The Effect of College Students on Recreational Marijuana Sales in Washington State

1 Introduction

Blake et al. (2021) finds that legalization of recreational marijuana sales in Colorado correlates with a surge in applications to the state's top schools. The admitted students were somewhat better than previous cohorts as measured by the number of 75% percentile SAT scores. However, they performed no worse than previous cohorts. This is somewhat surprising as heavy and moderate marijuana usage appears to have deleterious effects on cognition. Additionally, legal RMJ correlates with poorer academic performance (Marie and Zölitz, 2017; Wri, 2199). One possible explanation is that Colorado's college students are not heavy consumers of RMJ, which is supported by the county-level RMJ sales data from Colorado (Hess, 2021).

On the other hand, Ambrose et al. (2021) finds that individuals are more likely to report using marijuana, and using it more frequently, as retailers open close to where the live and these effects are concentrated among young adults in Washington State.

Using publicly data from IPEDs and dispensary-level sales from Washington (with thanks to Thomas (2019)), this paper would examine if proximity to college campuses increase sales. Essentially, this paper takes a more granulated look at one of the questions in Hess (2021). It offers and interesting extension Ambrose et al. (2021) by: focusing on college students and looking for actual buying behavior rather than reported consumption on surveys.

2 Econometric Approach

The plan is to follow the Ambrose et al.'s (2021) measures of distance and methodology. The main equation to estimate is fixed-effects regression with dispensary-specific individual effects:

$$S_{i,t} = \beta_0 + +\beta_1 \mathbf{U} \cdot FTE4_{i,t} + \beta_2 \mathbf{U} \cdot \ln(Distance_i) + \beta_3 \ln(Price_{i,t}) + \nu_i + \omega_t + \epsilon_{i,t}$$

Where $S_{i,t}$ is the RMJ sales for dispensary i at time t, $Distance$ is the driving distance to the nearest university which is time-invariant for the specific dispensary, $Price_{i,t}$ is the average tax-inclusive price per gram of flower at the dispensary, $FTE4_{i,t}$ is the number of full-time or equivalent university students at the nearest university, and $\mathbf{U}$ is one if the full month is part of the academic session (September, October, November, February, March, April), one-half if part of the month is in the academic session (August, December, January, May), and zero otherwise (June, July).

3 Results

The main result should be the marginal effect of universities on sales:

$$\frac{\partial S_{i,t}}{\partial \mathbf{U}} = \beta_1 \cdot FTE4_{i,t} + \beta_2 \cdot \ln(Distance_i)$$

4 Remaining Steps

1. Get Washington State IPEDS data
2. Create distance variable
   (a) follow Ambrose et al. (2021) on this

(b) this is potentially difficult since they use the estimated drive time

3. Run regression
4. Generate an economically significant discussion

References

Ambrose, Christopher A, Benjamin W Cowan, and Robert E Rosenman (2021) "Geographical access to recreational marijuana," *Contemp. Econ. Policy.*

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