Consider the following two-player dynamic game: Periods are $-T, -(T-1), \ldots, 2, 1, 0$. At each odd period, player 1 can revise her action with (independent) probability p. At each even period, player 2 can revise his action with (independent) probability p. The stage game is

	A_2	B_2
A_1	$1, 1$	$-x, 0$
B_1	$0, -x$	$0, 0$

where $x > 0$.

Before time $-T$, one of the four action profiles is exogenously chosen, where each action profile is assigned probability $1/4$. Then, period $-T$ (at which only one player can revise) starts.

Let $E(T, p)$ be the set of subgame-perfect equilibria of this dynamic game. Let $\pi_i(\sigma)$ be player i's average per-period payoff of the dynamic game under strategy profile σ.

1. Solve for $\min_{i \in \{1,2\}} \liminf_{T \to \infty} \left(\inf_{\sigma \in E(T,1)} \pi_i(\sigma)\right)$.
2. Characterize the set $E(T, 1)$. You can ignore non-generic cases if you wish.
3. For each p, solve for $\min_{i \in \{1,2\}} \liminf_{T \to \infty} \left(\inf_{\sigma \in E(T,p)} \pi_i(\sigma)\right)$.
4. Characterize the set $E(T, p)$. You can ignore non-generic cases if you wish.