

## Comments on Kilmer and Pacula (2017)

### Data on cannabis use now that legalization is gaining momentum

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*Collecting better cannabis data is useful but should allow for the possibility to study dynamics in cannabis use both along the extensive as well as the intensive margin.*

It is not easy to establish the effects of a change in cannabis policy. Although legalization of cannabis use for medical purposes occurred in the US almost 20 years ago, there is still an intense, and sometimes emotional, debate among researchers [1-4]. For example, one of the many unanswered questions is simple but non-trivial. Are cannabis and alcohol economic substitutes or complements? If legalization stimulates cannabis use and alcohol is a substitute product, then traffic fatalities caused by excessive alcohol use may go down. If the two products are complementary, cannabis use legalization may increase alcohol-induced traffic fatalities.

There are several explanations for the persistence of the debate on the effects of cannabis legalization, lack of suitable data being only one of them. The recent wave of legalizations of cannabis use, trade and supply in various countries, but predominantly in quite a few US states, provides an opportunity to collect better data and get a better understanding of the effects of different types of cannabis policy [5]. However, even if it is not possible to establish undisputed causal effects, collecting better data is still worthwhile as it may provide better understanding of the determinants of cannabis use.

The types of data collected require careful consideration. For example, prevalence data on its own is not very informative about the intensity of cannabis use, which is very high only for a small group of users, i.e. daily users. Moreover, cannabis use is very unevenly distributed across the population both in terms of prevalence and intensity of use. Figure 1 shows typical patterns in the age dynamics of cannabis initiation for a sample of Amsterdam residents and individuals living in Australia or the US [6]. The figure suggests that if uptake has not occurred before age 25, it is very unlikely to occur later on in life [7]. It is noteworthy that despite having very different legal regimes governing cannabis use, the three jurisdictions (Amsterdam, Australia and the US) exhibit very similar patterns in the dynamics of cannabis use. In Amsterdam and Australia, about 20 percent of cannabis users stop using within a year of starting and a majority stop using after a couple of years, but between 30 and 40 percent are still using cannabis even 20 years after they

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started. Based on these dynamics, three groups of individuals can be distinguished: abstainers, experimentalists and persistent users; some of whom are recreational users while others are addicts.

Not much is known about the relationship between these cannabis use dynamics and cannabis policy or cannabis prices [8]. Yet, it is very important to understand interactions between the two. Early initiation to cannabis use may lead to lower quit rates while the consequences for, among other outcomes, health and educational attainment are more severe [6]. To study the determinants of dynamics in cannabis use, panel data are ideally needed. Observing cannabis use within the same individuals over a period a time allows for the study of transitions in user status, quantities used, etcetera. Repeated cross-sections do not deliver the same insights as there is a lack of information on individual developmental paths [9]. Where panel data are unavailable, retrospective information can be collected as an alternative. How things are is interesting, but how things came to be is essential for understanding how policy changes affect cannabis use. Retrospective information could be the starting point for new panel data collection on cannabis use.

Other valuable data for understanding cannabis use dynamics includes information about the age of onset and, when it concerns past users, age of quitting. Repeated information about the intensity of cannabis use can also provide information on the developmental path. Thus, the key dynamics relate to the extensive margin of cannabis use (starting and quitting) as well as to the intensive margin of cannabis use, i.e. transitions from casual use via regular use to heavy use or vice versa. With the effects of policy changes on cannabis use dynamics in mind, surveys do not have to be representative of the whole population but can be focused on youngsters, i.e. individuals up to age 30, as it does not seem very likely that older individuals will be affected by these changes.

Kilmer and Pacula [5] provide an interesting contribution on the need for better data about cannabis consumption, the validity of self-reporting and market transactions. In combination with changes in cannabis policy, better data provides an opportunity to get a clear idea of the determinants of cannabis use and its dynamics. Nevertheless, it remains to be seen whether this will be sufficiently informative to allow for an indisputable assessment of the effects of the greening of the black cannabis market.

## References

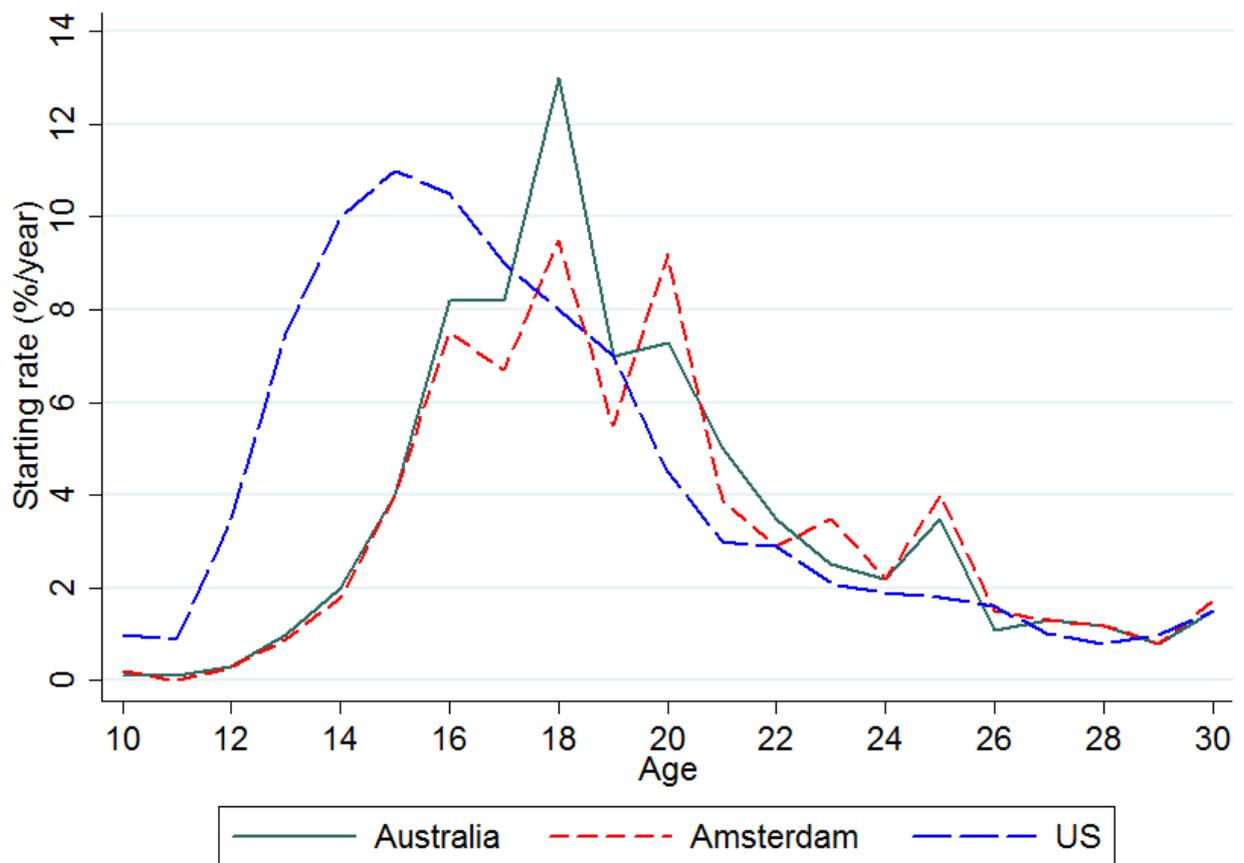
1. Pacula, R.L., Powell, D., Heaton, P., Sevigny, E. Assessing the effects of medical marijuana laws on marijuana and alcohol use: the devil is in the details, *Journal of Policy Analysis and Management* 2015; 34: 7–31.
2. Pacula, R.L., Sevigny, E.L Marijuana liberalization policies: why we can't learn much from policy still in motion, *Journal of Policy Analysis and Management* 2014; 33: 212–221.
3. Pacula, R.L., Sevigny, E.L Natural experiments in a complex and dynamic environment: the need for a measured assessment of the evidence, *Journal of Policy Analysis and Management* 2014; 33: 232–235.
4. Anderson, D.M., Rees, D.I. The role of dispensaries: the devil is in the details, *Journal of Policy Analysis and Management* 2014; 33: 235–240.
5. Kilmer, B., Pacula, R.L. Greening the black market: understanding and learning from the diversification of

cannabis supply laws, *Addiction* 2017; this issue.

6. Van Ours, J.C., Williams, J. Cannabis use and its effects on health, education and labor market success, *Journal of Economic Surveys* 2015; **29**: 993–1010.
7. Van Ours, J. C. Dynamics in the use of drugs. *Health Economics* 2005; **15**: 1283–1294.
8. Van Ours, J.C. The long and winding road to cannabis legalization, *Addiction* 2012; **107**: 872–873.
9. Pudney S. Drugs policy—what should we do about cannabis? *Economic Policy* 2010; **61**: 165–211.

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Figure 1 Dynamics in cannabis initiation



Source: [6]

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