

Why Bargaining Breaks Down

POSC 1020 – Introduction to International Relations

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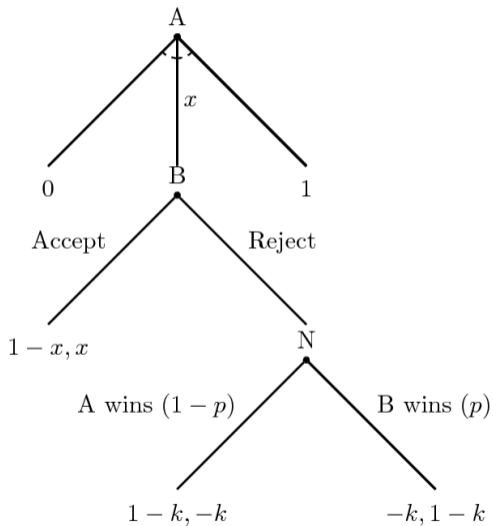
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Puzzle(s) for Today

War never happens in a world of complete and perfect information, and yet it does. Why?

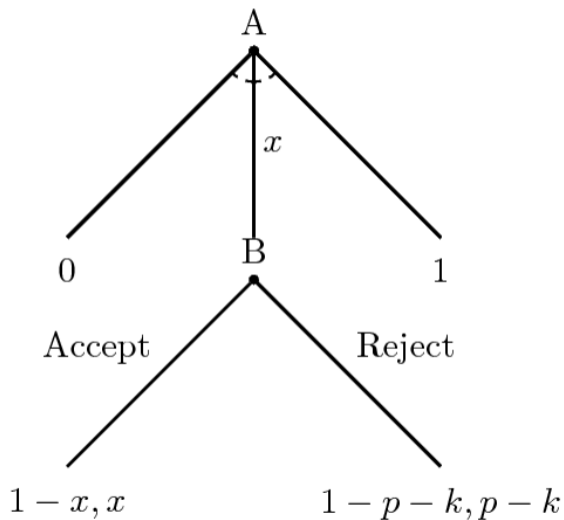
How Do We Start to Solve This Game?



Expected Utilities for War

- $EU(A|Reject) = 1 - p - k$
- $EU(B|Reject) = p - k$

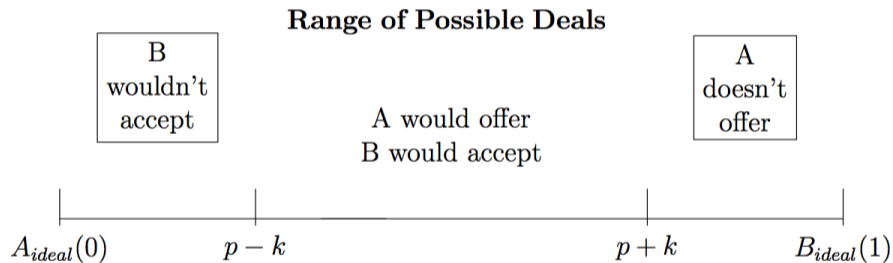
What's the Next Step in our Backward Induction?



Now How Do We Proceed from Here?

- When does B accept A's offer?
- What does A offer to B?
- Would A ultimately make that offer to B?

The Bargaining Space



Bargaining Failure

When bargaining fails, war follows.

- Thus, we can understand system insecurity as the failure to peacefully bargain differences.

Generally, there are three reasons for bargaining failure.

1. Issue indivisibility
2. Asymmetric (incomplete) information
3. Commitment problems

Issue Indivisibility

We like to believe the good at stake could be meaningfully divided.

- e.g. U.S.-Iranian strategic interaction over uranium enrichment.
- Many goods in international relations are divisible.

There are some **indivisible goods** that cannot be meaningfully divided.

- One side will have all the good, other will have none of it.

Issue Indivisibility

Territory is a common source of issue indivisibility.

- Territory should be divisible.
 - Land is tangible, over which a line could be drawn on a map.
- However, territory is the most war-prone issue in the international system.

Scholars have since learned over time that territory is an indivisible good.

- It benefits only the side that occupies and controls it.

An Incomplete List of “Indivisible” Territorial Disputes

- Israel-Palestine
- Preah Vihear Temple (Cambodia-Thailand)
- Kashmir (India-Pakistan)
- Crimea
- Taiwan

List goes on, and obviously war and peace vary among these disputes.

A Famous (Stylized) Case of Issue Indivisibility



The Franco-Prussian War can be understood as a war of issue indivisibility.

A Famous (Stylized) Case of Issue Indivisibility

France and Prussia disputed territory, though the *casus belli* may have been the Spanish monarchy.

- Queen Isabella II abdicated her throne.
- Prussia recommended Prince Leopold of Hohenzollern-Sigmaringen as the new king.
- Leopold was an ethnic German suggested to rule a country under considerable French influence.

A two-king solution is a rather foreign concept in the realm of monarchical succession.

Asymmetric Information

Asymmetric information, also known as **uncertainty**, is another cause of bargaining failure.

- Neither side has shared information about each side's probability of victory or costs.
- In other words, parts of the game are not common knowledge.

A Simple Case of Asymmetric Information

Assume A thinks its probability of victory in war is .8.

- i.e. $1 - p = .8, p = .2$.
- Assume further that k is .1. for this simple exercise.

The greatest x that A would offer under these circumstances is .3.

- i.e. $p + k = .2 + .1 = .3$

A Simple Case of Asymmetric Information

Suppose B is more optimistic about its chances.

- i.e. $p = .5$, $1 - p = .5$.
- We will hold k constant at $.1$.

The *minimum* that B would accept from A is $.4$.

- i.e. $p - k = .5 - .1 = .4$.

A Simple Case of Asymmetric Information

Notice what happened here.

- The maximum A would offer is .3.
- The minimum B would accept is .4.

Both sides see more utility in fighting.

- Asymmetric information erases the possible values of X to which they could agree.

Commitment Problems

An anarchic international system creates **commitment problems** in international politics.

- Little exists to ensure negotiated settlements hold.
- There's no certainty both sides are bargaining in good faith.

We can identify two types of a commitment problem.

1. First-strike advantages
2. Time-inconsistency problems.

First-Strike Advantage

Assume B has a possible first-strike advantage, such that:

$$p_{(first)} > p > p_{(second)} \quad (1)$$

This means A has one too.

$$1 - p_{(second)} > 1 - p > 1 - p_{(first)} \quad (2)$$

First-Strike Advantage

A does not attack first over negotiating if:

- $1 - p_{(second)} - k \leq 1 - x$
- Equivalently: $x \leq p_{(second)} + k$

This creates the following inequality.

$$p_{(first)} - k \leq X \leq p_{(second)} + k \quad (3)$$

Any offer of x in between those, should a value of x exist, induces negotiations over a first strike.

First-Strike Advantage

This also means that $p_{(first)} - k < p_{(second)} + k$ must hold for there to be negotiations.
Equivalently:

$$\begin{aligned}p_{(first)} - k &< p_{(second)} + k \\p_{(first)} - p_{(second)} &< k + k \\p_{(first)} - p_{(second)} &< 2k\end{aligned}$$

First-Strike Advantage

Assume these values.

- $p_{(first)} = .7, p_{(second)} = .4, k = .1$
- Therefore, $p_{(first)} - k = .6$ and $p_{(second)} + k = .5$.

The inequality, $p_{(first)} - k \leq X \leq p_{(second)} + k$, does not hold because .5 is not greater than .6.

- Alternatively, $p_{(first)} - p_{(second)} < 2k$ is not true either.
 - i.e. .2 is not greater than .3.

Each side has a first-strike advantage and will look to use it.

Time-Inconsistency Problem

A **time-inconsistency problem** is another type of commitment problem.

- It's when one side exchanges a good now for a good later.
- This (infamously) doomed the land-for-peace idea from the Oslo accords in 1993.

If A concedes territory now in exchange for a good to be returned later, then it has empowered B to better contest a new division of the territory.

Time-Inconsistency Problem

Assume A has just conceded some x of the territory to B.

- Assume $x < 1$ and B still prefers all the disputed territory.

Under these conditions, A has empowered B to make another demand.

- B has gained an advantage in p , which we label as $p + \Delta$

Time-Inconsistency Problem

Why would A agree to concede anything in the first place?

- Concessions today embolden the recipient to make a demand for more concessions tomorrow.

Conclusion

War is ultimately a breakdown of the bargaining process.

- However, war is ex post inefficient.
- It happens because state leaders cannot locate or commit to an acceptable bargained settlement.

There are three classes of explanations for bargaining failure.

1. Issue indivisibility
2. Asymmetric information
3. Commitment problems

Table of Contents

Introduction

Bargaining Failure

Issue Indivisibility

Asymmetric Information

Commitment Problems

Conclusion