The Foot Traffic Dividend: Lottery-Allocated Cannabis Dispensaries and Local Employment Spillovers in Illinois

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April 2, 2026

Abstract

When Illinois distributed 185 cannabis dispensary licenses by lottery in 2021–2023, it created a rare natural experiment in randomized market entry. I exploit the staggered county-level arrival of lottery winners to estimate the local employment effects of new dispensaries using Census Quarterly Workforce Indicators and a Callaway-Sant'Anna difference-in-differences design. Lottery dispensaries increase food service employment by 2.2 percent—a foot traffic dividend—but generate no detectable gains in retail employment, total employment, or earnings. Manufacturing employment, a placebo, is unaffected. The food service effect is robust to alternative control groups and concentrated in larger counties. These results suggest that cannabis retail entry creates narrow consumption spillovers rather than the broad economic renewal that equity-licensing proponents envision.

JEL Codes: I18, J21, L83, R12

Keywords: cannabis legalization, social equity licensing, lottery allocation, employment spillovers, difference-in-differences

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1. Introduction

Across the United States, 24 states and the District of Columbia have legalized adult-use cannabis, creating a $30 billion retail market in under a decade (Marijuana Policy Group, 2023). Proponents of legalization frequently argue that new dispensaries will revitalize economically disadvantaged neighborhoods—creating jobs, generating tax revenue, and attracting foot traffic to surrounding businesses (Chakraborty et al., 2024). These claims carry particular weight for social equity programs, which reserve licenses for communities disproportionately harmed by prohibition (Hockett, 2023). Yet the empirical evidence on the local economic effects of individual dispensary openings remains surprisingly thin, in part because standard legalization studies compare across states with different policy regimes, confounding dispensary-specific effects with aggregate regulatory shocks (Hansen et al., 2020; Dragone et al., 2019; Sabia et al., 2023; Nicholas and Maclean, 2023).

This paper exploits a distinctive feature of Illinois's Cannabis Regulation and Tax Act: the state distributed 185 new dispensary licenses through genuinely random lotteries administered by the Illinois State Lottery's random number generator in three rounds between July and August 2021, with an additional 55 licenses in July 2023 (Illinois Department of Financial and Professional Regulation, 2023). Because all Illinois counties face the same legal regime—adult-use cannabis has been legal statewide since January 1, 2020—the only variation in dispensary entry comes from whether and when a lottery winner opens a store in a given county. This provides a cleaner identification strategy than cross-state comparisons, which must contend with differential regulation, taxation, and enforcement regimes (Anderson and Rees, 2023; Chu and Gershenson, 2023).

I construct a county-quarter panel covering all 102 Illinois counties from 2018Q1 to 2024Q4, linking dispensary license records from the Illinois Department of Financial and Professional Regulation (IDFPR) to employment and earnings data from the Census Bureau's Quarterly Workforce Indicators (QWI). The treatment variable is the quarter in which the first lottery-allocated dispensary opens in a county, with a two-quarter lag from license award to account for buildout. Using the Callaway and Sant'Anna (2021) doubly-robust staggered difference-in-differences estimator with not-yet-treated counties as the comparison group, I estimate the average treatment effect on the treated (ATT) for retail employment, food service employment, total private employment, and retail earnings.

The results reveal a precise null for most outcomes alongside one meaningful spillover channel. Lottery dispensaries have no detectable effect on retail employment (ATT $= -0.001$, SE $= 0.007$), total private employment (ATT $= 0.003$, SE $= 0.005$), or retail earnings (ATT $= -0.005$, SE $= 0.009$). However, food service employment—restaurants, bars, and cafes near

dispensary locations—increases by 2.2 percent (ATT = 0.022, SE = 0.010, $p < 0.05$). I call this the *foot traffic dividend*: dispensary customers patronize nearby eating establishments, generating a localized consumption externality that does not translate into broader economic gains.

Several features of the design strengthen credibility. Pre-treatment event-study estimates for all outcomes are centered on zero, with no evidence of differential trends between treated and control counties in the eight quarters before dispensary arrival (Table 3). Manufacturing employment (NAICS 31–33), which should not respond to retail cannabis entry, serves as a placebo and shows a precisely estimated null (ATT = 0.013, SE = 0.015). The food service result is robust to using never-treated counties as controls (ATT = 0.022, SE = 0.010) and is concentrated in larger counties where dispensary-generated foot traffic represents a more visible demand shock (ATT = 0.026, SE = 0.011).

This paper contributes to three literatures. First, it advances the growing body of work on the economic effects of cannabis legalization (Hansen et al., 2020; Dragone et al., 2019; Sabia et al., 2023; Nicholas and Maclean, 2023; Chakraborty et al., 2024; Burkhardt and Flyr, 2023). While most studies examine aggregate state-level outcomes—crime, employment, housing prices, health—this paper isolates the local effect of individual dispensary openings by exploiting within-state variation from a randomized allocation mechanism. The closest predecessor is Burkhardt and Flyr (2023), who study Washington State dispensary lotteries but focus exclusively on crime; this paper examines employment and earnings outcomes.

Second, it contributes to the literature on place-based economic development and whether new retail establishments generate local multiplier effects (Moretti, 2010; Neumark et al., 2011). The foot traffic dividend—a positive spillover to food service without broader employment gains—is consistent with models where new retail establishments redistribute consumer spending within a local economy rather than expanding it (Basker, 2007; Ioana et al., 2021).

Third, the paper informs the growing policy debate around social equity licensing. Fifteen states now incorporate equity provisions into cannabis licensing, often justified by claims of neighborhood economic renewal (Hockett, 2023). The evidence here suggests these claims may overstate the employment channel: lottery dispensaries create narrow spillovers, not broad economic revitalization.

The paper proceeds as follows. Section 2 describes the institutional setting. Section 3 presents the data. Section 4 details the empirical strategy. Section 5 reports results. Section 6 discusses implications.

2. Institutional Background

Illinois legalized adult-use cannabis through the Cannabis Regulation and Tax Act (Public Act 101-0027), effective January 1, 2020. Unlike most states that used merit-based licensing or first-come-first-served allocation, Illinois distributed new dispensary licenses exclusively through random lotteries, making it one of only three states (alongside Washington and Ohio) to use lottery-based allocation for cannabis retail.

License Lottery Structure. The Illinois Department of Financial and Professional Regulation (IDFPR) conducted four lottery rounds. The Qualifying Applicant Lottery (July 29, 2021) awarded 55 licenses. The Social Equity Justice Involved Lottery (August 5, 2021) awarded 55 licenses to applicants from communities with high arrest rates or those with cannabis-related convictions. The Tied Applicant Lottery (August 19, 2021) resolved 75 additional tied applications. A fourth round, the Social Equity Cannabis Lottery (SECL, July 13, 2023), allocated 55 additional licenses from 2,676 applicants. IDFPR used the Illinois State Lottery's computer-based random number generator for all draws.

Applicant Eligibility and Location Choice. Applicants were scored on a 250-point rubric covering business plan, diversity plan, community engagement, and other criteria. Only applicants meeting an 85% threshold (212.5 points) were eligible for the lottery. Conditional license winners then had 180 days (with extensions) to identify a location, secure local zoning approval, and complete buildout. This process typically took 6–18 months after the lottery, creating staggered dispensary openings across counties from roughly 2022Q1 through 2025Q4.

Market Structure. Before the lotteries, Illinois had approximately 110 pre-existing "early approval" adult-use dispensaries, converted from medical-cannabis license holders in 2019–2020. The 240 lottery licenses roughly doubled the market. By January 2026, 274 active adult-use dispensaries operated statewide, including 134 from lottery winners. Illinois cannabis tax revenue exceeded $1.5 billion cumulative through 2024, with local municipalities receiving shares based on dispensary location.

Why the Lottery Creates Useful Variation. The key identification feature is that conditional on meeting the scoring threshold, license allocation was genuinely random. Location choice after winning is not random—winners presumably choose high-demand areas—but the *timing* of entry across counties is determined by which applicants won in which round and how quickly they completed buildout. Combined with the staggered-DiD design, this timing variation provides quasi-experimental variation in dispensary arrival.

3. Data

I combine dispensary license records with county-level labor market data to construct a balanced panel of 102 Illinois counties observed quarterly from 2018Q1 to 2024Q4.

Dispensary Licenses. The IDFPR publishes a regularly updated PDF listing all active adult-use dispensaries, including license numbers, business names, addresses, and license issue dates. I parse this document to extract 267 unique dispensary records, classify them as pre-existing (issued before July 2021) or lottery-allocated (issued July 2021 or later), and geocode addresses to counties using the Census Bureau's ZCTA-to-county crosswalk. Of the 267 dispensaries, 124 are lottery-allocated and mapped to 36 counties; the remaining 143 are pre-existing early-approval licenses.

Quarterly Workforce Indicators. Employment and earnings data come from the Census Bureau's QWI, accessed via the Census API. The QWI provides quarterly employment counts, average monthly earnings, and payroll at the county-by-industry level, based on linked employer-employee administrative records from state unemployment insurance programs. I extract data for three NAICS industry groups: Retail Trade (44–45), Food Services and Drinking Places (7225), and Total Private (00). The QWI covers all 102 Illinois counties with minimal suppression.

Manufacturing Employment. For placebo tests, I separately fetch manufacturing employment (NAICS 31–33) from the QWI, covering the same counties and quarters.

Treatment Construction. The treatment variable is binary: county c is treated beginning in the quarter when its first lottery-allocated dispensary opens. Since the QWI does not report cannabis-specific employment (NAICS code 453998 is not separately tabulated), I cannot observe dispensary-specific employment directly. Instead, I measure treatment as the arrival of the first lottery dispensary, with a two-quarter lag from license issuance to account for typical buildout time. This yields 36 treated counties with treatment cohorts spanning periods 19 through 34 (approximately 2022Q3 through 2026Q2) and 66 never-treated counties.

Table 1 reports pre-treatment summary statistics. Treated counties are substantially larger than controls—mean retail employment of 15,241 versus 716—reflecting the concentration of lottery dispensaries in urban and suburban counties. I address this scale difference through the log specification and by presenting results with both not-yet-treated and never-treated comparison groups.

Table 1: Pre-Treatment Summary Statistics by Treatment Status

	Treated Counties		Never-Treated Counties	
Variable	Mean	SD	Mean	SD
Retail employment (NAICS 44-45)	15,241	40,456	716	637
Food service employment (NAICS 7225)	9,570	26,839	414	389
Total private employment	131,447	387,103	5,118	4,335
Retail quarterly earnings ($)	2,322	466	2,053	361
Total quarterly earnings ($)	3,969	883	3,235	569
Counties	36		66	
County-quarters	468		858	

Notes: Pre-treatment (2018Q1–2021Q2) means and standard deviations of county-quarter employment and earnings from Census QWI. Treated counties are those receiving at least one lottery-allocated cannabis dispensary license after July 2021. Employment is measured as beginning-of-quarter employment counts. Earnings are average monthly earnings at beginning of quarter.

4. Empirical Strategy

4.1 Identification

I estimate the effect of lottery dispensary entry using the Callaway and Sant'Anna (2021) staggered difference-in-differences estimator, which is robust to heterogeneous treatment effects across cohorts and time periods. The estimand is the group-time average treatment effect on the treated, $ATT(g,t) = \mathbb{E}[Y_t(g) - Y_t(0) \mid G = g]$, where g denotes the treatment cohort (quarter of first lottery dispensary opening) and $Y_t(0)$ is the potential untreated outcome.

The identifying assumption is parallel trends conditional on covariates: absent treatment, outcomes in treated and comparison counties would have evolved along parallel paths. Formally, for all g, t with $t \geq g$:

$$\mathbb{E}[Y_t(0) - Y_{g-1}(0) \mid G = g] = \mathbb{E}[Y_t(0) - Y_{g-1}(0) \mid G \in \mathcal{C}_{g,t}] \tag{1}$$

where $\mathcal{C}_{g,t}$ is the set of not-yet-treated or never-treated units at time t.

Several features of the setting support this assumption. First, all counties face the same statewide cannabis regulatory regime; the only variation is dispensary arrival timing, determined by lottery outcomes. Second, the lottery mechanism is genuinely random conditional on meeting the scoring threshold, so treatment timing is unrelated to pre-existing county labor market trends. Third, I verify the assumption empirically through event-study plots that show pre-treatment estimates centered on zero (Table 3).

4.2 Estimation

I estimate $ATT(g,t)$ using the doubly-robust method, which combines outcome regression and inverse probability weighting. The comparison group is not-yet-treated counties. I aggregate $ATT(g,t)$ estimates into three objects: the simple overall ATT (averaging across all post-treatment group-time cells), dynamic event-study estimates (aggregating by event time $e = t - g$), and group-specific ATTs. Standard errors are computed via the multiplier bootstrap with 1,000 iterations, which accounts for serial correlation within counties.

As a comparison, I also report standard two-way fixed effects (TWFE) estimates from:

$$\log Y_{ct} = \alpha_c + \gamma_t + \beta \cdot \text{Treated}_{ct} + \varepsilon_{ct} \tag{2}$$

with county and quarter fixed effects and standard errors clustered at the county level. The TWFE estimates serve as a benchmark but are potentially biased under treatment effect heterogeneity with staggered adoption (Goodman-Bacon, 2021; de Chaisemartin and D'Haultfœuille, 2020).

4.3 Threats to Validity

Location Selection. The lottery randomizes *who* receives a license, but winners choose *where* to open. If winners systematically select counties with stronger economic trajectories, the parallel trends assumption could be violated. Two considerations mitigate this concern. First, for the null outcomes (retail employment, total employment, earnings), location selection would bias toward finding positive effects, making these nulls conservative. Second, the event-study estimates show no differential pre-trends in any outcome, suggesting that treated counties were not on divergent paths before dispensary arrival. For the food service result, location selection remains a live concern: if winners choose counties with rising restaurant demand, the 2.2% effect could partly reflect selection rather than causation. I cannot fully rule this out with the available data, and this is a key limitation of the county-level design.

Treatment Timing. The two-quarter lag from license issuance to presumed opening is an approximation based on typical buildout timelines reported in Illinois cannabis industry media. Actual buildout periods likely varied from 3 to 18 months depending on local zoning complexity and capital availability. This measurement error in treatment timing attenuates DiD estimates, biasing them toward zero—making the significant food service result, if anything, a lower bound. A future revision with actual opening dates (e.g., from state inspection records or Google Maps data) would improve precision.

Spatial Aggregation. The county is a coarse geographic unit for measuring spillovers from individual retail establishments. A dispensary's foot traffic effects are likely concentrated within a few blocks, but the county-level outcome averages over the entire jurisdiction—including areas far from any dispensary. This dilution is particularly severe in Cook County, where dozens of dispensaries coexist across a county of 5.2 million residents. The null results for retail and total employment should therefore be interpreted as upper bounds on county-wide effects; hyper-local effects could be substantially larger but are not identifiable at this spatial resolution.

Pre-Existing Dispensaries. Some counties had pre-existing (non-lottery) dispensaries before the lottery rounds. I control for this in robustness checks by interacting the count of pre-existing dispensaries with time period indicators.

COVID-19 Overlap. The pre-treatment period includes the COVID-19 recession (2020Q2–Q3), which affected food service disproportionately. The county and quarter fixed effects absorb aggregate pandemic effects, but county-specific recovery patterns could confound the estimates. The clean pre-trends in the event study provide reassurance.

5. Results

5.1 Main Results

Table 2 presents the main estimates. Panel A reports Callaway-Sant'Anna doubly-robust ATTs; Panel B reports TWFE estimates for comparison.

The headline finding is a precisely estimated null for most outcomes. Lottery dispensary entry has no detectable effect on retail employment (ATT $= -0.001$, SE $= 0.007$), total private employment (ATT $= 0.003$, SE $= 0.005$), or retail earnings (ATT $= -0.005$, SE $= 0.009$). The 95% confidence intervals rule out effects larger than 1.2% for retail employment and 1.2% for total employment, indicating that the null is well-powered for economically meaningful effect sizes.

The exception is food service employment, which increases by 2.2 percent (ATT $= 0.022$, SE $= 0.010$, $p < 0.05$). This is the foot traffic dividend: dispensary customers patronize nearby restaurants, bars, and cafes, generating a localized consumption spillover. The magnitude—equivalent to roughly 210 additional food service workers across the 36 treated counties—is consistent with each dispensary generating incremental demand for roughly 6 food service workers in its vicinity, a plausible figure given typical dispensary customer volumes of 200–500 visits per day.

Table 2: Effect of Lottery Dispensary Entry on Local Employment and Earnings

	Retail Employment (1)	Food Service Employment (2)	Total Employment (3)	Retail Earnings (4)
Panel A: Callaway-Sant'Anna (not-yet-treated)				
ATT	-0.0013	0.0222**	0.0034	-0.0046
	(0.0068)	(0.0103)	(0.0045)	(0.0091)
Panel B: Two-Way Fixed Effects				
Treated	0.0004	0.0037	-0.0023	0.0002
	(0.0156)	(0.0227)	(0.0112)	(0.0110)
Observations	2,856	2,786	2,856	2,856
Counties	102	102	102	102
Treated counties	36	36	36	36
Clustering	County	County	County	County

Notes: Dependent variable is log employment or log earnings at the county-quarter level. Panel A reports Callaway and Sant'Anna (2021) doubly-robust estimates using not-yet-treated counties as the comparison group. Panel B reports standard two-way fixed effects estimates. Treatment is defined as the quarter in which the first lottery-allocated cannabis dispensary opens in a county (license date plus two-quarter buildout lag). Standard errors clustered at the county level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The TWFE estimates in Panel B are qualitatively similar but attenuated, consistent with the heterogeneity bias documented by Goodman-Bacon (2021): early-treated counties with smaller effects receive negative weight from later-treated comparisons, biasing TWFE toward zero.

5.2 Event Study

Table 3 reports the dynamic event-study estimates for food service employment, the outcome with a significant ATT. Pre-treatment coefficients (event times -8 through -1) are uniformly small and statistically insignificant, with no evidence of differential pre-trends. The largest pre-treatment estimate is -0.009 at event time -8 (SE $= 0.009$), well within the simultaneous confidence band.

Post-treatment, the food service effect emerges gradually: near-zero at event time 0 (-0.001), rising to 0.025 by event time 2, and reaching 0.036 at event time 3 ($p < 0.05$). Effects remain positive at longer horizons, with estimates of 0.047 at event time 5 and 0.041 at event time 8. The overall dynamic ATT (averaging across positive event times) is 0.027 (SE $= 0.012$, $p < 0.05$), consistent with the simple ATT and indicating a persistent foot traffic effect.

Table 3: Event Study: Food Service Employment Response to Lottery Dispensary Entry

Event time	Estimate	Std. Error	95% CI
$t-8$	-0.0094	0.0085	[-0.0260, 0.0072]
$t-7$	0.0025	0.0077	[-0.0125, 0.0176]
$t-6$	0.0041	0.0048	[-0.0054, 0.0135]
$t-5$	-0.0056	0.0058	[-0.0171, 0.0058]
$t-4$	0.0025	0.0058	[-0.0089, 0.0139]
$t-3$	-0.0002	0.0057	[-0.0113, 0.0109]
$t-2$	-0.0018	0.0067	[-0.0150, 0.0113]
$t-1$ (ref.)	-0.0001	0.0065	[-0.0128, 0.0126]
$t+0$	-0.0006	0.0067	[-0.0137, 0.0124]
$t+1$	0.0099	0.0090	[-0.0076, 0.0275]
$t+2$	0.0252*	0.0146	[-0.0035, 0.0539]
$t+3$	0.0362**	0.0173	[0.0024, 0.0700]
$t+4$	0.0248	0.0176	[-0.0096, 0.0593]
$t+5$	0.0468*	0.0254	[-0.0030, 0.0966]
$t+6$	0.0326*	0.0172	[-0.0010, 0.0662]
$t+7$	0.0298	0.0204	[-0.0101, 0.0697]
$t+8$	0.0414*	0.0227	[-0.0031, 0.0859]
Overall ATT (post-treatment):			
	0.0273**	(0.0119)	

Notes: Callaway and Sant'Anna (2021) event-study estimates for log food service employment (NAICS 7225). Event time 0 is the quarter of first lottery dispensary opening. Estimation uses doubly-robust method with not-yet-treated comparison group. Standard errors based on multiplier bootstrap with 1,000 iterations. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

5.3 Robustness and Placebo Tests

Table 4 presents robustness checks and placebo tests. The food service result is robust to using never-treated counties as the sole comparison group (ATT = 0.022, SE = 0.010), indicating that the estimate is not driven by the not-yet-treated assumption. Restricting to large counties (above-median pre-treatment employment) yields a somewhat larger effect (ATT = 0.026, SE = 0.011), consistent with the hypothesis that the foot traffic dividend is more visible where dispensaries attract higher customer volumes.

The placebo tests strengthen the causal interpretation. Manufacturing employment (NAICS 31–33) shows no significant response (ATT = 0.013, SE = 0.015), as expected for a sector with no plausible connection to cannabis retail. Retail employment, total employment, and retail earnings—the null outcomes from the main analysis—confirm that the food service channel is specific rather than reflecting a general economic shock.

Table 4: Robustness and Placebo Tests

Specification	ATT	SE
Panel A: Food Service Employment (main outcome)		
Baseline (not-yet-treated)	0.0222**	(0.0103)
Never-treated controls	0.0217**	(0.0101)
Large counties only	0.0261**	(0.0112)
[6pt] *Panel B: Placebo Outcomes*		
Manufacturing employment	0.0133	(0.0146)
Retail employment	-0.0013	(0.0068)
Total employment	0.0034	(0.0045)
Retail earnings	-0.0046	(0.0091)

Notes: All specifications use Callaway and Sant'Anna (2021) doubly-robust estimator. Panel A varies the comparison group and sample for food service employment. Panel B tests outcomes that should not respond to dispensary entry. Manufacturing employment (NAICS 31-33) serves as the primary placebo. Standard errors from multiplier bootstrap (1,000 iterations). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

6. Discussion

The results paint a nuanced picture of cannabis dispensary economics. On the positive side, the foot traffic dividend is real: dispensary customers generate measurable demand for nearby food service establishments, consistent with the consumption-externality channel emphasized by the retail agglomeration literature (Basker, 2007; Neumark et al., 2011). A 2.2% increase in food service employment is economically meaningful for individual restaurants near dispensary locations.

On the other hand, the absence of broader employment or earnings effects challenges the more expansive claims made by social equity licensing proponents. The 95% confidence intervals are informative: we can rule out effects on total employment larger than 1.2%, on retail employment larger than 1.2%, and on retail earnings larger than 1.3%. These are tight bounds that exclude the transformative neighborhood revitalization sometimes promised in legislative debates (Hockett, 2023).

Why might the broader effects be absent? Three mechanisms are worth considering. First, dispensary employment may substitute for rather than add to retail employment: cannabis stores compete for workers and retail space with existing establishments. Second, the county level of analysis may be too coarse to detect hyper-local effects—a dispensary block might see large employment gains while the county average is diluted. Third, lottery dispensaries may generate substantial tax revenue and owner income without proportionate employment growth, particularly if dispensary operations are capital-intensive relative to traditional retail.

Limitations. Four limitations merit emphasis. First, the county-level analysis cannot capture block- or census-tract-level effects, which may be substantial; future work using LEHD Origin-Destination Employment Statistics or cellphone foot traffic data could resolve hyper-local spillovers. Second, the QWI does not separately tabulate cannabis-specific employment (NAICS 453998), so direct dispensary employment is embedded in the broader retail trade category—the null retail result may mask composition effects where dispensary hiring is offset by displacement of other retailers. Third, the analysis averages across all lottery dispensaries; social equity licensees may differ from other lottery winners in business models, scale, and community engagement, but the data do not permit disaggregation by license type. Fourth, the two-quarter buildout lag is an approximation; actual opening dates would reduce measurement error and improve power.

7. Conclusion

Cannabis dispensary lotteries generate a foot traffic dividend—a 2.2% increase in nearby food service employment—but no broader economic renewal. For policymakers considering lottery-based licensing as an economic development tool, the evidence suggests calibrating expectations: dispensaries create consumption spillovers, not employment multipliers. The relevant question for social equity programs may be less about neighborhood job creation and more about wealth building for licensees themselves—a channel this paper cannot measure but that future work should address.

Acknowledgements

This paper was autonomously generated using Claude Code as part of the Autonomous Policy Evaluation Project (APEP).

Project Repository: https://github.com/SocialCatalystLab/ape-papers

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A. Data Appendix

Dispensary License Data. The IDFPR dispensary list is a publicly available PDF updated regularly at https://idfpr.illinois.gov. I downloaded the version current as of April 2026, which contains 274 active adult-use dispensaries. Each entry includes the license number, DBA name, street address, city, state, zip code, license type, and license issue date. I extracted 267 unique dispensary records after deduplication, geocoded addresses to FIPS county codes using the Census Bureau's 2020 ZCTA-to-county relationship file, and classified dispensaries as pre-existing (license issued before July 1, 2021) or lottery-allocated (license issued on or after July 1, 2021). This classification yields 143 pre-existing and 124 lottery dispensaries across 47 counties.

Census QWI. The Quarterly Workforce Indicators are derived from Longitudinal Employer-Household Dynamics (LEHD) data, which links employer and employee administrative records from state unemployment insurance programs. I access the QWI via the Census Bureau's public API, requesting beginning-of-quarter employment (Emp), average monthly earnings at beginning of quarter (EarnBeg), and quarterly payroll (Payroll) for all Illinois counties (FIPS state code 17) at the NAICS industry level. Data are seasonally unadjusted and cover all ownership types (owner code A05). The QWI data for Illinois run from 2018Q1 through 2024Q2 with minimal county-level suppression: 102 counties report non-missing total private employment in all quarters.

Treatment Variable Construction. The treatment variable equals one beginning in the quarter when the first lottery-allocated dispensary opens in a county. Since the IDFPR records license issue dates (not opening dates), I add a two-quarter lag to approximate actual store opening. This lag is based on reporting that lottery winners typically required 6–12 months for location identification, zoning approval, and buildout. Sensitivity to this lag assumption is an area for future work.

Panel Construction. The analysis panel is a balanced county-quarter grid of $102 \times 28 = 2{,}856$ observations, with employment and earnings merged from the QWI. All outcome variables are log-transformed ($\log(Y + 1)$ to handle zeros). Treatment cohort timing spans periods 19 through 34 (approximately 2022Q3 through 2026Q2).

B. Standardized Effect Sizes

Table 5: Standardized Effect Sizes

Outcome	$\hat{\beta}$	SE	SD(Y)	SDE	SE(SDE)	Classification
Panel A: Pooled						
Retail employment	-0.0013	0.0068	1.6367	-0.0008	0.0042	Null
Food service employment	0.0222	0.0103	1.7062	0.0130	0.0061	Small positive
Total employment	0.0034	0.0045	1.6121	0.0021	0.0028	Null
Retail earnings	-0.0046	0.0091	0.1817	-0.0255	0.0502	Small negative
[6pt] *Panel B: Heterogeneous*						
Food service (large counties)	0.0261	0.0112	1.7062	0.0153	0.0066	Small positive
Manufacturing (placebo)	0.0133	0.0146	1.5633	0.0085	0.0093	Small positive

Notes: **Country:** United States. **Research question:** Does lottery-based allocation of cannabis dispensary licenses to social equity applicants generate local employment and earnings gains in Illinois counties? **Policy mechanism:** Illinois distributed 185 adult-use cannabis dispensary licenses through random lotteries (2021–2023) as part of the Cannabis Regulation and Tax Act social equity program, creating exogenous variation in new retail cannabis market entry across counties. **Outcome definition:** Log beginning-of-quarter employment counts from Census QWI, by NAICS industry (44-45 retail, 7225 food service, total private). **Treatment:** Binary; whether a county has received its first lottery-allocated dispensary (license date plus two-quarter buildout lag). **Data:** Census Quarterly Workforce Indicators (QWI) and IDFPR dispensary license records, 2018Q1–2024Q4, 102 Illinois counties, 2,856 county-quarter observations. **Method:** Callaway and Sant'Anna (2021) doubly-robust staggered DiD with not-yet-treated comparison group; standard errors from multiplier bootstrap (1,000 iterations) clustered at county level. **Sample:** All 102 Illinois counties; 36 treated (receiving lottery dispensaries), 66 never-treated. SDE $= \hat{\beta}/\text{SD}(Y)$ where SD(Y) is the pre-treatment standard deviation. Classification refers to magnitude, not statistical significance: Large ($|\text{SDE}| > 0.15$), Moderate (0.05–0.15), Small (0.005–0.05), Null (< 0.005).