Sample means in a typical set
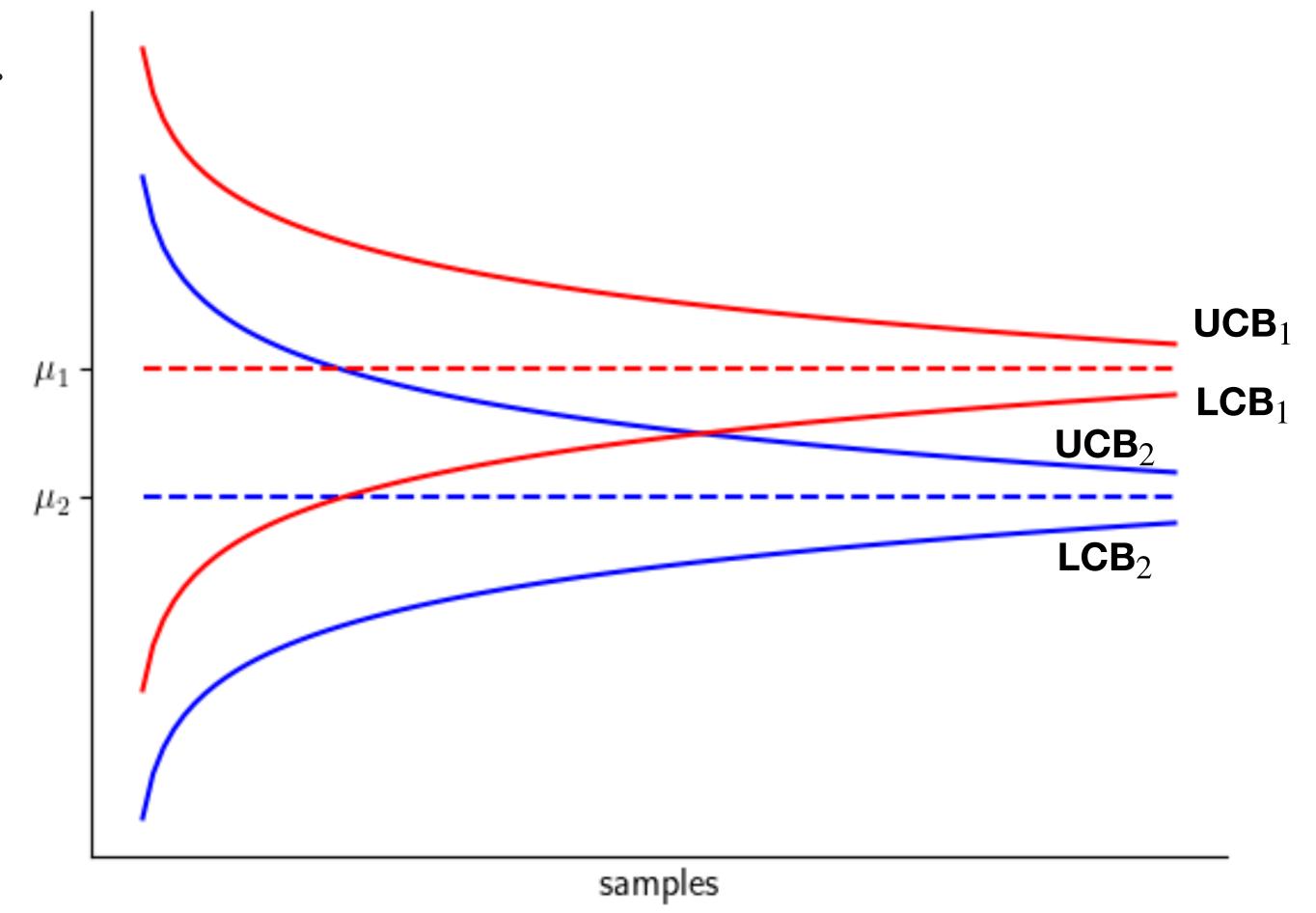
- From now on, we restrict ourselves to the good event where the actual mean is contained in the interval $\left[\text{LCB}_a(t), \text{UCB}_a(t)\right]$

- **An interesting observation:** The interval $\left[\text{LCB}_a(t), \text{UCB}_a(t)\right]$ shrinks as we collect more samples from arm a.

Successive rejection (SR) algorithms

- Maintain a set of active arm A

- Pull arms from A following round robin rule

- Let $\text{LCB}_{\max}(t)$ be **the maximum LCB of the arms at iteration** t

- Remove an arm from the active set A if it has $\text{UCB}_a(t) \leq \text{LCB}_{\max}(t)$