Three Essays in Empirical Microeconomics

Dissertation Abstract

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Chapter 1: "Medical Marijuana Laws and Illegal Marijuana Use"

Seventeen states and the District of Columbia have passed laws that allow individuals to use marijuana for medical purposes. In this paper, I use marijuana possession arrests to estimate the impact of medical marijuana laws on marijuana usage among non-patients over the period 1988–2008. I find that these laws increase marijuana arrests among adult males by about 20 percent. The effect is strongest among young adults and decreases with age. Tests on racial composition and arrests for other drugs do not suggest changes in law enforcement. These results are further validated by findings from data on treatment referrals by medical professionals: marijuana treatment referrals increase by more than 10 percent after the passage of medical marijuana laws. In contrast to previous studies, my analysis also shows some evidence that these laws affect juveniles’ marijuana use.

Chapter 2: "Do Medical Marijuana Laws Increase Hard Drug Use?"

Medical marijuana laws generate significant policy debates regarding drug policy. In particular, if marijuana is a complement or a gateway drug to hard drugs as cocaine and heroin, these laws would increase not only marijuana use but hard drug use. In this paper, I empirically test the relationship between marijuana and cocaine and heroin using data on drug possession arrests and treatment admission. I find medical marijuana laws increase marijuana use by 10–20 percent. However, there is no evidence that cocaine or heroin use increase after the passage of medical marijuana laws. In fact, the estimates on cocaine and heroin are uniformly negative. From the arrest data, the estimates indicate a 10–20 percent decrease in possession arrests for cocaine and heroin combined. From the treatment data, the estimates show a 20 percent decrease in heroin treatments but no
significant effect in cocaine treatments. These results suggest that marijuana is likely to be a substitute to heroin.

Chapter 3: "The Legacy of Social Experiments for Empirical Microeconomics"

Advocated by multiple disciplines in social science, including psychology and economics, many social experiments such as the negative income tax experiments were conducted in the 1960s and 1970s. They were designed to scientifically evaluate policy questions, but a subsequent lack of government support made social experiments largely disappear for a time. On the other hand, in order to obtain more credible causal inference, empirical research in economics has again embraced the experimental methodology since the 1990s. Many terminologies and estimation methods developed in the 1960s from psychology have been reintroduced into empirical economics. In this paper, I provide a historical review of these social experiments and associated methodological debates. I investigate some potential reasons for the rise and fall of the method's popularity among economists. I also briefly discuss the methodological basis for why the experimental method has reemerged in empirical economics since the 1990s.