Uncertainty

J2P216 SE: International Cooperation and Conflict
April 28/May 6, 2016

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Outline

Class Presentation

Vanessa to present on Levy (1983), "Misperception and the Causes of War: Theoretical Linkages and Analytical Problems"

Levy (1983): "Misperception and the Causes of War"
Research Questions

- What kinds of misperceptions are most likely to lead to war?
- What are the linkages from misperceptions to war?

Levy (1983): "Misperception and the Causes of War"

Forms of Misperceptions

- For the concept of misperception to be useful, it must differentiate between misperceptions themselves and the sources of misperception
- The concept of misperception is meaningful only if there exists in principle a correct perception
- Therefore, forms of misperception must be defined in such a way that they can be differentiated (at least in principle) from correct perceptions

Levy (1983): "Misperception and the Causes of War"

Forms of Misperceptions

Levy identifies the following primary forms of misperceptions

1. Misperception of the adversary's capabilities
2. Misperception of the adversary's intentions
3. Misperception of third-state capabilities
4. Misperception of third-state intentions

Levy (1983): "Misperception and the Causes of War"
The Linkages From Misperceptions To War

1. Misperceptions of the adversary's capabilities
   - There are tangible and intangible dimensions of military power and military potential
   - Intangible dimensions are particularly subject to misperceptions
   - Examples of intangible dimensions are morale, leadership, the quality of military intelligence, the nature of the adversary's military doctrine, and the adversary's will and ability to divert resources to the military sector

1. Misperceptions of the adversary's capabilities
   - It is rare that a state initiates a war it does not expect to win
   - If a state loses a war it initiated, it can generally be concluded that **military overconfidence** played an important part in the decision to go to war
   - In addition, a state's decision-makers usually expect not only victory, but also a short war involving minimum costs
   - False expectations of a short war can be considered a cause of war if the winner's expected gains turn out to be less than the real costs of war had the latter been accurately perceived

1. Misperceptions of the adversary's capabilities
   - The assertion that the defeat of the war initiator implies that military overconfidence was a cause of the war holds true if the initiator expected to win
   - However, this is not always the case; decision-makers may expect gains even from losing war if the political benefits exceed the military costs, or they may believe that there are no alternatives (or only too costly alternatives) to war

Levy (1983): "Misperception and the Causes of War"
The Linkages From Misperceptions To War

1. Misperceptions of the adversary's capabilities
   - **Military underconfidence** may also lead to war, but through different linkages
   - First, exaggeration of the adversary's military capabilities can lead to an arms race and a conflict spiral, which can then escalate into war
   - Second, perceptions of the adversary's strength create incentives to compromise; this may be destabilizing because the compromising state appears as weak, leading to further demands by the adversary and an escalation of the crisis

2. Misperceptions of the adversary's intentions
   - **Overestimation of the adversary's hostility** is the most common form of misperception
   - It derives from worst-case analysis, the tendency to define intentions in terms of capabilities, diabolic images of the adversary, and psychological constraints on information processing

2. Misperceptions of the adversary's intentions
   - First, in the extreme, overestimation of the adversary's hostility can lead to a belief that war is inevitable, which may trigger a preemptive strike or result in a preventive war
   - Second, the response to perceived hostility frequently is to increase military capabilities in order to deter aggression; such actions may initiate a conflict spiral that escalates toward war

2. Misperceptions of the adversary's intentions
   - **Underestimation of the adversary's hostility** can also lead to war, but by different paths
   - Here it is useful to distinguish between general hostility and resolve
   - Underestimation of the adversary's resolve may generate a refusal to compromise, an increase in one's commitment, or the initiation of new coercive moves; these processes, in turn, can then lead to a conflict spiral that results in war

2. Misperceptions of the adversary's intentions
   - Underestimation of the adversary's hostility can lead to a failure of building up military capabilities and taking other steps to deter an impending war
   - Furthermore, by failing to anticipate the strength of the adversary's response, a state may unintentionally initiate an escalation of the crisis or even provoke the adversary to undertake a preemptive action

3. Misperceptions of third-state capabilities
   - There is a tendency to **underestimate the capabilities of potential adversaries**, resulting in military overconfidence and an increased likelihood of war
   - Moreover, there is a tendency for underestimates of third states' capabilities to reduce estimates of the likelihood that they will intervene in a conflict

4. Misperceptions of third-state intentions
   - **Underestimation of the probability of other states intervening** on the side of one's adversary contributes to military overconfidence, which in turn may lead to war
   - The impact of these misperceptions is particularly great for small states in their calculation of the behavior of outside powers, since the capabilities of the latter are large compared to the dyadic power differentials between the primary adversaries

4. Misperceptions of third-state intentions
   - Another factor contributing to a false sense of military confidence and war by miscalculation is the tendency to exaggerate the likelihood that potential friends will provide support in an impending war
   - There is a tendency to believe that one's ally perceives the threat in the same way as one does oneself and has a comparably low estimation of the costs and risks of intervention

Class Presentation

Maxime and Carola to present on Fearon (1995), "Rationalist Explanations for War"

Fearon (1995): "Rationalist Explanations for War"

Puzzle

- War is inefficient *ex post*: as long as all conflict parties suffered some costs of fighting, they would have been better off if they could have achieved the same final resolution without suffering the costs
- Therefore, the question is what prevents states in a dispute from reaching an *ex ante* agreement that avoids the costs they know will be paid *ex post* if they go to war

- The argument in the literature:
  - In international relations, there is no central authority that can credibly threaten reprisal for the use of force to settle disputes
  - Without such a credible threat, war will sometimes appear the best option for states that have conflicting interests
- However, the argument does not explain why force is used, if doing so involves costs for all conflict parties

- The argument in the literature:
  - If a declining power expects it might be attacked by a rising power in the future, then a preventive war in the present may be rational
- However, the rising power does not want to be attacked while it is relatively weak, so it has an incentive to offer concessions that make the declining power prefer not to attack

- The argument in the literature:
  - War occurs when two states each estimate that the expected utility of war is greater than the expected utility of remaining at peace
- However, the argument does not address the question of how and under what conditions both states prefer the costly lottery of war to any negotiated settlement

Suppose

- Two states, A and B
- States have preferences over a set of outcomes, $X = [0, 1]$
- State A prefers outcomes closer to 1 and state B prefers outcomes closer to 0
- States' utility functions, $u_A(x)$ and $u_B(1 - x)$, are continuous, increasing, and weakly concave
- W.l.o.g., assume that $u_i(1) = 1$ and $u_i(0) = 0$ for $i = A, B$

- If states fight a war, state A wins with probability $p \in [0, 1]$
- Winner can choose its favorite outcome $x \in X$
- State A's expected utility for war is

$$\begin{aligned} E[u_A(\cdot)|\text{War}] &= pu_A(1) + (1-p)u_A(0) - c_A \\ &= p - c_A \end{aligned}$$

and state B's expected utility for war is

$$\begin{aligned} E[u_B(\cdot)|\text{War}] &= pu_B(0) + (1-p)u_B(1) - c_B \\ &= 1 - p - c_B \end{aligned}$$

where $c_A, c_B > 0$ are the (relative) costs of fighting

- There exists a subset $Y \subset X$, such that for each $y \in Y$ it is

$$u_A(y) > p - c_A$$
$$u_B(1-y) > 1 - p - c_B$$

- For example, in the risk-neutral case where $u_A(x) = x$ and $u_B(1-x) = 1-x$, both states prefer any peaceful agreement in the interval $(p - c_A, p + c_B)$ to fighting (see Figure 1)
- Interval $(p - c_A, p + c_B)$ is called the "bargaining range"
- The existence of this *ex ante* bargaining range derives from the fact that war is inefficient *ex post*

Fearon (1995): "Rationalist Explanations for War"

When Will There Exist Bargains Both Sides Prefer to War?

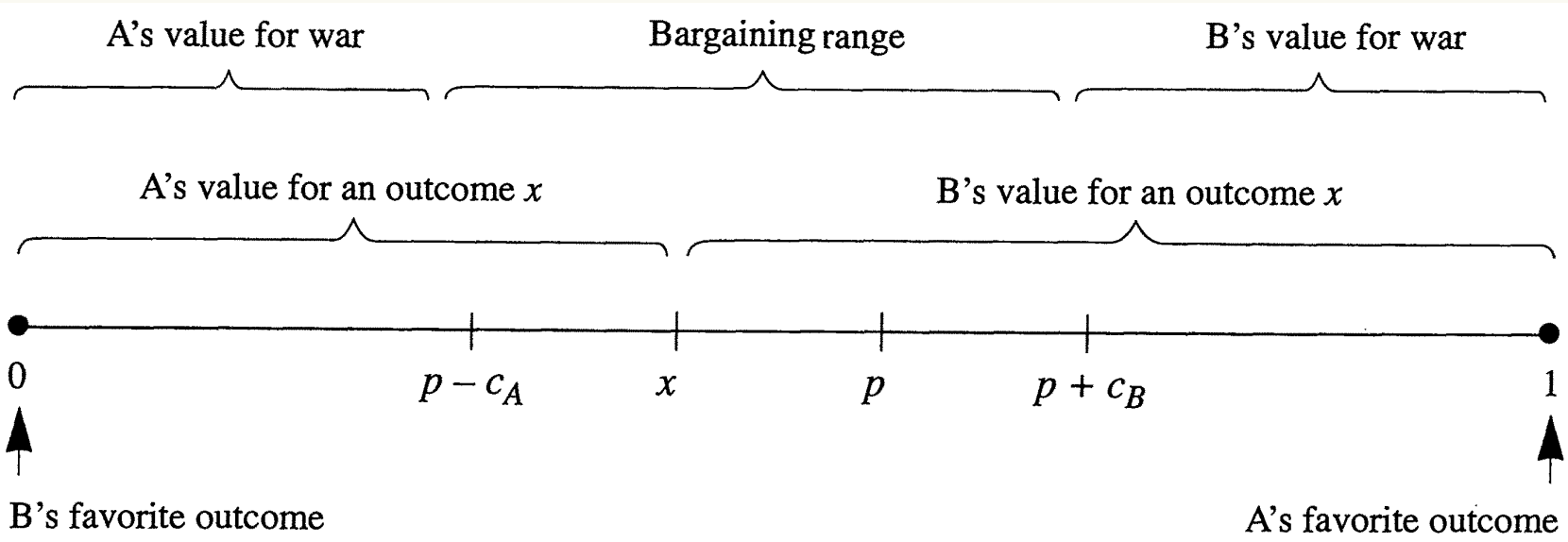

FIGURE 1. *The bargaining range*

Example

- Two states, A and B, are bargaining over the division of $\$100$
- If they can agree on a division, each state can keep the agreed upon amount
- Each player can choose war as an outside option
- If they go to war, it is $p = 0.5$ and $c_A = c_B = \$20$

Example

- Two states, A and B, are bargaining over the division of $\$100$
- If they can agree on a division, each state can keep the agreed upon amount
- Each player can choose war as an outside option
- If they go to war, it is $p = 0.5$ and $c_A = c_B = \$20$
- The expected utilities for war are

$$E[u_A(\cdot)|\text{War}] = 0.5 * \$100 + 0.5 * \$0 - \$20 = \$30$$
$$E[u_B(\cdot)|\text{War}] = 0.5 * \$0 + 0.5 * \$100 - \$20 = \$30$$

- If the players are risk-neutral, then each is willing to accept a bargain that gives him more than $\$30$
- Therefore, the bargaining range is given by $(\$30, \$70)$

The above result depends on three assumptions

- The states know that there is some true probability p that one state would win in a war
- The states are risk-averse or risk-neutral over the outcomes
- The issue in dispute is perfectly divisible, so that there are always feasible bargains $(p - c_A, p + c_B)$

Given the existence of an *ex ante* bargaining range, why might states fail either to locate or to agree on an outcome in this range?

- Disagreement about the probability of who will win a war can eliminate the *ex ante* bargaining range
- If in the above example each state expects that it would surely win a war, then the expected utility for war is

- Disagreement about the probability of who will win a war can eliminate the *ex ante* bargaining range
- If in the above example each state expects that it would surely win a war, then the expected utility for war is $1 * \$100 + 0 * \$0 - \$20 = \$80$ for each state; so each player only accepts bargains that give him more than $\$80$, which implies that no bargain is mutually preferred to war
- Why might state leaders disagree over who will win a war?

Fearon (1995): "Rationalist Explanations for War"

War Due to Private Information and Incentives to Misrepresent

- Private information among state leaders (e.g., about military capabilities, strategy, etc.) might lead to different beliefs about who will win a war
- If state leaders have private information, then both sides would gain by sharing this information (doing so would reveal the bargains that both states prefer to fighting a war)
- So the question becomes what prevents states from sharing private information about militarily relevant factors

- War can also result from private information about a state's willingness to fight
- For example, suppose
  - State A can choose an outcome $x \in X$ that may change the status quo $q \in X$
  - After observing state A's choice x, state B can choose whether to go to war or to acquiesce
  - If there is no private information, state A's optimal choice is $x = p + c_B$
  - On the other hand, if state B has private information about its capabilities (i.e., p) or its relative cost of fighting (i.e., c_B), then state A may not know whether a particular choice x will lead to war or peace
  - Trade-off: the larger x, the better off A will be if B acquiesces, but the greater the risk that B will fight

- As in the case of disagreements over relative power, state leaders have an incentive to share any private information about their willingness to fight (as sharing such information would reveal the outcomes in the bargaining range)
- So, again, the question becomes again what prevents states from sharing private information

Fearon (1995): "Rationalist Explanations for War"

War Due to Private Information and Incentives to Misrepresent

- While states have an incentive to locate an outcome in the bargaining range (thus avoiding the costs of war), they also wish to obtain a good deal in bargaining
- This latter desire can give them an incentive to misrepresent their true willingness or capability to fight, if doing so (i) increases the probability of reaching a good bargain, (ii) decreases the probability of future challenges, or (iii) leads to a military advantage

Fearon (1995): "Rationalist Explanations for War"

War As a Consequence of Commitment Problems

- Even if states share the same assessment of the bargaining range, they might be unable to settle on a bargain
- This may happen when they cannot trust each other to uphold the bargain
- Such a commitment problem arises if attacking leads to a higher probability of winning a war than defending ("offensive advantage")

Suppose

- p_f is the probability that state A wins a war if A attacks, p_s is the probability that A wins if A defends, and p is the probability of winning if both states attack at the same time
- An offensive advantage exists when $p_f > p > p_s$
- x is a peaceful solution if no state has an incentive to defect unilaterally by attacking; in the risk-neutral case, this means that $x > p_f - c_A$ and $1 - x > 1 - p_s - c_B$
- Therefore, the bargaining range is given by $(p_f - c_A, p_s + c_B)$

- If p_f increases above p, and p_s decreases below it, the interval $(p_f - c_A, p_s + c_B)$ shrinks and may even disappear
- Consequently, an offensive advantage narrows the de facto bargaining range, while a defensive advantage increases it

- In the extreme case, if $p_f - c_A > p_s + c_B$, no self-enforcing peaceful outcomes exist
- As in a Prisoners' dilemma, there are bargains that both sides would prefer to war, but anarchy and a large enough offensive advantage make them unenforceable

Fearon (1995): "Rationalist Explanations for War"

War As a Consequence of Commitment Problems

- Finally, commitment problems may lead to preventive war
- Preventive war arguments are dynamic: they rely on state leaders who think about what may happen in the future

Suppose

- In each period $t = 1, 2, \ldots$, state A can choose an outcome $x_t \in X$ that may change the status quo
- After observing state A's choice x_t, state B can choose whether to go to war or to acquiesce
- In period t, the probability that state A wins a war is p_t
- The winner of a war can implement its favorite resolution for all subsequent periods
- The states discount future payoffs by a per-period factor $\delta \in (0, 1)$

- If the states go to war in period t, the expected payoffs from period t on are $(p_t/(1-\delta)) - c_A$ for state A and $((1-p_t)/(1-\delta)) - c_B$ for state B
- Now assume that state A's probability of winning begins at p_1 and then increases to $p_2 > p_1$ in the next period, where it will remain for all subsequent periods
- Under anarchy, state A cannot commit itself not to exploit the greater bargaining leverage it will have starting in the second period

- State A will demand $x_t = p_2 + c_B(1-\delta)$ in the second period and in all subsequent periods
- In the first period, state B is choosing between going to war and acquiescing to demand x_1, which would yield a total payoff of $1 - x_1 + \delta(1-x_2)/(1-\delta)$
- Therefore, the largest possible payoff that state B can get for acquiescing in the first period is $1 + \delta(1-x_2)/(1-\delta)$
- However, this payoff is less than B's payoff of attacking in the first period if $\delta p_2 - p_1 > c_B(1-\delta)^2$

- Therefore, if state B's decline in military power is too large relative to its costs of war, then state A's inability to commit to restrain its foreign policy demands after it gains power makes preventive attack rational for B