

PP5182: 06-07. Decision-Making Up Close

LKY School of Public Policy

Danny Quah
2016 Sem 1

Notes

OUTLINE

1. Laissez Faire
2. History and Theories
3. Games
4. Conclusion

Notes

Simplest Example of Group Decision-Making

From Economics:

- Laissez Faire
- Pareto Efficiency
- The Fundamental Theorems of Welfare Economics
- Intervention results in deadweight loss
- Adam Smith's Invisible Hand

Notes

Laissez Faire

Key Points

1. Emergent cooperation from individual self-seeking behaviour, not altruism
2. Anonymous, competitive behaviour. Participants act as if they are individually negligible. No participant exploits size
3. Possible scenario: many, many market participants
4. No spillovers or externalities; no public goods
5. Minimal institution. But implicit enforcement, rule of law

Notes

Laissez Faire

A Laissez Faire World Order?

Proposition (Meta Possibility) Given a distribution of capabilities across a collection of many nation-states, there is a decision-making scheme such that when each nation-state takes the rules of the game as given and pursues only its self-interest, then:

1. the resulting outcome is Pareto efficient;
2. intervention results in an outcome that can be improved upon by removing that intervention.

Can such a Proposition (counterpart to the Invisible Hand in Economics) be possible?

Notes

2. History and Theories

Group engagement

- Individualism vs social awareness / “Family values” / “Neighbourliness”
- Modern alienating urban landscape. But going back to 1651 . . .
- Hobbes and the State of Nature: lives “nasty, brutish, and short”. War of “all against all”.
 1. Humans hardwired to be acquisitive? Scarcity breeds conflict
 2. Constantly defending oneself against others. Socially wasteful, economically inefficient, deadweight loss
- Solutions to circumvent the Hobbesian state:
 1. Self restraint; moral principles
 2. Mechanisms of civil society. Social convention
 3. “Leviathan”

1. But are these solutions utopian, ahistorical, illogical?
2. Can cooperation emerge from self-interest alone?

Notes

Explicit Decision Making

Suppose a well-defined collection of nations in place.

Game

- Any engagement between nations where the actions of a given nation affect the well-being of all nations. “Strategic interdependence”
- (If there are nations for which this description fails, take them out of the analysis.)
- (Is “well-being” reasonably defined? Survival probability in offensive realism; GDP in economics; power)

Zero-sum game

- A game where one nation can increase its well-being only when the sum total of well-being of all other nations falls by exactly the same amount.
- (Dividing a cake)
- (International trade — No)

Notes

Group Engagement; Games — Description (2)

Payoff matrix:

	A	B	C	...
1	(1, 0)	(0, 1)	(1, 1)	...
2	(1, -1)	(2, -2)	(0, 0)	...
...

1. This is not a zero-sum game: The first row shows positive-sum payoffs.
2. But if all rows shared the same zero-sum property as in the second row then, yes, the game would be zero-sum.

Notes

Group Engagement; Games — Description (3)

Prisoners Dilemma:

	A	B
1	(-10, -10)	(6, -15)
2	(-15, 6)	(5, 5)

1. Not zero sum
2. Self-seeking behaviour leads to the worst possible outcome
3. Dominant strategy
4. Cooperation is unambiguously good but is tricky to attain
5. Benevolent leadership. World government
6. Can this game be rewired? Repetition
 - 6.1 Finite number of repetitions; unwinding
 - 6.2 Infinite repetition and “tit for tat” strategy

Notes

Group Engagement; Games — Description (4)

Equilibrium:

1. A **Nash equilibrium** is when every nation chooses the best response, taking as given what others do.
2. An outcome is not **Pareto** if some other outcome improves the well-being of one nation without making anyone else worse off. Otherwise, the outcome is Pareto.
3. Multiple equilibria: Leadership, nudging

Properties:

1. If a game is zero-sum then every outcome is Pareto.
2. In Prisoners Dilemma, the Nash equilibrium is unique and is not Pareto.

Notes

Concepts to remember and use

1. Laissez faire. Adam Smith's Invisible Hand. Fundamental Theorems of Welfare Economics. Pareto Efficiency
2. Hobbes and the State of Nature. Leviathan
3. Zero sum. Prisoners Dilemma. Nash. Pareto. Leadership

Notes

Notes
