

Levels of Analysis in International Relations

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① Course Logistics

Piazza, Critical Response Papers, Class Presentation

② What Is In a Model?

Actors

Interests

Interactions

Institutions

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Prisoners' Dilemma

Battle of Sexes

Game of Chicken

Course Logistics

Piazza, Critical Response Papers, Class Presentation

- Sign up on Piazza
- Choose **one reading** for your class presentation
- Choose **two readings** for your critical response papers

What Is In a Model?

A model specifies (Frieden et al. 2016: 45-53):

- Actors
- Interests
- Interactions
- Institutions

What Is In a Model?

Actors

Basic unit for analysis

- E.g., states, politicians, firms, IOs, NGOs, etc.

What Is In a Model?

Interests

Interests are what actors want to achieve through political action

- Power and security
- Economic welfare
- Ideological goals

What Is In a Model?

Interests

Interests determine preferences of actors over the possible outcomes that might result from their (and other actors') political choices

- E.g., United States have an interest in security
- US preferences over Iraqi government: Democratic government friendly toward US \succ Pro-Western dictator \succ Anti-American government \succ Instability and chaos

What Is In a Model?

Interactions

- Outcomes depend not only on the choices of one actor but on the choices of others as well
- Interactions: the ways in which the choices of two or more actors combine to produce outcomes
- Strategic interactions: each actor's strategy depends on the anticipated strategy of other actors
- We use game theory to study strategic interactions

What Is In a Model?

Institutions

- Sets of rules that define constraints, and provide opportunities for, behavior
- Institutions serve to facilitate cooperation among members

Levels of Analysis In International Relations

We can analyze actors and their interactions at three levels

- International level: states interact with each other, sometimes in the context of international institutions
- Domestic level: subnational actors interact within domestic institutions
- Transnational level: groups whose members span border try to influence domestic and international politics

What does Singer (1961) say?

Levels of Analysis In International Relations

What does Singer (1961) say?

International level:

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International level:

- Comprehensive, encompassing all interactions that take place within the international system
- Little emphasis on national autonomy
- “Black box” or “billiard ball” concept of national actors (states are homogeneous)

What does Singer (1961) say?

Levels of Analysis In International Relations

What does Singer (1961) say?

Domestic level:

What does Singer (1961) say?

Domestic level:

- Allows us to examine states in greater detail
- Produces richer description and more satisfactory explanations of international relations
- Tendency to exaggerate differences among states
- If we attribute different interests to different states, question becomes why states have different interests

- Set of tools to study strategic interactions
- Players choose between actions
- Strategy for a player is a complete plan of action. Describes the actions that the player would take at each of his possible decision points.

Suppose

- Two actors, $i \in \{\mathbf{A1}, \mathbf{A2}\}$
- Each actor i has a strategy space, S_i
- Set of strategy profiles, $S = S_{\mathbf{A1}} \times S_{\mathbf{A2}}$
- For each actor i , we can define a payoff function $u_i : S \mapsto \mathbb{R}$
- $u_i(s)$ gives player i 's payoff in the game when strategy profile $s \in S$ is played

- Two criminals, $i \in \{\mathbf{A1}, \mathbf{A2}\}$
- Strategy space $S_i = \{C, D\}$
- Set of strategy profiles
 $S = S_{\mathbf{A1}} \times S_{\mathbf{A2}} = \{(C, C), (D, D), (C, D), (D, C)\}$
- We are looking for strategy profile(s) that is/are a Nash equilibrium
- A strategy profile is a Nash equilibrium if and only if each player's strategy is a best response to the strategies of the others

Payoff function u_i is defined to be

- $u_i(D, C) = 3$
- $u_i(C, C) = 2$
- $u_i(D, D) = 1$
- $u_i(C, D) = 0$

Introduction to Game Theory

Prisoners' Dilemma

		A2	
		C	D
A1	C	2, 2	0, 3
	D	3, 0	1, 1*

- Woman and Man going on a date, $i \in \{Woman, Man\}$
- Strategy space $S_i = \{Concert, Movie\}$
- Set of strategy profiles
 $S = \{(C, C), (M, M), (C, M), (M, C)\}$
- We are looking for (pure strategy) Nash equilibria

Payoff functions u_W and u_M are defined to be

- $u_W(\textit{Concert}, \textit{Concert}) = 2$
- $u_M(\textit{Concert}, \textit{Concert}) = 1$
- $u_W(\textit{Movie}, \textit{Movie}) = 1$
- $u_M(\textit{Movie}, \textit{Movie}) = 2$
- $u_i(\textit{Concert}, \textit{Movie}) = 0$
- $u_i(\textit{Movie}, \textit{Concert}) = 0$

Introduction to Game Theory

Battle of Sexes

		Man	
		Concert	Movie
Woman	Concert	2, 1*	0, 0
	Movie	0, 0	1, 2*

- Two car drivers driving toward each other, $i \in \{\mathbf{A1}, \mathbf{A2}\}$
- Strategy space $S_i = \{C, D\}$, where C means turn aside and D means standing tough
- Set of strategy profiles $S = \{(C, C), (D, D), (C, D), (D, C)\}$
- We are looking for (pure strategy) Nash equilibria

Payoff function u_i is defined to be

- $u_i(D, C) = 3$
- $u_i(C, C) = 2$
- $u_i(C, D) = 1$
- $u_i(D, D) = 0,$

Introduction to Game Theory

Game of Chicken

A2

		C	D
A1	C	2, 2	1, 3*
	D	3, 1*	0, 0