Corporate Income Tax Rates and Household Consumption

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Abstract

Household consumption drives economic activity and is a key component of social welfare. Although corporate income taxes (CIT) are not levied directly on households, they can affect household consumption through various incidence channels. To assess these consequences, we estimate the aggregate effects of CIT rate changes on household consumption. We find that a one–percentage-point increase in the CIT rate is associated with a 0.5% decline in household consumption, and that tax decreases have no significant effect. The changes in consumption are more pronounced among households headed by less-educated parents, those belonging to ethnic minorities, and households with lower liquidity. Further, we find increases in consumption inequality after rate increases, driven by spending on relatively discretionary non-food and high-price goods. Finally, we show that increases in CIT rates are linked to lower net in-migration and reduced total consumption at the state level. Our findings contribute to the literature on the economic consequences of corporate taxation and show that a government policy not directly targeted at households can still have significant effects on their consumption behavior.

Keywords: Corporate Income Tax; Household Consumption; Consumption Inequality

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1 Introduction

Household consumption is a key driver of economic activity in developed economies and a fundamental determinant of individual welfare (Attanasio and Pistaferri, 2016; Meyer and Sullivan, 2023).[1] Given its importance, understanding how government policies influence consumption is essential for evaluating those policies' broader economic and welfare implications. Corporate income taxes (CIT) are one of the primary tools through which governments influence firm behavior, investment, and ultimately labor markets and prices; all of these in turn, can affect household income and consumption choices.[2] As such, variation in CIT rates has the potential to drive variation in household consumption. In this paper, we ask how CIT rate changes affect household consumption, shedding light on an important fiscal channel through which policy influences well-being.

To answer our research question, we examine the effect of staggered changes in U.S. state-level CIT rates on consumption. Using household–year 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. We also examine whether there are heterogeneous impacts of CIT rate increases and decreases. We predict an asymmetric response because we expect firm owners to be more likely to pass the cost of tax increases on to their employees and customers while retaining the benefit from any decreases for themselves, leading to a lower aggregate consumption response to tax decreases. Consistent with this, we find a significantly negative effect on consumption when there is a tax increase and an insignificant response when

[1] For instance, since the postwar period (1947 to the present), household consumption expenditures have accounted for between 58% and 68% of U.S. GDP (`https://fred.stlouisfed.org/series/DPCERE1Q156NBEA` , accessed October 6, 2025).

[2] Prior to 2018, the U.S. corporate tax rate was among the highest in advanced economies, with the combined federal, state, and local rates exceeding those of most OECD countries. Ongoing debate about the competitiveness and efficiency of this tax structure culminated in the passage of the Tax Cuts and Jobs Act (TCJA) on November 2, 2017, which lowered the federal corporate tax rate from 35% to 21%.

there is a decrease. 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. In the year a CIT rate changes—whether up or down—consumption shifts significantly. But only the effect of CIT increases persists, indicating that increases trigger longer-lasting adjustments in household behavior.

We explore several alternative specifications to evaluate the robustness of our main results. First, 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). Second, 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. Third, we apply the synthetic DID estimator of Arkhangelsky et al. (2021), which constructs an optimally weighted control group that closely matches the treated group's pre-treatment trends in consumption and other characteristics, thereby providing a more credible counterfactual. 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, CIT-induced changes in consumer prices (Baker et al., 2023; Jacob et al., 2023a) and wages (Fuest et al., 2018; Giroud and Rauh, 2019) can generate economic pressure for certain households, leading to larger cutbacks in discretionary spending. 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 and lower-education households tend to hold less wealth and have more limited access to credit, reducing their ability to smooth consumption and making them more vulnerable 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 households and those headed by less-educated parents experience larger declines in consumption following CIT rate increases. Using consumption patterns as a direct proxy for household liquidity, we further show that the effects of CIT changes are concentrated among liquidity-constrained households. Taken together, these results suggest that CIT rate increases can exacerbate inequality—by education, race, and liquidity status—which is further reflected in a significant rise in overall consumption inequality driven primarily by spending on non-food and high-price goods.

In additional analyses, we examine how tax changes affect interstate migration and aggregate state-level consumption. Since CIT rates plausibly affect aggregate investment (e.g., Djankov et al., 2010; Romer and Romer, 2010), CIT rates may be associated with variation in economic opportunity, as well as expectations of job opportunities, along with changes in cost of living. These factors can influence households' residential location choices, leading to observable patterns of interstate migration. Consistent with this mechanism, we find that tax increases are associated with lower net in-migration.[3] Finally, we document a significant decline in total state-level consumption following tax increases, potentially reflecting both reduced in-migration and lower household consumption.

[3]We present results for effects of CIT rates on migration as this is an incidence channel not yet explored—to our knowledge—by existing studies. As noted above, prior studies on CIT incidence have linked changes in rates to effects on wages, capital asset value, and product prices (e.g., Baker et al., 2023; Giroud and Rauh, 2019; Suárez Serrato and Zidar, 2016).

Our paper contributes to two streams of literature. First, 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 widening of consumption inequality following CIT rate increases is concentrated in discretionary and luxury goods, highlighting that discretionary spending is an important channel through which consumption disparities are amplified.

Second, 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 consumption, we provide evidence of the net effect of these incidence channels on household behavior, providing further clarity on the scope of important economic consequences of CIT rates.

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.[4]

2 Prior Literature and Theoretical Development

2.1 Determinants of Household Consumption

Household consumption is a fundamental driver of economic activity and a critical determinant of individual welfare (Attanasio and Pistaferri, 2016; Meyer and Sullivan, 2023). As such, prior research has extensively examined the factors influencing consumption behavior, uncovering three key dynamics. First, consumption generally responds to changes in income and wealth. Studies have shown that household consumption responds to personal income tax refunds (Souleles, 1999), dividend income (Baker et al., 2007), stimulus payments (Johnson et al., 2013), unexpected transitory income changes (Jappelli and Pistaferri, 2014), and unemployment insurance benefits (Ganong and Noel, 2019). Additionally, capital gains from both the stock and housing markets have been shown to impact household consumption (Carroll and Zhou, 2012; Dynan and Maki, 2001; Guiso and Visco, 2006).

[4] 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.

Second, household consumption, unsurprisingly, reacts negatively to increases in product prices. Becker et al. (1991) highlights that increases in both past and future prices reduce current consumption of addictive goods. Peine et al. (2009) notes that price increases lead to negative emotions and thus decrease consumers' purchase intent. Malc et al. (2016) finds that price changes cause negative price fairness perceptions in customers and lead to lower consumption of price-increased products. Moreover, because high- and low-income households tend to buy from firms with different pricing strategies (Faber and Fally, 2022), changes in overall product prices may have uneven effects across households.

Third, there is substantial heterogeneity in how household consumption responds to changes in income, wealth, and prices. 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).

Given the importance of household consumption to the economic activity in the U.S. and individual welfare, 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 (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 this link. Thus, the incidence of CIT and its transmission to household spending remains an important yet underexplored fiscal channel, especially as governments frequently consider CIT reforms in an effort to meet fiscal and other social goals.

2.2 Incidence of Corporate Taxes

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). Consistent with the importance of these costs, prior literature shows that firms make operational and reporting decisions in response to changes in corporate tax policies, often with the goal of mitigating the effects of tax increases or taking advantage of tax cuts (Lester and Olbert, 2025). These include changes in accounting method (Coles et al., 2022), reporting strategy (Lester, 2019), leverage (Heider and Ljungqvist, 2015), investments, (Djankov et al., 2010; Lester, 2019; Lester and Langenmayr, 2018; Romer and Romer, 2010), employment and business reallocation (Giroud and Rauh, 2019; Glaeser et al., 2023; Ljungqvist and Smolyansky, 2014), and tax avoidance (Desai and Dharmapala, 2009; Garcia-Bernardo et al., 2022).

While the aforementioned literature demonstrates the importance of corporate tax to firm decision-making, there is also a significant interest in determining its incidence. Generally speaking, the incidence of the corporate tax could fall on multiple parties, 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).

A basic model of how these parties can experience this incidence is as follows. Corporate taxes increase the firm's tax costs. Firm owners bear the burden of the taxes if they accept the lower profitability imposed by the increased taxes. Alternatively, 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.

Alternatively, 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.

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

While the aforementioned literature shows evidence consistent with changes in corporate taxes affecting shareholder wealth, employee income, and consumer prices, it does not examine the net effect of corporate tax rates on consequent household consumption. 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, the effect of these interactions is likely to vary across households due to household characteristics, such as liquidity and labor market flexibility. 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, transmitted indirectly through multiple channels, on consumption inequality remains largely unexplored.

In summary, prior research primarily examines how anticipated changes in income, wealth, and prices influence household consumption, and the incidence of CIT on individual wages, capital asset values, and consumer prices. Our study bridges these findings and provides new insights by analyzing how changes in CIT rates, imposed on firms, affect household consumption and consumption inequality. We contribute specifically by estimating net consumption effects of CIT rate changes and implications for consumption 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 geographically 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.

[Insert Table 1]

Table 1 presents summary statistics for the main variables we used 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 $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

[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 use UPCs to identify and aggregate products. We do not capture spending on housing, transportation, education, and other services.

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 tax base 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 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

[6]Available at: https://www-journals-uchicago-edu.easyaccess1.lib.cuhk.edu.hk/doi/suppl/10.1086/701357.

[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.

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 tax base variables are presented in Table 1. Consistent with Suárez Serrato and Zidar (2018), 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 and policy environment of a state, which could independently influence household consumption patterns and may be correlated with changes in tax policy. State unemployment insurance (UI) rates and unemployment rates are sourced from the Department of Labor's "Significant Provisions of State UI Laws". The summary statistics of 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. In additional analyses, we use inter-state migration data from the U.S. Census and state-level total consumption data from the BEA. Detailed descriptions of each dataset are provided before the corresponding empirical results in Sections 6 and 7.

4 Research Design

U.S. firms bear non-negligible state CIT. On average, about 21% of total income taxes that firms pay are 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). If the state corporate income tax changes move along with the 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:

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

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]

[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.

ΔX_{st} are changes in state–year-level characteristics and state corporate tax policy variables. Specifically, state–year-level characteristics include state sales tax rates, unemployment insurance rates, personal income tax rates, log real state GDP, and state labor union coverage. 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, 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.

Moreover, 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, and an interaction term between $\Delta TaxRate_{st}$ and $Gross\ receipt\ tax\ flag_{st}$.[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 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 in consumption. 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. Con-

[10] See Giroud and Rauh (2019, p. 1268) and Pogue (2007) for further discussions of the gross receipts tax basis used by a small fraction of states.

sequently, 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 apportionment 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 as 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]

We next examine whether there is an asymmetric effect between tax increases and cuts. We expect the effects of increases and cuts in CIT rates to differ for two main reasons. First, some

[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 $e^{-0.004} - 1 \approx -0.004$

of the savings from tax cuts are likely to be retained within the firm and used by managers and owners for their own benefit. Consistent with this, prior research finds that insiders often use tax savings to accumulate private benefits at the expense of other stakeholders (e.g., Desai and Dharmapala, 2006). There is also evidence that tax avoidance is associated with higher dividend payouts (Anderson et al., 2023) and that firms may use tax savings to acquire other companies (Von Beschwitz, 2018). In contrast, following tax increases, we expect firm owners to respond by raising prices and reducing wages, thereby shifting part of the tax burden onto consumers and employees (Baker et al., 2023; Suárez Serrato and Zidar, 2023). Because firm owners are generally wealthier than their employees and customers, they are less likely to adjust their consumption in response to changes in net worth. Consequently, we expect household consumption to exhibit larger changes following tax increases than tax cuts. This asymmetry aligns with prior evidence showing that tax increases consistently reduce employment, whereas tax cuts tend to boost employment only during recessions (Ljungqvist and Smolyansky, 2014). It is also consistent with mixed findings on whether consumption responds more strongly to increases or decreases in income, wealth, and prices (e.g., Christelis et al., 2019; Guren et al., 2021; Krishnamurthi et al., 1992).[13]

[Insert Table 3]

Table 3 reports the results. Instead of using a single variable $\Delta TaxRate_{st}$, we use 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.[14] The specifications across the columns in Table 3 mirror those of Table 2, with the

[13] 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.

[14] $Tax\_increase_{st} = \Delta Tax\_Rate$ 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, $Tax\_increase_{st} \geq 0 \geq Tax\_cut_{st}$.

main effect split as described. Column (1) controls for state and year fixed effects and incorporates state–year-level characteristics and state corporate tax policy variables. Column (2) further controls for household–year-level characteristics. In both columns (1) and (2), the regression estimates imply that a one percentage point increase in the CIT rate reduces household consumption by about 0.5 percent (statistically significant at the 1% level). Across columns (1)-(2), the coefficient on CIT rate cuts is negative (implying positive consumption effects) but not statistically significant. In summary, the empirical results show that while CIT rate increases seem to depress consumption, we cannot conclude that CIT rate decreases have a significant impact on household consumption.

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, this also helps address concerns about reverse causality, which would 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.

We construct interaction terms between tax change variables and year-specific dummies covering the dynamic event window. Specifically, we generate terms of the form $Tax\_increase_{s,f_0} \times \mathbb{1}_{t=n}$ and $Tax\_cut_{s,f_0} \times \mathbb{1}_{t=n}$, 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 cuts and increases 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, both Tax_cut_{s,f_0} and $Tax\_increase_{s,f_0}$ are 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. Figure 1.1 presents estimated coefficients related to CIT rate increases, while Figure 1.2 presents coefficients for CIT rate cuts. The vertical bars denote 90% confidence intervals around each coefficient estimate. 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 and persistent effects beginning 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.

Note that the regression is estimated in first differences, so the coefficients capture expected changes in consumption. Focusing on Figure 1.1, we see a negative and significant coefficient in year 0, as well as marginally significant coefficients in 2 of the 4 subsequent years. This implies a concurrent negative consumption reaction to CIT rate increases as well as a modicum of downward drift in subsequent years. This is consistent with our main result of a negative effect of CIT rate increases on consumption. In Figure 1.2, we find that household consumption exhibits a concurrent reaction to a CIT rate cut. The CIT decrease effect appears to be concurrent, with no significant changes in subsequent years. This implies that, on average, the level of consumption rises with a CIT rate cut, then levels off.

Recall that, in the main analyses, we find that tax cuts have a positive, though statistically insignificant, effect on household consumption. An important difference between the main analyses and the dynamic tests presented in this subsection is sample composition. When estimating dynamic effects, observations from 2004–2007 and 2018–2019 are excluded to allow for leads and lags constrained by the availability of the tax data. In untabulated results, we find that observations in these years drive the insignificance of the tax cut effect presented in Table 3. Given that in the main analysis we have no reason to drop these years, we continue to infer that there is insufficient evidence to conclude that there are positive effects of CIT rate cuts on household consumption.

5.3 Robustness Checks

5.3.1 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 five years before and five years after time window. We include state-cohort and year-cohort fixed effects to ensure our analysis is within a given cohort. The results are shown in Table 4.

[Insert Table 4]

The coefficients on $Tax\_increase$ in Table 4 across columns (1) to (2) are both significantly negative, while the coefficients on Tax_cut are insignificant. These results are consistent with our main findings, where CIT rate increases depress consumption, while CIT rate decreases do not have a significant impact on household consumption.

5.3.2 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 the first-difference values of key state–year-level economic characteristics, such as state sales tax, personal income tax, unemployment insurance rates, unemployment rates, labor union coverage, GDP, state general income, 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.

[Insert Table 5]

Table 5 shows the results. Following the layout of Table 3, we start from a specification with state–year-level control variables in Column (1), and add household–year-level control variables in Column (2). 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 increases from the baseline. In Column (2), the coefficient on $Tax\_increase$ is -0.019 and significant at 5% level, while the coefficients on Tax_cut are insignificant, consistent with our prior findings that CIT rate increases depress consumption, while failing to reject the null that CIT rate decreases do not have a significant impact on household consumption.

5.3.3 Synthetic DID Tests

Our main analyses show that increases, but not decreases, in CIT rates have significant effects on household consumption. However, because CIT rate increases occur in only a limited number of states, concerns may arise regarding the validity of standard staggered DID assumptions and the representativeness of control units. To address these issues, we re-estimate the effects of CIT changes on household consumption using the synthetic difference-in-differences (DID) estimator developed by Arkhangelsky et al. (2021). This method constructs a weighted control group for each treated group by assigning unit and time weights to closely match the treated group's pre-treatment consumption patterns and covariate characteristics. The resulting weights are then used in a weighted two-way fixed effects regression to estimate the treatment effect. This procedure enhances the credibility of the counterfactual and provides a more reliable estimate of the causal effect of CIT changes on household consumption.

The synthetic DID estimator requires a strongly balanced panel, meaning that all units must be observed throughout the entire sample period. To satisfy this requirement, we restrict the sample to households that are present every year from 2004 to 2019. In addition, to conform to the synthetic

DID framework, we treat CIT rate changes as permanent interventions. Specifically, we construct two treatment indicators—one for CIT rate increases and one for CIT rate cuts—each of which equals one in the year of the first state-level change and remains one thereafter. For states that experience multiple changes, we fix the treatment status based on the initial change. Households in states with no CIT changes during the sample period serve as potential control units. We include all household–year- and state–year-level control variables used in Column (2) of Table 3 as covariates. The estimation results are presented in Table 6.

[Insert Table 6]

In Table 6, the coefficients on the $Tax\_increase\_indicator$ in Columns (1) and (2) are both significantly negative at the 1% level, whereas the coefficients on the $Tax\_cut\_indicator$ are insignificant. These results are consistent with our main findings: increases in CIT rates reduce household consumption, while we cannot reject the null that decreases have no significant effect.

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 household responses and then explore how these differences translate into changes in consumption inequality within a given area. Understanding these 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; Jacob et al., 2023b).

6.1 Heterogeneous Effects Across Household Characteristics

In this section, we examine how household responses to CIT changes vary across household characteristics. We begin by analyzing heterogeneity by race and education. 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 in response to income shocks. Limited education can also weaken households' bargaining power in the labor market and further constrain their consumption-smoothing capacity. We then 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).

[Insert Table 7]

Table 7 reports the results based on the specification in Column (2) of Table 3. We begin by examining how the effects vary by race. In Column (1), we interact the tax change variables 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 increases and consumption is negative but statistically insignificant for white households, while this relation is significantly more negative for non-white households. This pattern suggests that CIT rate increases may disproportionately affect non-white households, potentially through greater exposure to declines in firm investment, hiring, and wages, thereby exacerbating racial consumption inequality.

In Column (2), we interact the tax change variables 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 increases significantly reduce consumption among lower-educated households, but have no significant effect on higher-educated households. Tax cuts, by contrast, do not significantly affect either group. This asymmetric pattern suggests that lower-educated households are forced to cut consumption in response to adverse shocks but may instead rebuild savings or repay debt rather than increase spending when conditions improve.

Next, we construct measures of household liquidity that more directly capture a household's discretionary spending capacity. In Column (3), we interact the tax variables with $H\_FoodRatio_{ist}$, an indicator equal to one if the household's food-to-nonfood spending ratio is at or above the sample median.[15] 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 increases significantly reduce, whereas tax cuts significantly increase, consumption among lower-liquidity households, but have no significant effect on higher-liquidity households. This pattern suggests that tax increases force liquidity-constrained households to cut back on consumption, while tax cuts relax their budget constraints, leading these households to exhibit a higher marginal propensity to consume out of additional disposable income.

In Column (4), we use an alternative proxy for liquidity by interacting the tax variables with $H\_LowpriceRatio_{ist}$, an indicator equal to one if the household's ratio of spending on low-price goods to high-price goods 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 $Tax\_Cut \times H\_LowpriceRatio$ is significantly negative, consistent with financially constrained households increasing consumption when economic conditions improve, whereas tax increases have no significant effect for either group. When combined with our other results, the significant reaction to tax cuts in Columns (3) and (4) suggests that while tax cuts do not result in changes in consumption for the average household, they may provide some benefit to more

[15] The observation number difference between Column (3)-(4) and (1)-(2) stems from missing consumption department or module information.

liquidity-constrained consumers.[16] 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

After examining whether CIT rate changes disproportionately affect the consumption behavior of certain households, we next investigate their impact on overall consumption inequality. While heterogeneity tests highlight differences across households with specific observable characteristics, such as education or minority status, inequality measures capture the full dispersion of consumption across all households, including variation within these 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.

Following prior studies (e.g., Attanasio and Pistaferri, 2014, 2016), we measure consumption inequality as the standard deviation of household per-capita consumption within a county. Specifically, we compute county–product–year-level household consumption inequality, which also allows us to quantify and compare distributional shifts across different product categories while taking into account varying economic conditions across different jurisdictions.[17] Consistent with the main analyses, we employ a first-difference specification to remove unobserved time-invariant factors at the county and product levels. In addition, we control for the same set of state–year-level covariates as in Table 3.

[16]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.

[17]For example, consider the consumption of Apple's iPhone in 2012. Our *Consumption_Inequality* measure for this product-year is as low as 0.010 in Orange County, California, but as high as 2.472 in Miami-Dade County, Florida.

[Insert Table 8]

Table 8 reports the results. Column (1) includes state and year fixed effects, while Column (2) further adds product fixed effects. Across both specifications, the coefficient on $Tax\_increase$ is 0.003 and statistically significant at the 5% level, whereas the coefficient on Tax_cut is insignificant. These findings indicate that increases in CIT rates exacerbate consumption inequality, while failing to reject the null that decreases have no significant impact. This pattern aligns with the earlier evidence that CIT rate increases have heterogeneous effects across households, disproportionately reducing consumption among disadvantaged households, and through this widening consumption inequality.

One potential mechanism underlying the observed changes in consumption inequality is a corresponding shift in income inequality. Prior studies have documented a close link between income and consumption inequality, as disparities in consumption often mirror unequal income patterns (e.g., Aguiar and Bils, 2015). To investigate this mechanism, we use the IPUMS-ACS dataset to examine the relationship between CIT rate changes and income inequality, measured as the standard deviation of household per-capita income at the county–year-level. IPUMS-ACS harmonizes data from the U.S. Census and the American Community Survey, providing detailed information on personal wage and salary income, industry of employment, location, and household characteristics. The results, reported in Table A3, indicate that CIT rate increases are associated with higher income inequality, whereas CIT rate decreases have no significant effect. These findings support the hypothesis that income inequality may be an important economic channel through which CIT rate increases affect consumption inequality, and suggest that the incidence of tax increases on wages may be disproportionately borne by lower-income households.

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-level responses helps identify which categories of consumption are most sensitive to CIT-induced disparities. Specifically, we distinguish between food and non-food items, where food is typically considered a necessity (e.g., Blundell et al., 2008), and between high-price and low-price products. These distinctions allow us to assess whether the effects on inequality are more pronounced in discretionary or luxury spending. To do so, we extend the specification in Table 8 by introducing indicators for non-food or high-price products and fully interacting them with the CIT change variables.

[Insert Table 9]

Table 9 presents the results. In Columns (1) and (2), we interact the tax change variables with Non_food_{uct}, which equals one for non-food products and zero otherwise. The estimates show that CIT rate changes do not significantly affect consumption inequality for food products. In contrast, the positive and significant coefficient ($p < 1\%$) on $Tax\_increase \times Non\_food$ indicates that CIT increases raise inequality primarily through non-food, discretionary consumption.

In Columns (3) and (4), we interact the tax change variables with $High\_price_{uct}$, a dummy variable equal to one if the product belongs to a high-price brand, defined as a brand whose average price is at or above the median value within its product module. The results show that CIT rate changes do not significantly affect consumption inequality for low-price products. In contrast, the coefficient on $Tax\_increase \times High\_price$ is positive and significant at the 1% level, indicating that CIT increases raise inequality primarily in high-price, luxury consumption.

7 Additional Tests

To further explore the broader economic implications of our main findings, we conduct two additional analyses in this section.

7.1 Migration

First, we examine whether changes in CIT rates influence households' migration decisions, which in turn affect state-level total household consumption. Households may relocate across states in response to CIT rate changes, as these changes can alter local job opportunities and government support programs (e.g., Kaestner et al., 2003). Individuals and their families may leave states with higher CIT rates or move into states with tax cuts to benefit from the resulting economic effects, such as changes in employee wages (Fuest et al., 2018) and product prices (Baker et al., 2023). Consequently, total household consumption at the state level may adjust through migration-driven changes in population size and household composition.

We use state–year level migration data from the U.S. Census Bureau to measure interstate migration. As the data are available starting in 2009, our sample covers the period from 2009 to 2019. We construct the variable $Net\_move\_in_{st}$, defined as the percentage of net in-migration relative to the total population of state s in year t. 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 3.

[Insert Table 10]

Table 10 reports the results. Column (1) shows that CIT rate increases are associated with a significant decline in net in-migration ($p < 0.05$). In contrast, the coefficient on Tax_cut is insignificant and close to zero, indicating no meaningful effect of CIT reductions on interstate migration. The population effects documented here complement the household-level effects documented in Section 5.1.

7.2 State Total Consumption

If higher CIT rates reduce household consumption and discourage net in-migration, both channels should jointly contribute to lower aggregate state-level consumption. We test this prediction by examining the effect of CIT rate changes on total state consumption, with results reported in Column (2) of Table 10. The coefficient on $Tax\_increase$ is significantly negative, while the coefficient on Tax_cut is insignificant. These findings align with our expectations: CIT rate increases depress both consumption and migration, leading to lower aggregate consumption, whereas CIT rate cuts have insignificant effects on either channel.

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 increases significantly reduce household consumption, whereas CIT rate decreases have no discernible effect. Dynamic analyses reveal that consumption adjustments occur in the same year as the CIT change, with CIT increases leading to a persistent decline in consumption over subsequent years. We find no evidence of pre-trends before either CIT increases or cuts, alleviating endogeneity concerns related to reverse causality or secular trends.

Next, we find that the negative effects of CIT rate increases on consumption are stronger among non-white and below-college-educated households. These results suggest that higher CIT rates 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 also observe greater overall consumption inequality following CIT rate increases, driven primarily by spending on non-food and high-price goods. These findings highlight policy-relevant distributional consequences of CIT rate changes. In additional analyses, we find that CIT rate increases are associated with lower net in-migration. Consistent with this, these population flows and household-level consumption declines together lead to a significant drop in total state-level consumption.

Overall, this paper provides new evidence on how corporate tax rates shape household consumption, a critical component of both household welfare and overall economic activity. We show that changes in corporate income tax rates have asymmetric effects: tax increases depress household spending, whereas tax cuts have a limited impact. Moreover, these effects are not evenly distributed, as tax increases contribute to greater consumption inequality. 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 and β_n estimated from the following specification:

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

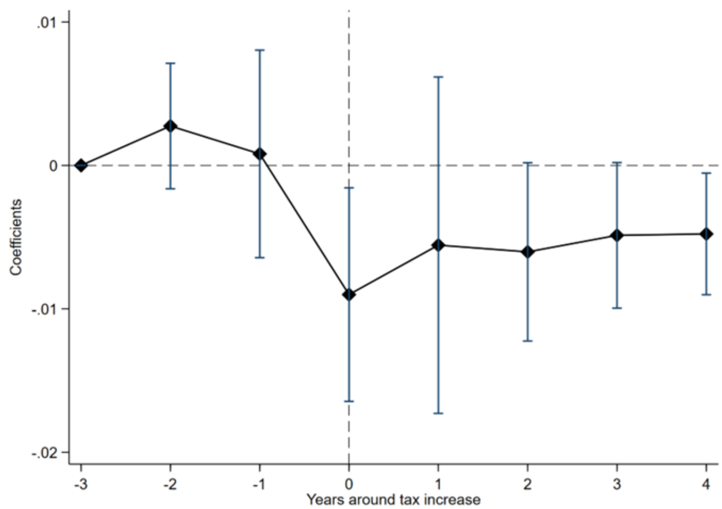

Fig. 1.1: Consumption Changes Around CIT Increases

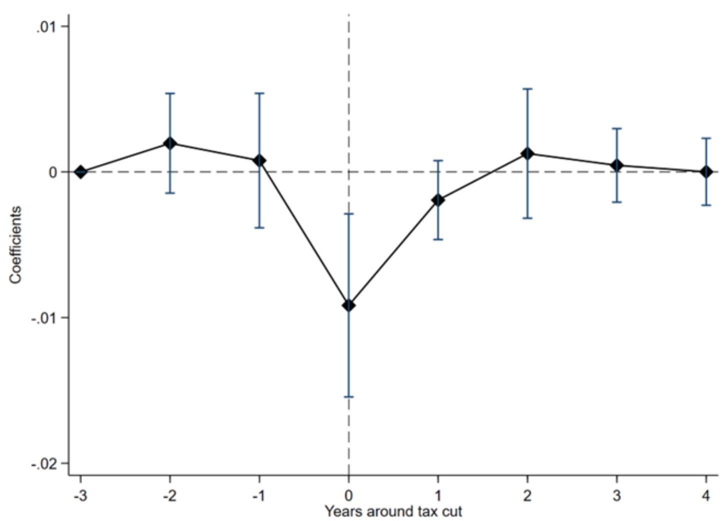

Fig. 1.2: Consumption Changes Around CIT Cuts

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 Variables						
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	844,879	0.50	0.50	0.00	0.00	1.00
H_LowpriceRatio	845,063	0.50	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
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
Unemploy_rate (%)	797	5.63	2.13	4.05	5.13	6.83
Log of general revenue	797	16.88	0.92	16.11	16.91	17.48
Log of real GDP	797	12.16	1.03	11.22	12.17	12.95
Labor union coverage (%)	797	11.96	5.37	7.30	11.60	15.70
County–Product–Year Level Variables						
Consumption_Inequality	52,994,265	0.52	0.37	0.24	0.45	0.73
Non_food	52,994,265	0.16	0.37	0.00	0.00	0.00
High_price	52,994,265	0.58	0.49	0.00	1.00	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 tax base control variables, where state–year-level characteristics include sales tax rate, unemployment insurance rate, unemployment rate, personal income tax rate, logarithm of general revenue, logarithm of real GDP, and labor union coverage, and state corporate tax policy 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.

	(1)	(2)
VARIABLES	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	0.007*	0.007*
	(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 Unemploy_rate	-0.002	-0.002
	(0.002)	(0.002)
Δ Labor union coverage	-0.001	-0.001
	(0.001)	(0.001)
Δ Log of general revenue	0.045**	0.044**
	(0.018)	(0.018)
Δ Log of real GDP	0.094*	0.095*
	(0.051)	(0.051)
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 Tax Base 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: Effects of Corporate Tax Rate Increases and Decreases on Household Consumption

This table presents regression outputs using the following specification.

$$\Delta Log(Total\ Consumption)_{ist} = \beta_1 Tax\_increase_{st} + \beta_2 Tax\_cut_{st} + \gamma_1 \Delta X_{st} + \gamma_2 \Delta Y_{ist} + \phi_s + \lambda_t + \epsilon_{ist} \quad (4)$$

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. $Tax\_increase_{st}$ 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. Other variables are the same as those in Table 2. Column (1) presents a baseline specification without household–year-level controls. Column (2) adds household–year-level controls. 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)
Tax_increase	-0.005***	-0.005***
	(0.002)	(0.002)
Tax_cut	-0.004	-0.004
	(0.004)	(0.004)
Household–year-level Controls	No	Yes
State–year-level 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 4: Stacked DID Estimation of the CIT Rate Change Effects on Consumption for Households

This table presents the results using the stacked DID method to re-estimate our baseline results from Table 3. 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. Other variables are the same as those in Table 2. Variable definitions can be found in Appendix A. Standard errors clustered at the state level are shown in parentheses below the coefficients. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)
VARIABLES	Δ Log (Total Consumption)	
Tax_increase	-0.008**	-0.008**
	(0.003)	(0.003)
Tax_cut	-0.006	-0.006
	(0.006)	(0.006)
Household–year-level Controls	No	Yes
State–year-level Controls	Yes	Yes
State × Cohort FE	Yes	Yes
Year × Cohort FE	Yes	Yes
Cluster(State)	Yes	Yes
Observations	2,625,875	2,625,837
R-squared	0.007	0.009

Table 5: Effects of CIT Rate Changes on Consumption for Households in Border County-Pairs

This table presents results from re-estimating our baseline results from Table 3 on a sample limited 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 × 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 clustered at the state level are shown in parentheses below the coefficients. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

VARIABLES	(1) Δ Log (Total Consumption)	(2)
Tax_increase	-0.020**	-0.019**
	(0.009)	(0.009)
Tax_cut	0.004	0.003
	(0.006)	(0.007)
Household–year-level Controls	No	Yes
State–year-level Controls	Yes	Yes
State FE	Yes	Yes
County–Pair × Year FE	Yes	Yes
Cluster(State)	Yes	Yes
Observations	48,864	48,864
R-squared	0.055	0.058

Table 6: Synthetic DID Estimation of the Effects of CIT Changes on Consumption for Households

This table presents results from re-estimating our baseline results from Table 3 using synthetic DID method on a strongly balanced household-year panel sample. $Tax\_increase\_indicator_{st}$ ($Tax\_cut\_indicator_{st}$) equals one in the year of the tax increase(cut) and remaining one in all subsequent years. Covariates include all household–year-level and state–year-level control variables in Table 2. Variable definitions can be found in Appendix A. Standard errors is calculated using bootstrap repeating 50 times and are shown in parentheses below the coefficients. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
VARIABLES	Δ Log (Total Consumption)			
Tax_increase_indicator	-0.010*	-0.010*		
	(0.006)	(0.006)		
Tax_cut_indicator			-0.000	0.136
			(0.003)	(0.140)
With Covariates	No	Yes	No	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Household Fixed Effects	Yes	Yes	Yes	Yes
Observations	86,310	86,310	85,980	85,980

Table 7: Heterogeneous Effects of CIT Rate Changes on Consumption by Household Characteristics

This table presents regression outputs using the following specification.

$$\Delta Log(Total\ Consumption)_{ist} = \beta_1 Tax\_increase_{st} \times HHCharact_{ist} + \beta_2 Tax\_cut_{st} \times HHCharact_{ist} + \beta_3 Tax\_increase_{st} + \beta_4 Tax\_cut_{st} + \gamma_1 \Delta X_{st} + \gamma_2 \Delta Y_{ist} + \phi_s + \lambda_t + \epsilon_{ist} \quad (5)$$

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. $Tax\_increase_{st}$ 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. $HHCharact_{ist}$ in Columns (1) to (4) are indicators equal to 1 (and 0 otherwise) if the household includes non-white 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)			
Tax_increase × Non_White	-0.011***			
	(0.003)			
Tax_cut × Non_White	-0.002			
	(0.004)			
Tax_increase × Low_Education		-0.007***		
		(0.002)		
Tax_cut × Low_Education		-0.002		
		(0.002)		
Tax_increase × H_FoodRatio			-0.005*	
			(0.003)	
Tax_cut × H_FoodRatio			-0.007***	
			(0.002)	
Tax_increase × H_LowpriceRatio				-0.001
				(0.010)
Tax_cut × H_LowpriceRatio				-0.005**
				(0.002)
Tax_increase	-0.002	-0.002	-0.002	-0.005
	(0.001)	(0.002)	(0.002)	(0.005)
Tax_cut	-0.004	-0.003	-0.001	-0.002
	(0.004)	(0.004)	(0.004)	(0.004)
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	718,540	718,709
R-squared	0.010	0.010	0.013	0.011

Table 8: Effects of CIT Rate Changes on Consumption Inequality

This table presents regression outputs using the following specification.

$$\Delta Consumption\_Inequality_{uct} = \beta_1 Tax\_increase_{st} + \beta_2 Tax\_cut_{st} + \gamma_1 \Delta X_{st} + \phi_s + \lambda_t + \theta_u + \epsilon_{uct} \qquad (6)$$

where $\Delta Consumption\_Inequality_{uct}$ is the change in standard deviation of the logarithm of the household per-capita consumption of product u (unique UPC code) in county c from year $t-1$ to year t. $Tax\_increase_{st}$ 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 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 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. We also add state fixed effects ϕ_s, year fixed effects λ_t, and product fixed effects θ_u. ϵ_{uct} 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 Consumption_Inequality	(2)
Tax_increase	0.003**	0.003**
	(0.001)	(0.001)
Tax_cut	-0.001	-0.001
	(0.002)	(0.002)
State–year-level Controls	Yes	Yes
State FE	Yes	Yes
Year FE	Yes	Yes
Product FE	No	Yes
Cluster(State)	Yes	Yes
Observations	43,909,556	43,787,856
R-squared	0.002	0.018

Table 9: Heterogeneous Effects of CIT Rate Changes on Consumption Inequality by Product Types

This table presents regression outputs using the following specification.

$$\Delta Consumption\_Inequality_{uct} = \beta_1 Tax\_increase_{st} \times Prod.Charact_{uct} + \beta_2 Tax\_cut_{st} \times Prod.Charact_{uct} + \beta_3 Tax\_increase_{st} + \beta_4 Tax\_cut_{st} + \gamma_1 \Delta X_{st} + \phi_s + \lambda_t + \theta_u + \epsilon_{uct} \quad (7)$$

where $\Delta Consumption\_Inequality_{uct}$ is the change in standard deviation of the logarithm of the household per-capita consumption of product u (unique UPC code) in county c from year $t-1$ to year t. $Tax\_increase_{st}$ 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. $Prod.Charact_{ust}$ in Columns (1) and (2) are indicators equal to 1 (and 0 otherwise) if the product is not food. $Prod.Charact_{uct}$ in Columns (3) and (4) are indicators equal to 1 (and 0 otherwise) if the product belongs to a high-price brand. We also add state fixed effects ϕ_s, year fixed effects λ_t, and product fixed effects θ_u. 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)
VARIABLES	Δ Consumption_Inequality			
Tax_increase × Non_food	0.008***	0.008***		
	(0.003)	(0.002)		
Tax_cut × Non_food	-0.001	-0.002		
	(0.001)	(0.001)		
Tax_increase × High_price			0.001***	0.001***
			(0.000)	(0.000)
Tax_cut × High_price			-0.000	-0.000
			(0.001)	(0.000)
Tax_increase	0.002	0.001	0.002	0.002
	(0.001)	(0.001)	(0.001)	(0.001)
Tax_cut	-0.001	-0.000	-0.001	-0.000
	(0.003)	(0.002)	(0.003)	(0.002)
State–year-level Controls	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Product FE	No	Yes	No	Yes
Cluster(State)	Yes	Yes	Yes	Yes
Observations	43,909,556	43,787,856	43,909,556	43,787,856
R-squared	0.002	0.018	0.002	0.018

Table 10: Effects of CIT Rate Changes on Interstate Migration and Aggregated State Consumption

This table presents regression outputs using the following specification in Column (1).

$$Net\_move\_in_{st} = \beta_1 Tax\_increase_{st} + \beta_2 Tax\_cut_{st} + \gamma_1 \Delta X_{st} + \lambda_t + \epsilon_{st} \quad (8)$$

where $Net\_move\_in_{st}$ is the net move-in percentage of the total population of the state s in year t. In Column (2), the dependent variable is $\Delta Log(State\ Total\ Consump.)_{st}$, which is the change in logarithm value of the total consumption in the state s from year $t-1$ to year t. In both columns, $Tax\_increase_{st}$ 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. We control for the year fixed effects λ_t. Other state–year-level control variables are the same as those in Table 2. All variables are defined in the Appendix. Standard errors clustered at the state level are shown in parentheses below the coefficients. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

VARIABLES	(1) Net_move_in	(2) Δ Log(State Total Consump.)_fd
Tax_increase	-0.229**	-0.002**
	(0.097)	(0.001)
Tax_cut	-0.223	-0.001
	(0.189)	(0.001)
State–year-level Controls	Yes	Yes
Year FE	Yes	Yes
Cluster(State)	Yes	Yes
Observations	496	746
R-squared	0.128	0.830

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 u of county c in year t.	NielsenIQ Consumer Panel Data
Net_move_in	The percentage of the net move-in population (i.e., move-in minus move-out) of state s in year t relative to the total population of state s at the beginning of the year t.	U.S. Census Bureau
State Total Consump.	The value of total consumption (Personal consumption expenditures) in the state s in year t.	U.S. Bureau of Economic Analysis
Income_Inequality	The standard deviation of the logarithm of per-capita household income of county c in year t, where per-capita household income equals sum of INCWAGE divided by NUMPREC for each household-year.	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 u 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 product u belongs to a high-price brand, where brand price is defined as the average price of all products under the same brand. A high-price brand is one whose average price is equal to or higher than the product module's 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

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Table A1 – Continued from previous page

Variable	Definition	Data Source
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
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
Log of general revenue	Logarithm of general revenue of state s in year t.	U.S. Census Bureau
Log of real GDP	Logarithm of real GDP of state s in year t.	Bureau of Economic Analysis

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Table A1 – Continued from previous page

Variable	Definition	Data Source
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
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

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Table A1 – Continued from previous page

Variable	**Definition**	**Data Source**
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.	Suárez Serrato and Zidar (2018) and 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.

$$\Delta Income\_Inequality_{ct} = \beta_1 Tax\_increase_{st} + \beta_2 Tax\_cut_{st} + \gamma_1 \Delta X_{st} + \phi_s + \lambda_t + \epsilon_{ct} \tag{9}$$

where $\Delta Income\_Inequality_{ct}$ is the change in standard deviation of the logarithm of the household per-capita income for county c from year $t-1$ to year t. $Tax\_increase_{st}$ 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 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 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. We also add state fixed effects ϕ_s and year fixed effects λ_t. ϵ_{ct} 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
Tax_increase	0.185**
	(0.070)
Tax_cut	-0.046
	(0.034)
State–year-level Controls	Yes
State FE	Yes
Year FE	Yes
Cluster(State)	Yes
Observations	6,034
R-squared	0.111