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Do Supply-Side Tax Cuts Reshape Market Structure? Evidence From the Adult-Use Cannabis Industry[1]

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This paper examines the impact of state decoupling from Internal Revenue Code §280E on adult-use cannabis markets. Using difference-in-differences methods with staggered adoption and randomization inference, I analyze state-level data on licensed businesses, sales, prices, advertising, and health outcomes. Results show that decoupling increased the number of licensed businesses, reduced cannabis flower prices by about $3 per gram, and boosted sales within two years. Decoupling also raised advertising expenditure and the number of firms posting advertisements. Declines in prices, in turn, were associated with higher admissions to substance use treatment facilities, underscoring both economic and public health consequences.

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1. Introduction

Tax policy is one of the most effective tools available to federal and state governments for influencing economic behavior, shaping market structures, and determining the distribution of welfare. This policy tool may be particularly effective when applied to emerging markets, such as the cannabis industry. While excise taxes and consumption levies often dominate discussions of "sin goods" such as alcohol, tobacco, and cannabis, broader fiscal policies—particularly changes in state income taxes—also have important effects on these markets. Although legalization has led to a rapidly growing state-licensed market, cannabis remains classified as a Schedule I substance under federal law. As a result, cannabis businesses face a unique and strict provision of the U.S. tax code: Internal Revenue Code §280E. This section prohibits companies involved in Schedule I and II controlled substances from deducting ordinary business expenses like rent, payroll, and marketing. Consequently, cannabis businesses often face effective tax rates much higher than those of similar firms in other industries (Cleary, 2019).

Many states initially aligned their tax codes with federal law, extending the impact of §280E to state income taxes. However, as legal markets developed, more states chose to "decouple" from §280E. Colorado was the first state to do so in 2014. As of mid-2025, 22 states have decoupled from §280E.[3] By allowing cannabis firms to deduct ordinary business expenses for state income tax purposes, these states have effectively lowered the tax burden on licensed cannabis businesses. This shift represents a unique form of supply-side tax cut: one targeted specifically at firms operating in a newly legalized and heavily regulated sector, rather than at consumers or broad economic groups.

This paper examines how these decoupling reforms affect adult-use cannabis markets in several dimensions. In particular, I examine the effect of decoupling on the number of licensed cannabis businesses, cannabis prices, advertising expenditure, cannabis sales, and cannabis use and misuse. Theoretically, reducing state income tax liabilities could lower the effective tax rate for cannabis firms, improve their after-tax profitability, encourage investment and entry, and

[3] https://cannabusinessplans.com/280e-deductions/

influence retail pricing strategies, such as increasing advertising expenditure. Lower tax burdens might free up capital for compliance, expansion, or marketing. If firms pass on some of these savings, consumers could benefit through lower retail prices, increased product variety, or better service. In turn, this might boost demand in legal markets and reduce reliance on illicit sources. However, it's equally possible that firms retain most of the benefits as higher margins, leaving consumer prices largely unchanged. Determining which of these outcomes prevails is an empirical question.

The cannabis industry provides an ideal context for studying these issues for several reasons. First, the industry is affected by overlapping layers of federal, state, and local regulation, creating variation in effective tax burdens across jurisdictions and over time. States' decisions to decouple from §280E have occurred gradually and at different points in the legalization process and market maturity, offering a natural experiment for causal analysis. Second, cannabis firms face tight profit constraints due to compliance costs and ongoing illicit competition (Smart & Pacula, 2019). Tax relief can therefore have a significant impact on firm behavior compared to more established industries. Third, previous studies suggest that the demand for cannabis is price-sensitive (Davis et al., 2016; Gallet, 2014; Pacula & Lundberg, 2013). Therefore, even small price changes can alter consumption patterns.

Existing literature has predominantly focused on excise taxes—state levies on retail sales or cultivation—and their effects on revenue and demand elasticity (Han et al., 2024; Hansen et al., 2020; Miller & Seo, 2021). These studies show that high excise taxes can sustain the illicit market, while moderate levels support compliance and increase state revenue. Less explored are the implications of income tax decoupling from §280E, despite their potential importance for business viability, market competitiveness, and consumer access. This paper is the first to address that gap by examining how targeted relief from state income tax burdens influences outcomes in the adult-use cannabis industry.

Beyond its policy relevance, this study contributes to broader debates in public finance and tax incidence. Traditional models suggest that the burden of a tax depends on the relative elasticities of supply and demand (Fullerton & Metcalf, 2002). In cannabis, these elasticities are complicated by factors such as cost structures, consumer responsiveness, legal risks, and the presence of informal markets (Caulkins et al., 2015). State decoupling from §280E provides a

natural setting to test whether targeted supply-side relief benefits consumers or mainly enhances producer profits.

This paper makes three main contributions. First, it offers the first systematic empirical analysis of state-level decoupling from §280E and its impact on adult-use cannabis markets. Second, it connects firm-level tax burdens to consumer outcomes, integrating research on cannabis taxation and cannabis-related health outcomes. Third, it explores how regulatory tax relief influences competition between legal and illegal sources, with implications for market sustainability and public revenue.

2. Data and Method

We utilize the state-level 2013-2024 data on the number of licensed cannabis businesses, cannabis sales, cannabis prices, advertising expenditure, and cannabis use and misuse, drawn from multiple sources. Data on licensed businesses, sales, and prices are hand-collected from state cannabis regulatory agencies, Departments of Taxation, and Hempbenchmarks.com. The cannabis advertising expenditure data are obtained from Kantar Media. Data on past-year cannabis use are obtained from the biannual National Survey of Drug Use and Health (NSDUH) Small Area Estimates. Finally, to study changes in cannabis misuse, we employ the 2013-2024 Treatment Episode Data Set (TEDS), which provides information on admissions to substance use treatment facilities, with particular attention to admissions listing cannabis as a substance identified.

I use a difference-in-differences methodology to compare the trends in outcomes mentioned above in states that have already legalized cannabis for adult use and have decoupled from §280E versus those that have not, before and after the decoupling. We exclude from the analysis states where decoupling took effect or was in effect[4] when adult-use retail sales began. Based on this criterion, there are six states with operational adult-use dispensaries, and therefore, active cannabis markets, that have not decoupled from §280E (Alaska, Arizona, Maine, Nevada, Rhode Island, and Washington) and four states that have decoupled from §280E (California, Illinois, Massachusetts, and New Jersey) within our analysis time frame. Given that there was a

[4] The following states with medical cannabis laws decoupled from §280E before the legalization of adult-use cannabis: Maryland, Minnesota, Missouri, Montana, and Oregon.

staggered adoption of decoupling in the treated states, we utilize the (Gardner, 2022) method to account for the treatment heterogeneity assumption in the analysis. We also utilize randomization inference techniques to estimate the standard errors of the estimated coefficients, addressing the issue of few treated clusters (MacKinnon et al., 2023).

3. Results

Results indicate that decoupling is associated with an increase in the number of licensed cannabis businesses and a $3 per-gram decline in the price of cannabis flower, followed by higher cannabis sales in the two years after policy implementation. I also find evidence of greater expenditure on cannabis advertising and a rise in the number of businesses placing such advertisements. Finally, analysis of health outcomes shows that price declines attributable to decoupling are linked to increases in cannabis-related admissions to substance use treatment facilities.

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