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### ACCEPTED MANUSCRIPT

### COOPERATION DYNAMICS IN REPEATED GAMES OF ADVERSE SELECTION\*

#### JUAN F. ESCOBAR<sup>†</sup> AND GASTÓN LLANES<sup>‡</sup>

ABSTRACT. We study cooperation dynamics in repeated games with Markovian private information. After any history, signaling reveals information that helps players coordinate their future actions, but also makes the problem of coordinating current actions harder. In equilibrium, players may play aggressive or uncooperative actions that signal private information and partners tolerate a certain number of such actions. We discuss several applications of our results: We explain the cycles of cooperation and conflict observed in trench warfare during World War I, show that price leadership and unilateral price cuts can be part of an optimal signaling equilibrium in a repeated Bertrand game with incomplete information, and show that communication between cartel members may be socially efficient in a repeated Cournot game. Finally, we show that the welfare losses disappear as the persistence of the process of types increases and the interest rate goes to zero.

KEYWORDS. Repeated games, private information, signaling, coordination, collusion, communication

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