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Legalized Marijuana's Impact on Denver Housing Prices

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- As the first state to adopt legal recreational marijuana, Colorado has served as the proverbial canary in the coal mine for this process.
- From January 2014 through February 2020, approximately $2.1 billion dollars of recreational marijuana revenue was taken in by dispensaries in Denver County.
- We estimate that approximately 2% of the observed growth in the mean value of Denver County single-family homes in the above period is associated with legalized recreational marijuana revenue generated in that time.

Overview

With the adoption of Amendment 64, in January of 2014, Colorado became the first state to legalize recreational marijuana sale. Further, Denver County would be the epicenter of this trailblazing legalization initiative. Owing, in large part, to its first mover advantage, Colorado has established itself as a national leader in a market space estimated to produce $47 billion annually by 2028. Currently, 24 states and the District of Columbia have legalized marijuana for recreational purposes. Further, due to the large amounts of tax revenue involved, new states are joining the recreational legalization trend at an ever-increasing pace. As such, the associations and implications learned from Colorado's legalization of recreational marijuana could prove vital for policymakers to understand.

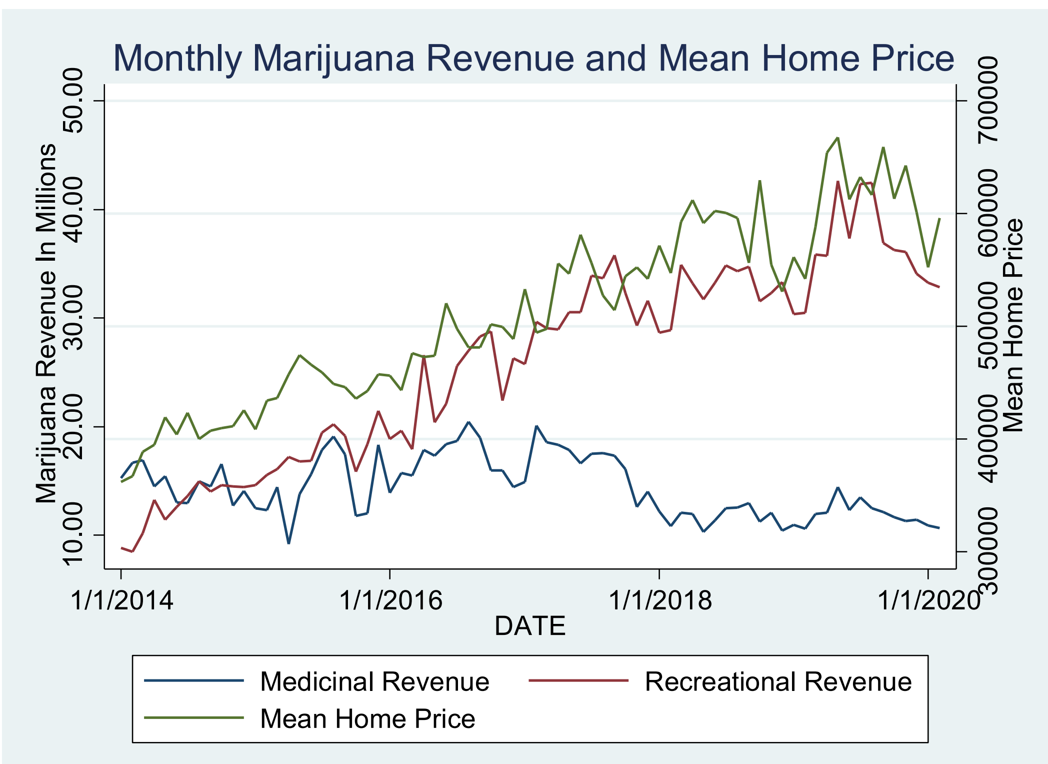

Figure 1: Monthly Marijuana Revenue and Mean Home Prices

Findings

Our research question was simple: is there an association between the trends in Figure 1? Is the amount of marijuana revenue generated associated with increasing home prices in Denver? Using well-established hedonic methods, we find the answer to be yes, at least for recreational marijuana. Specifically, we found that a 10% increase in recreational marijuana revenue today was associated with a 0.021% increase in Denver home values six months later. This finding implies that from January 1st, 2014, to February 29th, 2020, roughly 2% of the growth in the mean value of a single-family home was associated with the amount of recreational marijuana sold. The association of medicinal marijuana with home prices is statistically indistinguishable from zero.

One of the more plausible hypotheses for the observed association between recreational marijuana revenue and increasing home prices stems from the fact that while recreational marijuana sales are legal in 24 states, such transactions remain federally illegal. Hence, banks are federally prohibited from conducting business with state-legalized marijuana dispensaries. But marijuana retailers are primarily cash-only businesses, and cash on site incentivizes crime against dispensaries. Thus, the purchase of homes as a means of protecting excess cash may represent a possible mechanism by which the association between recreational marijuana revenue and home prices might be explained. Further, if homes were purchased with surplus marijuana revenue, the proceeds of any subsequent sale of such properties would then be legally bankable.

In fact, the research of Ignacio Navarro finds that as many as 1 in 5 Miami homes purchased and sold during the 1970's and 80's was associated with the presence of non-bankable cocaine money. The Miami example might also help explain why medicinal marijuana revenue does not appear to be associated with the growth in home values. For as Mr. Justice Council notes in his report from 2019, "there is no method of tracking consumers' purchases on the recreational side. In other words, there is no paper trail for recreational consumers. Medical consumers have a paper trail with their purchases since they must sign in with their medical card before shopping." Thus, recreational consumers' revenue would be much easier to funnel into home purchases. Furthermore, recreational marijuana is largely considered a substitute for medicinal marijuana, as it is easier to obtain than medicinal marijuana given the latter's logistical hurdles. As Figure 1 demonstrates, as the amount of recreational marijuana revenue increased, there is a decrease in the monthly total of medicinal marijuana revenue.

Our research accounted for all commonly addressed housing characteristics, such as living area, lot size, number of bathrooms, age of the home, and stories. Additionally, we controlled for more elusive features including depreciation, renovations, garage area, number of fireplaces, and the primary material of home construction. Finally, we accounted for neighborhood effects as well as socio-economic factors that previous research indicated to be germane to our work. Such socioeconomic factors included net migration, wages, and employment data. Additionally, we compared our hedonic models results against those of a hybrid hedonic and repeat-sales model first utilized by Brad Case and colleagues in 1991. Across the entirety of model specifications, we found the impacts of all housing characteristics on sale price to be consistent among model specifications and in keeping with expectations and existing literature.

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