Iterated Elimination of Strictly Dominated Actions

Definition

The set $X \subset A$ of outcomes of a finite strategic game $\{N, (A_i), (u_i)\}$ survives iterated elimination of strictly dominated strategies if $X = \times_{j \in N} X_j$ and there is a collection $((X_j^t)_{j \in N})_{t=0}^T$ of sets that satisfies the following conditions for each $j \in N$.

- $X_j^0 = A_j$ and $X_j^T = X_j$.
- $X_j^{t+1} \subset X_j^t$ for each $t = 0, \ldots, T-1$.
- For each $t = 0, \ldots, T-1$ every action of player j in $X_j^t \backslash X_j^{t+1}$ is strictly dominated in the game $\{N, (X_i^t), (u_i^t)\}$ where u_i^t for each $i \in N$ is the function u_i restricted to $\times_{j \in N} X_j^t$.
- No action in X_j^T is strictly dominated in the game $\{N, (X_i^T), (u_i^T)\}$.