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Title: Civil armed conflicts: the impact of the interaction between climate change and agricultural potential



The last decade has seen the most violent years in terms of conflicts and battle-related deaths since the cold war as well as three years with the highest annual temperatures ever recorded in human history. Is this just a mere correlation?

A growing body of literature documents the effect of climate change on violence. There are many potential mechanisms which might explain how temperature shocks instigate and perpetuate conflict, e.g., changes in the bioneuronal transmission of serotonin at the individual level, income shocks exacerbating issues related to food prices, state capacity, and forced migration at the macro level. One strand of literature argues that climate shocks exacerbate the competition over resources in environments with a poor endowment in natural resources.

The goal of this paper is to examine the impact of rising world temperatures on the incidence of civil armed conflicts, focusing on this specific link: the initial agricultural potential of a country. Using a panel approach with fixed effects and data for 172 countries from 1946 to 2014, our identification strategy is similar to a natural experiment where the exogenous interaction between the variation in temperature within a country and the cross-country variation in agricultural potential allows identifying the effect of this interaction on conflict incidence.

We find that, in a country with low (high) agricultural potential, a deviation from the mean of one degree Celsius in annual temperature is associated with a 3% increase (5% decrease) in conflict incidence. We also find that the long-term effects (using decadal temperature) point to an intensification of the impact of the interaction on conflicts.

To the best of our knowledge, there are no studies examining the impact of this interaction with a large panel of countries over a long period. More particularly, our empirical strategy allows identifying a clear mechanism linking climate change to conflict incidence. Given the likely rise in temperatures over the next decades, our understanding of this relationship is crucial to develop a global damage function of climate change and assess the costs of various scenarios from laissez-faire to mitigation and/or adaptation.