

The subject of this dissertation is social dilemmas. In a social dilemma situation, there is a clear incentive not to cooperate. However, if nobody cooperates, then everybody is worse off than if they had cooperated. The question we try to answer in this dissertation is what prevents non-cooperation. In the first three chapters of the dissertation, we ask why some farmers abstain from cultivating coca despite facing the possibility to do so. In the last chapter, we investigate to what extent motivation to cooperate is stable.

Chapter 1 examines the decision to cultivate coca at the individual level by developing an extended version of the portfolio model of crime that includes: (i) guilt from wrongdoing, (ii) reputation from being different from the group, and (iii) shame from disappointing authorities. In addition, we include the effect of not being able to make a living from the legal activity. Our model suggests that in addition to economic incentives, authorities can use non-economic instruments to discourage coca cultivation, e.g., campaigns to increase awareness of the negative effects of coca cultivation, increases in the participative mechanisms, and institutional transparency. Eradication is effective in reducing the probability to cultivate coca, but the amount of land cultivated increases when farmers lack options in the legal economy to survive.

The theoretical model is tested using a dataset on farmers in Putumayo, a region with a well-established tradition in coca cultivation. Three different methods were used to elicit information on coca cultivation at the individual level: in Chapter 1 we use revealed preferences, or self-reported information, on cultivation in 2003 and 2005, while the next two chapters focus on the evaluation of the effectiveness of eradication and alternative development to control coca cultivation. To measure farmer responsiveness to different policy levels, we use two different experimental approaches: (i) a choice experiment in Chapter 2, where participants are asked how many hectares they would cultivate with coca at different policy levels, and (ii) what Harrison and List (2004) refer to as a framed field experiment in Chapter 3. The experiment uses the structure of a public bad game to mimic land allocation decisions; farmers have some endowment that is equivalent to their productive capital and have to decide how to allocate it between coca and cattle farming. We consider three aspects of coca cultivation in our design: (i) coca is more profitable than cattle, (ii) coca is illegal and there is a risk that authorities will discover and destroy the crops, and (iii) coca generates negative effects to society. To evaluate the effect of the policy we use different relative profits of the alternative crop and various risks of eradication.

In all three chapters, we find that both economic and non-economic factors affect the decision to cultivate coca; farmers cultivate coca because they face different opportunities, risks and needs, but religious beliefs, acceptance to the authorities and social norms also explain coca cultivation. We find that increases in relative profit of the alternative crop and increases in the probability of eradication both reduce coca cultivation. Whether one method is more effective depends on the empirical approach used.

The regularity in our findings in the first three chapters is that own behavior depends on the behavior of others. This relation has been interpreted in the literature as conditional cooperation. Chapter 4 investigates the stability of cooperation preferences at different endowment levels. We find both that conditional cooperation and free-riding are the most common cooperation preferences and that they are stable at different endowment distributions. We find that relatively richer individuals contribute more in absolute terms, although poorer individuals contribute a larger proportion of their endowment.

We conclude that incentives, norms, and institutions affect cooperation.

**Key Words:** Portfolio Model of Crime, Norms of Behavior, Choice Experiment, Field Experiment  
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