Essays in the micro-level impact of civil war and illegal activities in developing countries

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Identifying the complex channels through which civil war affects household decisions is important in the design of policies that eliminate or mitigate the consequences of armed conflict on household welfare. This is particularly relevant in conflict-affected countries looking to establish a transitory justice towards a post-conflict. In this dissertation, I analyze the micro-level impact of civil war and illicit activities on household welfare, using the case of Colombia and Burundi. For doing this, I develop five chapters where I provide an empirical investigation on three dimensions: (i) the impact of armed conflict on agricultural production; (ii) the role of institutions on the “war of drugs”; and, (iii) the determinants and socio-economics consequences of household migration during and after being exposed to civil war.

The first part investigates the impact of armed conflict on the agricultural production, using the case of coffee growers in Colombia. After being many years out of conflict, coffee producer regions in Colombia were exposed to violence as a consequence of the intensification of conflict during nineties and the deteriorate of the world coffee market. In order to initially understand such relationship, in Chapter 1, co-authored with Ana María Ibañez and Philip Verwimp, we use unique census data sets from two different years (1997 and 2005) to estimate the relationship between coffee and violence. First, we explore how conflict generates disincentives to continue on agricultural production. Second, we examine the direct impact of conflict on agricultural production through different productive outcomes. We find a significant negative relationship between levels of violence and the decision to continue coffee production as well as the levels of productivity of the coffee production to coffee. Results are robust after controlling for sample selection bias and alternative specifications.

After establishing observational evidence from the census analysis on the presumably negative impact of armed conflict on the agricultural production, I make a step further to establish a causal link in Chapter 2. I take advantage of a natural experiment in the levels of violence due to the unexpected rupture of the peace dialogues between Colombian Government and guerillas groups in 2002. Using data provided by National Federation of Coffee Growers of Colombia, I estimate the Intention to Treat (ITT) effect using a difference-in-difference specification. Results suggest that an exogenous increase of the levels of violence induced a reduction of hectares allocated to coffee, on average, -0.06 hectares (ha). Moreover, an average farm, which is 2 ha of coffee, an exogenous increase of the levels of violence induced a reduction of the sowing new coffee until 3.5%. This paper contributes to the literature on the microeconomics costs of conflict in Agricultural Production, providing further information about mechanisms (labor market).
In long civil conflicts, rebel groups may eventually be evolved in production of illicit crops to finance their activities, boosting the intensity and prevalence of armed confrontations. Despite the different multi-lateral drug policies, the production continues increasing. In the second part of the dissertation I study this fact using the case of coca crops in Colombia. In Chapter 3, co-authored with Santiago Tobon and Jesse D’Anjou, we analyze the role of formalization of land property rights in the war against illicit crops in Colombia. We exploit an exogenous variation in the level of formalization of land property rights, as result of the application of a national land-titling program during 1994-2000. We argue that, as a consequence of the increase of state presence and visibility during the period of 2000-2009, municipalities with a higher level of formalization of their land property rights saw a greater reduction in the area allocated to illicit crops. We found a significant negative relationship between the level of formalization of land property rights and the number of hectares allocated to coca crops per municipality. We hypothesize that this is due to the increased cost of growing illicit crops on formal land compared to informal, and due to the possibility of obtaining more benefits in the newly installed institutional environment when land is formalized. Empirical results validate these two mechanisms.

The third and last part of this dissertation, studies the nutritional status of formerly displaced households after return and the determinants of household structure during civil war in Burundi. In chapter 4, co-authored with Philip Verwimp, we investigate the food security and nutritional status of formerly displaced households. Using the 2006 Core Welfare Indicator Survey for Burundi we compare their food intake and their level of expenses with that of their non-displaced neighbors. We test whether it is the duration of displacement that matters for current food security and nutritional status or the time lapsed since returning. We use log-linear as well as propensity score matching and an IV-approach to control for self-selection bias. We find that the individuals and households who returned home just before the time of the survey are worse off compared to those who returned several years earlier. On average, the formerly displaced have 5% lower food expenses and 6% lower calorie intake. Moreover, we found evidence in favor of duration of displacement as the main mechanisms through which displacement affect household welfare Results are robust after controlling by self-selection bias. Despite international, government and NGO assistance, the welfare of recent returnees is lagging seriously behind in comparison with the local non-displaced populations.

The final chapter, co-authored with Richard Akresh and Philip Verwimp, analyzes whether civil war modifies household structure by boosting individual migration. The identification strategy uses a unique two waves longitudinal data set from Burundí, for 1997 and 2008. This data set was collected during ongoing conflict and allows tracking individual migration decision over ten years. Besides the traditional conflict exposure measures at village level, our data gathered yearly information on household victimization. Results show that higher exposure to violence increases the probability to individual non-marital migration. These effects are concentrated on poor households and those household members that are adults or men. Our results are consistent with aggregated measure of conflict
exposure, as well as household level victimization measures. Furthermore, we found that whereas marital migration in adult un-married women is unrelated with exposure to violence at village level, it does with household victimization approaches. In particular, we found that being victim of any assets related losses is related to an increase of marital migration for middle age unmarried women. It could imply the use of marriage market as strategy to face liquidity constraints. Results are robust to including province–specific time trends, alternative conflict exposure measures, and different levels of aggregation.