Scenario: Bargaining Over the Peanut Peninsula

States A and B bargain over a peninsula with four assets. A partition that runs through an asset distributes its val

- **Assets:** Mineral-rich mountains, Touristic site, Agricultural area, Strategic island.
- **Valuation:**
  ◦ First 3 assets are valued equally by both.
  ◦ Strategic island: 50 utility for A, 0 for B.
- **Known Payoffs (A, B):**
  ◦ **Status Quo (sq):** (80, 30)
  ◦ **Deal x:** (50, 0)

Questions 1-4: Baseline Scenario Analysis

1. **Complete the payoff table:**

Outcome	State
War	70
Status Quo (sq)	80
Deal x	50
Deal y	(Requ
Deal z	(Requ

2. **Can any state credibly challenge the status quo?**
   A state can credibly challenge if its war payoff is better than the status quo payoff.
   A: War (70) < SQ (80). B: War (10) < SQ (30).
   Answer: No, neither state can credibly challenge the SQ.

3. **Is the status quo Pareto optimal?**
   An outcome is Pareto optimal if no other outcome makes at least one player better off without making any pla

4. **What is the expected outcome of this bargaining scenario?**
   The status quo (80, 30), as it is preferred to war by both parties and no credible challenge exists.

Question 6 & 7: Asymmetric & Long-Run Expectations

6. Asymmetric Expectations (A thinks C will help, B thinks C won't)

1. **Deals acceptable to A:** Any deal > A's expected war payoff (A+C vs B) of 135.
2. **Deals acceptable to B:** Any deal > B's expected war payoff (A vs B) of 10.
3. **Expected Outcome:** Mutual optimism. A demands > 135. B will only offer deals better than its SQ of 30, an

7. Declining State A (Long-Run)

- **Future War Outcome (incl. costs):** (70, 150)
- This future outcome becomes the reversion point for *today's* bargaining.

1. **A's long-run payoff if no war today:** 70 (from the future war).
2. **A's long-run payoff if war today:** 70 (from the current war).
3. **Expected Outcome:** State A is indifferent between war now and war later (gets 70 either way). State B, how future power shift. A may initiate a preventative war today. The expected outcome is **War Today (70, 10)**.

POLI 244: Game Theory Exercises