

**Bayesian Learning in Repeated Games Leads To
Correlated Equilibria**

Yaw Nyarko

ABSTRACT.

Consider an infinitely repeated game where each player is characterized by a "type" which may be unknown to the other players of the game. Impose only two conditions on the behavior of the players. First, impose the Savage (1954) axioms; i.e., each player has some beliefs about the evolution of the game and maximizes its expected discounted payoffs given those beliefs. Second, suppose that any event which has probability zero under one player's beliefs also has probability zero under the other player's beliefs. We show that under these two conditions limit points of beliefs and of the empirical distributions (i.e., sample path averages or histograms) are correlated equilibria of the "true" game (i.e., the game characterized by the true vector of types).

Mailing Address:
New York University
269 Mercer St. Rm 723
New York, NY 10003.