WHY IS THERE WAR?
Existing Explanations for War

1. **Anarchy** – War occurs because no one can stop it.

2. **Preventative War** – Declining powers attack rising powers to prevent future attack.

3. **Positive Expected Utility** – War is a better option than any bargain.

*Fearon says these do not explain failure to bargain.*
Existing Explanations for War

4. Rational miscalculation due to lack of information.
5. Disagreement about relative power.

*Fearon says these explanations are incomplete.
The Puzzle

• Given that there always exists a bargain which represents a better option than war, why do states go to war?

• How do we know a better deal exists?
Utility Theory

• In some cases, we know with certainty the utility we receive from our possible actions.
  – If I run a mile in 8 minutes I burn 152 calories.
  – If I run a mile in 6 minutes I burn 150 calories.
Expected Utilities

• In some cases we do not know with certainty the utility we derive from our possible actions.

  – If I run bet 10 dollars that it rains tomorrow and there is a 40% chance of rain...I get 10 dollars with a probability of .4 and lose 10 dollars with a probability of .6.
Expected Utilities

• Was my rain bet a good one?

  – $EU(Bet) = p(\text{rain}) \cdot U(\text{Bet}|\text{rain}) + p(\sim\text{rain}) \cdot U(\text{Bet}|\sim\text{rain})$
  – $EU(Bet) = .4 \cdot 10 + .6 \cdot -10$
  – $EU(Bet) = -2$

  – *I made a foolish bet.*
Expected Utility of War

• According to Fearon (1995) the expected utility of war can be represented by the following equation.

\[ \text{EU}_1(\text{War}) = p \cdot U_1(1) + (1-p) \cdot U_1(0) - c_1 \]

• \[ \text{EU}_1(\text{War}) = p - c_1 \]

• \textit{It follows that}…

• \[ \text{EU}_2(\text{War}) = 1 - p - c_2 \]

• Where \( p \) is the probability state 1 wins, \( c_1 \) is the cost of war for state 1, \( c_2 \) is the cost of war for state 2, \( U_1(1) = 1 \), \( U_1(0) = 0 \), \( U_2(1) = 0 \), \( U_2(0) = 1 \)
Bargaining Model

State A's Value of War  Bargaining Range  State B's Value of War

State A's Value for Bargain x

State B's Value for Bargain x

P - CA  Possible Bargain (x)  Probability State A Wins (P)  P + CB

State B's Ideal Point  State A's Ideal Point
Informational Causes of War

1. Mututal Optimism – States are Irrational.
2. Complex world – leaders lack information about the other side.
3. Private information leads leaders to different expectations about the $p_r(victory)$.

*Fearon says these are poor explanations.
Modeling War

• Two states: State A and State B.
• States A and B are fighting over an issue that is represented by interval $M = [0,1]$.
• In the first stage state A offers bargain “x” to state B. In second stage, state B decides to attack bargain or go to war.

- $U_A(x) = x$ and $U_B(x) = 1 - x$
Nash Equilibrium

- The Nash Equilibrium to the previous game is for State A to offer \( x = 1 - P - CB \), since this will make State B indifferent between War and Accepting the Bargain and it represents State A’s best outcome.
Rationalist Causes of War

1) Incomplete Information with Incentive to Misrepresent – State’s unable to effectively communicate their strength (e.g. have private information about their capabilities/resolve) may prefer war to any possible bargain.

*Note that both pr(victory) and costs can be misrepresented.
Rationalist Causes of War

State B's Belief about Bargaining Range

State A's Belief about Bargaining Range

State B's Ideal Point

State A's Ideal Point
Costly Signals

1. **Costly Signal** – A message that one state sends to another about itself that is not free. Designed to inform other state about its type (strong or weak).

1. Building weapons.
2. Mobilizing troops.
5. Create domestic-political costs.
2. **Commitment Problems** – Agreements today may not be enforceable tomorrow. In other words, “[t]he strategic dilemma is that without some third party capable of guaranteeing agreements, state A may not be able to commit itself to future foreign policy behavior that makes B prefer not to attack at some point (Fearon 1995, 405).”
Rationalist Causes of War

Bargaining Range of the Future

Bargaining Range Now

State B's Ideal Point

State A's Ideal Point
3. Issue Indivisibilities – If the issue cannot be divided there can be no compromise.