현대비교정부론

강명세

세종연구소

3주차

Outline

- What is Politics?
- Game Theory
- Exit, Voice, and Loyalty Game

정치

- Politics is the subset of human behavior that involves the use of *power* or influence
- Power is involved whenever individuals cannot accomplish their goals without:
  - either trying to influence the behavior of others
  - or trying to wrestle free from the influence exerted by others

Exit, Voice, and Loyalty

- Albert Hirschman (1970), *Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States*
- In our exercise, we will focus on the power relationship between citizens and the state.
  - when citizens will take direct actions against the state
  - when the state will respond positively to the demands of citizens
  - when the state will ignore citizens
- Suppose that there has been some change in your environment that you do not like → What would you do about it?

Exit, Voice, and Loyalty

- Three possible responses:
  - <u>Exit</u>: You accept that there has been a deleterious change in your environment and you alter your behavior to achieve the best outcome possible given your new environment
  - <u>Voice</u>: You use your voice (complain, protest, lobby, or direct action) to try to change the environment back to its original condition
  - <u>Loyalty</u>: You accept that your environment has changed and make no change to your behavior
- How should the citizens respond?
  - Citizen's choice will *depend* on what she expects to happen when she chooses one of these options
  - To know what to do, she needs to know what the state would do if she used one of these options

Exit, Voice, and Loyalty

게임이론

- 정치는 전략적 상호작용의 결과 행위자 Players = 1, 2
  전략1 = 거부, 협조, 전략2=거부,협조

- 전략적 상황
  각각의 선택이 결과(payoff)를 결정
  전략 : 모든 가능한 조건에 대비한 선택의 집합

게임이론

- 정상게임 / 전략게임
  - 수혜의 집합
  - 동시결정
- 확장형 게임
  - 게임나무
  - 순차적 선택

Prisoner's Dilemma game

- 두 임원 구속
- 검사 전략
  1. "모두 거부하면, 경범죄"
  2. "모두 자백하면, 모두 유죄"
  3. "혼자 협조하면, 감형"
  4. "혼자만 거부하면, 중형"

PD game

Player 2

	No Confess	Confess
No Confess	(5, 5)	(-10, 10)
Confess	(10, -10)	(-5, -5)

Player 1

PD game – Nash Equilibrium

Solution concept : Nash Equilibrium

- Solution concept for normal form (strategic form) game
- Nash EQ : A set of strategies in a game such that no player has an incentive to unilaterally change her mind given what the other players are doing
- Players choose to do what they believe is in their best interest
- Best responses to each other
- 영화 *Beauiful Mind*의 맥주집 장면

Chicken game

Player 2

	No Confess	Confess
No Confess	(5, 5)	(-10, 10)
Confess	(10, -10)	(-5, -5)

Player 1

검사전략

임원 2

		Refuse	Talk
임원 1	Refuse	$(-1, -1)$	$(-10, 0)$
	Talk	$(0, -10)$	$(-6, -6)$

마피아문화

임원 2

		Refuse	Talk
임원 1	Refuse	$(-1, -1)$	$(-10, -6)$
	Talk	$(-6, -10)$	$(-12, -12)$

의리

임원 2

		Refuse	Talk
임원 1	Refuse	$(4, 4)$	$(-5, 0)$
	Talk	$(0, -5)$	$(-6, -6)$

Battle of Sex

		여자	
		Refuse	*Talk*
남자	*Refuse*	$(2,1)$	$(0,0)$
	Talk	$(0,0)$	$(1,2)$

확장형게임
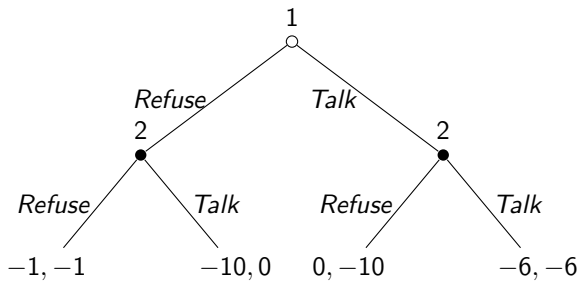
Figure: 임원의 딜레마

EVL game
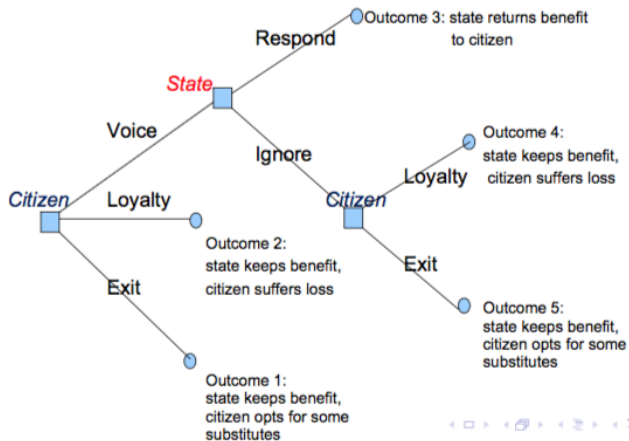
EVL game - payoffs

How much each player values different possible outcomes

	Citizen	State
Outcome 1	E	1
Outcome 2	0	1+L
Outcome 3	1-c	L
Outcome 4	0-c	1+L
Outcome 5	E-c	1

- E: the attractiveness of exit option
- L: legitimacy
- c: costs of voice

EVL game
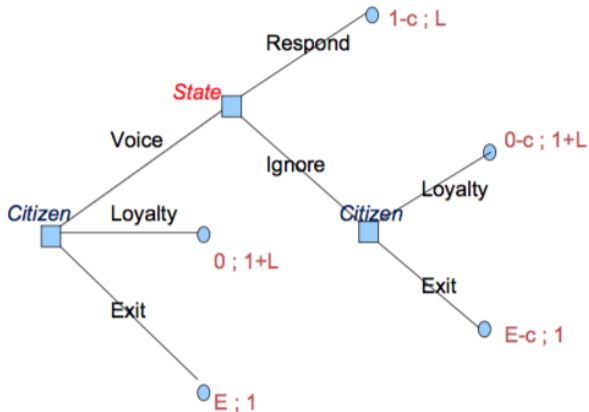
Assume L > 0,   c > 0,   E < 1-c

Solution concept: extensive form game

- Subgame Perfect Nash Equilibrium (SPNE)
    - A set of strategies such that each player is playing a Nash Eq. in every subgame
- Backward Induction
    - The process of reasoning backward, from the end of a game to the beginning, to determine an optimal course of action

EVL game - Case 1

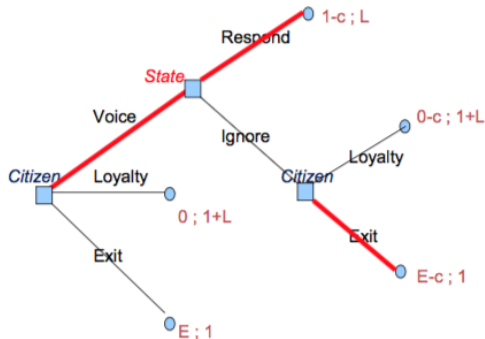Case 1: the citizen has a credible exit threat (E>0) and state is dependent (L>1)
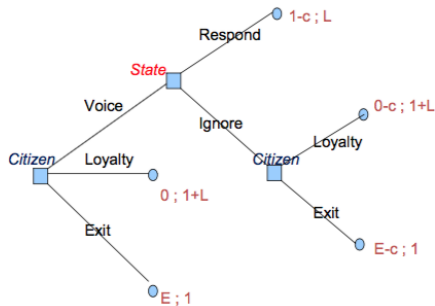
Assume L > 0,   c > 0,   E < 1-c

EVL game - Case 1

Case 1: the citizen has a credible exit threat (E>0) and state is dependent (L>1)

Assume L > 0, c > 0, E < 1-c
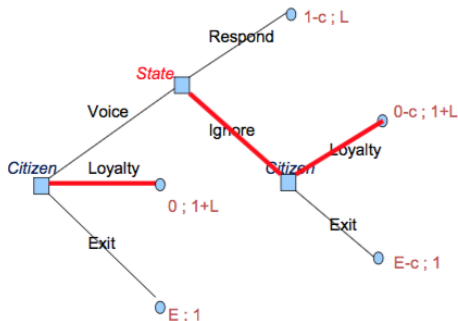
EVL game - Case 1

Case 1: the citizen has a credible exit threat (E>0) and state is dependent (L>1)

- Expected outcome of the game? (Voice, Respond)
- Payoffs each player receives? (1-c ; L)
- The equilibrium of the game? (Voice, Exit; Respond)
    - Whay did the state choose to respond positively? Because the state anticipates that the citizen will choose to exit if it did not respond positively
    - The anticipated events can have a tremendous impact on people's behavior even though they might never actually occur
    - The anticipated events never occur precisely because people anticipate them and change their behavior to avoid them

EVL game - Case 2

Case 2: the citizen does not have a credible exit threat (E<0) and state is dependent (L>1)

Respond — 1-c ; L

State

Voice

Ignore — 0-c ; 1+L

Loyalty

Citizen

Loyalty — 0 ; 1+L

Citizen

Exit — E-c ; 1

Exit

E ; 1

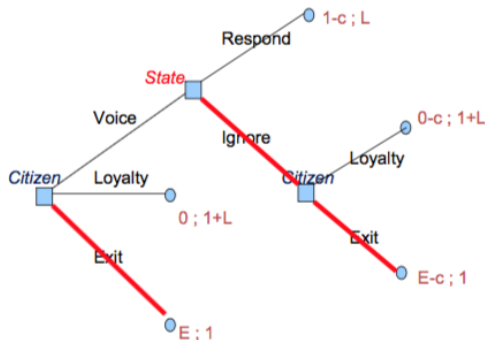Assume L > 0,   c > 0,   E < 1-c

EVL game - Case 2

Case 2: the citizen does not have a credible exit threat (E<0) and state is dependent (L>1)

- Expected outcome of the game? (Loyalty)
- Payoffs each player receives? (0 ; 1+L)
- The equilibrium of the game? (Loyalty, Loyalty; Ignore)

EVL game - Case 3

Case 3: the citizen has a credible exit threat (E>0) and state is autonomous (L<1)

Assume L > 0, c > 0, E < 1-c

EVL game - Case 3

Case 3: the citizen has a credible exit threat (E>0) and state is autonomous (L<1)

- Expected outcome of the game? (Exit)
- Payoffs each player receives? (E ; 1)
- The equilibrium of the game? (Exit, Exit ; Ignore)

EVL game - Case 4

Case 4: the citizen does not have a credible exit threat ($E<0$) and state is autonomous ($L<1$)
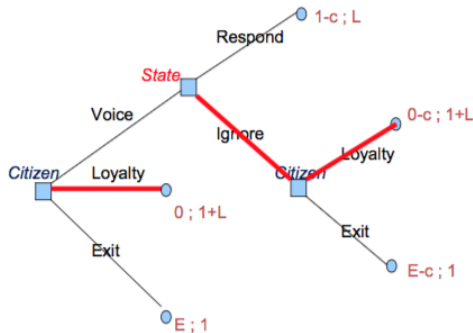

Assume $L > 0$, $c > 0$, $E < 1-c$

EVL game - Case 4

Case 4: the citizen does not have a credible exit threat (E<0) and state is autonomous (L<1)

- Expected outcome of the game? (Loyalty)
- Payoffs each player receives? (0 ; 1+L)
- The equilibrium of the game? (Loyalty, Loyalty ; Ignore)

EVL game - Summary

The Citizen	The State	
	Autonomous (L<1)	Dependent (L>1)
Credible Exit Threat (E>0)	(Exit, Exit; Ignore) Outcome 1	(Voice, Exit; Respond) Outcome 3
No Credible Exit Threat (E<0)	(Loyalty, Loyalty; Ignore) Outcome 2	(Loyalty, Loyalty; Ignore) Outcome 2

EVL game - Remarks

- The state responds only when the two conditions are met:
  - The citizen must have a credible exit threat ($E > 0$)
  - The state must be dependent ($L > 1$)
  - E.g., you and your firm

EVL game - Remarks

- In the absence of a credible exit threat ($E < 0$), the citizen is a sitting duck
  - African-Americans and Democratic Party
  - 호남유권자와 민주당
  - Credible exit option is a necessary condition to make sure we are not exploited

EVL game - Remarks

- It is often difficult to learn from observing real-world political situations
  - Citizens do not make a voice. Why?
  - Not because they are happy
  - But because they expect it is not effective

EVL game - Remarks

- Those citizens who have credible exit options wield considerable influence without ever needing to open their mouths, whenever the state depends on them
    - The powerful never need to use their voice
    - The way strategic dynamics may encourage *nonaction*
    - E.g., structural dependence of the state on capital
    - E.g., the power of capital in the age of global economy

EVL game - Remarks

- What it does not explain: Why the state is unresponsive to the demands of citizens?
    - Citizens make voices even when they know it will not be successful
    - Simply "expression"
    - psychological satisfaction

EVL game - Remarks

- Information matters
  - 완전정보 Complete information : We assumed that each player knows everything about the game and about the preferences of all other players.
  - 불완전정보 Incomplete information?