionOutcomes_{st} = \beta_1 Tax_increase_{st} + \beta_2 Tax_cut_{st} + \gamma_1 \Delta X_{st} + \gamma_2 \Delta Y_{ist} + \phi_s + \lambda_t + \epsilon_{ist} \quad (7)$$

where $\Delta ConsumptionOutcomes_{st}$ is the change in the logarithm of consumption expenditure of household i in state s from year $t-1$ to year t, $\Delta Log(Total\ Consumption)_{ist}$, in Column (1). And $\Delta ConsumptionOutcomes_{st}$ is the change in standard deviation of the logarithm of the household per-capita consumption of product group g in state s from year $t-1$ to year t, $\Delta Consumption_Inequality_{gst}$, in Column (2). $Tax_increase_{st}$ is the level of tax increase in state s from year $t-1$ to year t, and it equals zero if there is no tax rate change or there is a tax reduction in state s from year $t-1$ to year t. Tax_cut_{st} is the level of tax cut in state s from year $t-1$ to year t, and it equals zero if there is no tax rate change or there is a tax increase in state s from year $t-1$ to year t. We control for the gross receipt tax flag, and interaction terms of $Tax_increase_{st} \times Gross\ receipt\ tax\ flag_{st}$, and $Tax_cut_{st} \times Gross\ receipt\ tax\ flag_{st}$ to allow for states that collect tax on gross receipts to have different effects on household consumption. Column (1) controls for state and year fixed effects, and the control variables are the same as those in Table 2. Column (2) controls for state, year, and product group fixed effects, and the control variables are the same as those in Table 5. Variable definitions can be found in Appendix A. Standard errors clustered at the state level are shown in parentheses below the coefficients. All variables are defined in the Appendix. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

VARIABLES	(1) Δ Log (Total Consumption)	(2) Δ Consumption_Inequality
Tax_increase	-0.004**	0.015***
	(0.002)	(0.005)
Tax_cut	-0.004	0.003
	(0.004)	(0.003)
Household-year-level Controls	Yes	Yes
State-year-level Controls	Yes	Yes
State FE	Yes	Yes
Year FE	Yes	Yes
Cluster(State)	Yes	Yes
Observations	718,780	83,013
R-squared	0.010	0.401

Appendix A Variable Definitions

Table A1: Variable Definitions and Data Sources

Variable	Definition	Data Source
Dependent variables		
Total Consumption	The total consumption expenditure (total_spent) for household i in year t.	NielsenIQ Consumer Panel Data
Consumption_Inequality	The standard deviation of the logarithm of per-capita household consumption on product group g of state s in year t.	NielsenIQ Consumer Panel Data
Income_Inequality	The standard deviation of the logarithm of personal income of state s in year t, where personal income is INCWAGE.	IPUMS-ACS
Independent variables of interest		
ΔTaxRate	The change in the CIT rate in state s from year $t-1$ to year t. $\Delta\text{TaxRate}_{st} = \text{CIT}_{st} - \text{CIT}_{st-1}$.	Giroud and Rauh (2019), and the Commerce Clearing House (CCH) State Tax Smart Charts
Tax_increase	CIT rate increase in state s from year $t-1$ to year t. $\text{Tax_increase}_{st} = \Delta\text{TaxRate} \times \mathbb{1}_{\Delta\text{TaxRate}\geq 0}$, where $\mathbb{1}_X$ is the standard indicator function for condition X.	Giroud and Rauh (2019), and the CCH State Tax Smart Charts
Tax_cut	CIT rate cut in state s from year $t-1$ to year t. $\text{Tax_cut}_{st} = \Delta\text{TaxRate} \times \mathbb{1}_{\Delta\text{TaxRate}\leq 0}$, where $\mathbb{1}_X$ is the standard indicator function for condition X.	Giroud and Rauh (2019), and the CCH State Tax Smart Charts
Other variables		
Non_Food	Dummy variable that equals one if product group g is not food, including health and beauty aids, non-food grocery, alcohol, and general merchandise. And food includes dry grocery, frozen foods, dairy, deli, packaged meat, and fresh produce.	NielsenIQ Consumer Panel Data
High_Price	Dummy variable equal to one if the average product price of product group g in state s is equal to or higher than the median.	NielsenIQ Consumer Panel Data
High_HHI	Dummy variable equal to one if the local product market is highly concentrated, where local product market concentration is defined by HHI_{gst}. HHI_{gst} is computed as the sum of squared brand-level consumption expenditure shares within each state s, product group g, and year t. A local product market is classified as highly concentrated if HHI_{gst} is at or above the sample median.	NielsenIQ Consumer Panel Data
H_FoodRatio	Dummy variable equal to one if household i 's ratio of spending on food to non-food in year t is equal to or above the sample median	NielsenIQ Consumer Panel Data
H_LowpriceRatio	Dummy variable equal to one if household i 's ratio of spending on low-price to high-price products in year t is equal to or above the sample median	NielsenIQ Consumer Panel Data

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Variable	Definition	Data Source
Household_Size	The number of individuals residing in household i in year t.	NielsenIQ Consumer Panel Data
Children	Dummy variable for the presence of children in household i in year t, where a child is defined as a household member under 18 years old.	NielsenIQ Consumer Panel Data
Resid_House	Dummy variable that equals one if the household i in year t lives in a single-family house.	NielsenIQ Consumer Panel Data
HH_Income	Categorical variable capturing ranges of recent household nominal income for year $t-2$. The categories are: under $5000; $5000-$7999; $8000-$9999; $10,000-$11,999; $12,000-$14,999; $15,000-$19,999; $20,000-$24,999; $25,000-$29,999; $30,000-$34,999; $35,000-$39,999; $40,000 -$44,999; $45,000-$49,999; $50,000-$59,999; $60,000-$69,999; $70,000-$99,999;$100,000-$124,999; $125,000-$149,999;$150,000-$199,999;$200,000+.	NielsenIQ Consumer Panel Data
Married	Dummy variable equal to one if household i's marital status is married in year t.	NielsenIQ Consumer Panel Data
Head_Emp	Categorical variable equal to zero if none of the household heads is employed or there is no head in household i in year t; equals one if one of the head(s) in a household is employed; and equals 2 if two heads of household are employed.	NielsenIQ Consumer Panel Data.
Gross receipt tax flag	Dummy variable equal to one for the periods where Ohio (2006-2019), Michigan (2004-2011), Texas (2004-2019), and Washington (2004-2019) establishments were subject to the non-standard forms of corporate taxation.	Giroud and Rauh (2019), and the CCH State Tax Smart Charts
Sales Tax	Sales tax rate in state s in year t.	Giroud and Rauh (2019), and the CCH State Tax Smart Charts
Unemp. Insurance Rate	Top unemployment insurance tax rate of state s in year t.	Department of Labor's "Significant Provisions of State UI Law"
Personal Income Tax	Top personal income tax rate of state s in year t.	Giroud and Rauh (2019), and the CCH State Tax Smart Charts
Labor Union Coverage	Labor union coverage rate for state s in year t.	U.S. Bureau of Labor Statistics
Unemploy_Rate	Unemployment rate for state s in year t.	U.S. Bureau of Labor Statistics
UI_Wage_Rate	The total unemployment insurance tax revenue received divided by the total wages paid of state s in year t.	U.S. Bureau of Labor Statistics
Log_General_Revenue	Logarithm of general revenue of state s in year t.	U.S. Census Bureau
Log_Exp	Logarithm of general revenue of state s in year t.	U.S. Census Bureau
Log_Real_GDP	Logarithm of real GDP of state s in year t.	Bureau of Economic Analysis

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Variable	Definition	Data Source
Infras_GDP	Government spending on infrastructure as a percentage of GDP for state s in year t	U.S. Census Bureau, Bureau of Economic Analysis
Log_Subsidy	Logarithm of government subsidy of state s in year t.	U.S. Census Bureau
Legis_Demo_Control	Dummy variable equal to one if the state s legislature is controlled by the Democratic party in year t.	U.S. Census Bureau
Govern_Demo	Dummy variable equal to one if the state s government is controlled by the Democratic party in year t.	U.S. Census Bureau
Pop_Growth	Population growth rate calculated as the percentage change in the state s's total population from the beginning to the end of year t.	U.S. Census Bureau
White_Pop	Percentage of Caucasian population of state s in year t.	U.S. Census Bureau
Bachelor_Pop	Percentage of population that holds a bachelor's degree or higher of state s in year t.	U.S. Census Bureau
Adultlabor_Pop	Percentage of population aged 18 to 65 of state s in year t.	U.S. Census Bureau
Nonadult_Pop	Percentage of population under age 18 of state s in year t.	U.S. Census Bureau
PayrollApportionmentWeight	Continuous variable reflecting the payroll apportionment weight applied in calculating income tax of state s in year t.	Suárez Serrato and Zidar (2018), and CCH State tax handbooks
SalesApportionmentWeight	Is a continuous variable reflecting the sales apportionment weight applied in calculating income tax of state s in year t.	Suárez Serrato and Zidar (2018) and CCH State tax handbooks
PropertyApportionmentWeight	Continuous variable reflecting the property apportionment weight applied in calculating income tax of state s in year t.	Suárez Serrato and Zidar (2018) and CCH State tax handbooks
LossCarryback	The number of years before the loss year that a corporation may carry back an NOL in state s in year t.	Suárez Serrato and Zidar (2018) and CCH State tax handbooks.
LossCarryforward	The number of years a corporation may carry forward any excess loss following the loss year t in state s.	Suárez Serrato and Zidar (2018) and CCH State tax handbooks
FranchiseTax	Indicator that equals 1 if a franchise tax is levied on corporations in state s in year t.	Suárez Serrato and Zidar (2018) and CCH State tax handbooks
FedIncomeTaxDeductible	Is an indicator that equals 1 if federal income tax is deductible of state s in year t, and 0 otherwise.	Suárez Serrato and Zidar (2018), and CCH State tax handbooks
AllowFedAccDep	Indicator that equals 1 if federal accelerated depreciation is allowed in state s in year t.	Suárez Serrato and Zidar (2018) and CCH State tax handbooks

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Variable	Definition	Data Source
FederalBonusDepreciation	Is an indicator that equals 1 if federal bonus depreciation is allowed in state s in year t, and 0 otherwise.	Suárez Serrato and Zidar (2018), and CCH State tax handbooks
RDTaxCredit	Indicator that equals 1 if the state s offers an R&D tax credit in year t.	Suárez Serrato and Zidar (2018) and CCH State tax handbooks
Pscappthrowback	Indicator that equals 1 if a state s in year t eliminates 'nowhere' income from physical sales that would be untaxed by either state with the corporation's nexus or the state in which the relevant sales were made.	Suárez Serrato and Zidar (2018) and CCH State tax handbooks
Appcombrpt	Indicator that equals 1 if the state s in year t requires a unitary business to submit combined reporting, and 0 otherwise.	Suárez Serrato and Zidar (2018), and CCH State tax handbooks
Investmenttaxcredit	Indicator that equals 1 if the state s offers an investment tax credit in year t.	Suárez Serrato and Zidar (2018) and CCH State tax handbooks
FactorNexus	Indicator equals 1 if state s uses a factor-based nexus standard in year t. A factor-based nexus standard means that the state has bright line rules about certain factors (e.g. sales) that if a firm exceeds them they are automatically determined to have a nexus in that state.	CCH State tax handbooks

Appendix B

Table A2: List of States That Implemented Changes in CIT

States	CIT increase year	States	CIT cut year
Connecticut	2012	Arizona	2014, 2015, 2016, 2017
Illinois	2011, 2017	Connecticut	2019
Maryland	2008	District of Columbia	2015, 2016, 2017, 2018
Michigan	2008, 2012	Florida	2019
New Jersey	2006	Georgia	2019
Oregon	2009	Idaho	2013, 2018
		Illinois	2015
		Indiana	2012, 2013, 2014, 2015 ,2016, 2017, 2018, 2019
		Kansas	2009, 2011
		Kentucky	2006, 2008 2018
		Massachusetts	2010, 2011, 2012
		North Carolina	2014, 2015, 2016, 2017, 2019
		North Dakota	2005, 2008, 2010, 2012, 2013, 2015
		New Hampshire	2017, 2019
		New Jersey	2010
		New Mexico	2014, 2015, 2016, 2017, 2018
		New York	2008, 2016
		Ohio	2006, 2007, 2008, 2009, 2010
		Oregon	2011
		Rhode Island	2015
		Texas	2008, 2014, 2015, 2016
		Utah	2018
		Vermont	2007, 2008
		West Virginia	2008, 2009, 2012, 2013, 2014

Table A3: Effects of State CIT Rate Changes on Income Inequality

This table presents regression outputs using the following specification.

$$\Delta Income_Inequality_{st} = \beta \Delta TaxRate_{st} + \gamma_1 \Delta X_{st} + \lambda_t + \epsilon_{ct} \quad (8)$$

where $\Delta Income_Inequality_{st}$ is the change in standard deviation of the logarithm of the household per-capita income for state s from year $t-1$ to year t. $\Delta TaxRate_{st}$ is the level of tax rate change in state s from year $t-1$ to year t. We control for the gross receipt tax flag, and interaction terms of $\Delta TaxRate_{st} \times Gross\ receipt\ tax\ flag_{st}$ to allow for states that collect tax on gross receipts to have different effects on household consumption. We also add year fixed effects λ_t. ϵ_{st} is the error term. In all columns we cluster standard errors at the state level. Other state-year-level control variables are the same as those in Table 2. All variables are defined in the Appendix. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

VARIABLES	(1) Δ Income_Inequality
Δ TaxRate	0.003
	(0.002)
State-year-level Controls	Yes
Year FE	Yes
Cluster(State)	Yes
Observations	796
R-squared	0.154