

# Chapter 9

## Chapter 9: Strategic Moves

# Strategic Moves

- Strategic moves-is an action taken by a player outside the defined actions of the game in order to gain a strategic advantage and increase one's payoff.
- Strategic moves might included manipulating rules to product an outcome that is more to a player's advantage.
- Strategic moves that happen in a first stage that dictate the second stage play are classified into three types: commitments, threats, and promises.
- Only a credible strategic move will have the desired effect.
- Brinksmanship involves the introduction of an element of uncontrollable risk.

# Classification of Strategic Moves

- Moving first includes actions that are both observable or irreversible.
- Strategic moves must be observable, irreversible, and credible.
- Commitment example: In the game to follow, I will make a particular mover, X.
- This would be an example of an unconditional commitment.

# Conditional Strategic Moves

- Response rule or reaction function-committing to a conditional strategy.
- ex: If you choose Y, I will choose X. If you don't choose Y, I will choose Z.
- Deterrence-when a player is attempting to avoid the opponent playing strategy
- Compellence-when a player is attempting to have the opponent play some strategy
- Threat-unless you take (or not) a certain action, then I will respond in a way that hurts you.
- Promise-I will reward you if you take (or not) a certain action.

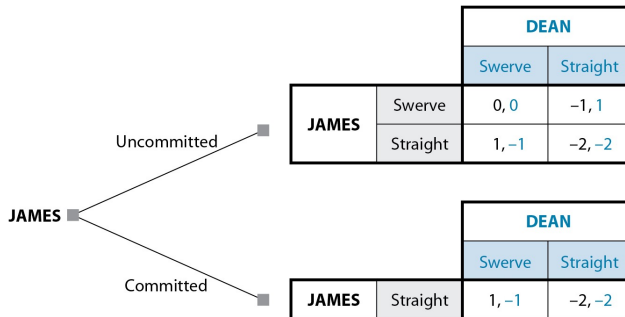
# Credibility of Strategic Moves

- A threat must be costly for the threatener to actually carry out.
- So, threats are of mutual harm.
- For the threat to work, other player must believe that you won't carry out the threat if the desired action is carried out.
- There are two ways of making your strategic moves credible: remove from your own set of future choices the other moves that may tempt you, or reduce your own payoffs from future moves that may tempt you so that they are no longer tempting moves.

# Commitments

- Let's look at the game of "Chicken" again.
- Before, there were two Nash equilibria.
- Assume that James has the chance to make a strategic move.
- We interpret his commitment as the removal of the "Swerve" strategy.

# Commitments

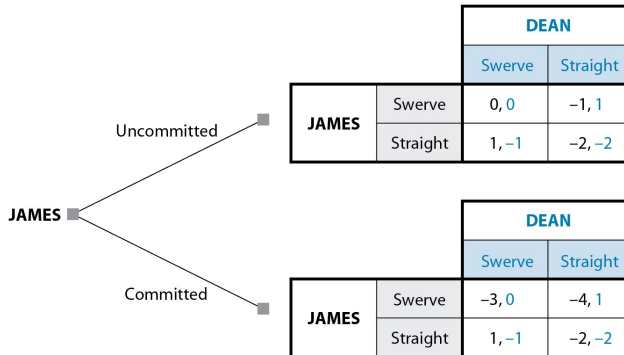


# Commitments

- The commitment moves must be irreversible and visible to the other player for it to be credible.
- James can disconnect the steering wheel of the car and throw it out the window before the start of the second round.
- Now, assume that James can acquire a general reputation for toughness. This alters his payoffs so that "Swerve" is not a best response at all.



# Commitments



# Threats and Promises

- Threats and promises are response rules.
- Your future action is conditioned on what the other players do, but your freedom to act is constrained by the rule which you state.
- A threat is a response rule that leads to a bad outcome for the other players if they act contrary to your interests.
- A promise is a response rule by which you offer to create a good outcome for the other players if they act in a way that promotes your own interests.

# Threat Example: US-Japan Trade Relations

- The US is trading with Japan.
- Each country has the choice of keeping its own markets open or closed to the other's goods.
- Both countries have dominant strategies.
- The equilibrium is (Open, Close).

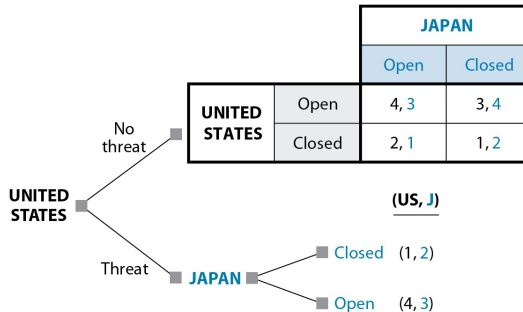
# US-Japan Trade Relations

		JAPAN	
		Open	Closed
UNITED STATES	Open	4, 3	3, 4
	Closed	2, 1	1, 2

# Threat Example: US-Japan Trade Relations

- Japan already has the best possible payoff, but the US does not.
- Commitment wouldn't work here.
- The US can threaten to close the market if Japan closes the market.

# US-Japan Trade Relations



# Threat Example: US-Japan Trade Relations

- Japan already has the best possible payoff, but the US does not.
- Commitment wouldn't work here.
- The US can threaten to close the market if Japan closes the market.
- The threat forces Japan to not follow their dominant strategy.

# Credibility of Strategic Moves

- Credibility is an issue here, because the US is hurt by caring out the threat as well.
- To make the threat credible, US could enact a law, delegate fulfillment of the threat to a third part agency that would want to see the markets closes.
- Japan would like to now use a strategic action in order to disable the US attempt to use the threat.
- For example, Japan can say they will open the market but only slowly open the market piece by piece.



# Example of a Promise: The Restaurant Pricing Game

- Two restaurants are choosing the set either low or high prices.
- If either side can make a credible promise, "I will charge a high price if you do," then both will be better off.
- Credible is again an issue, as undercutting the price yields a high payoff.
- How can you make the promise credible?

# The Restaurant Pricing Game

		YVONNE'S BISTRO	
		20 (low)	26 (high)
XAVIER'S TAPAS	20 (low)	288, 288	360, 216
	26 (high)	216, 360	324, 324

## Example Combining Threat and Promise

- The US and China are contemplating whether to take action to compel North Korea to end their nuclear program.
- Each country prefers if the other country takes action so that they do not have to.
- Commitment will not work for the US, because China will play inaction regardless
- A threat won't work either, since the implied promise is not credible, because if China plays action, the US is better off playing inaction.
- A promise also won't work. China knows that US will intervene if China does not.

# Example Combining Threat and Promise

		CHINA	
		Action	Inaction
UNITED STATES	Action	3, 3	2, 4
	Inaction	4, 1	1, 2

# Example Combining Threat and Promise

- A promise from the US must also have a threat attached to it.
- The US must say both "We won't take action if you don't" and "We will act if you do."
- Usually credibility for this strategic move could be obtained by a treaty.
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# Acquiring Credibility

- Suppose at the stage 1, you relinquish your choice at the stage 2 by handing the decision over to some type of machine. This can add credibility to a strategic move.
- Doomsday device-a nuclear explosive device that would detonate and contaminate the whole world's atmosphere if the enemy launched a nuclear attack.
- You can also delegate the action to another agent that does not have similar motives.
- Burning bridges are also good uses of acquiring credibility.

# Acquiring Credibility

- An example of burning bridges includes the EU.
- When joining the EU, you adopt the same currency (euros). Thus, it is too costly to go out of the union and readopt the old currency.
- You can also cut off communications before stage 2.
- If communication is cut off, your opponent cannot make a strategic move.

# Changing Your Payoffs

- You can acquire a reputation for carrying out threats and delivering on promises.
- The more rounds a game has, the more reputation matters.
- Contracts can tie you to your threats and commitments.
- Rational irrationality-attempting to appear irrational so that players believe your threats carry weight



# Countering your Opponent's Strategic Moves

- Irrationality
- Cutting off communication
- Leaving escape routes open
- Undermining your opponent's motive to uphold his reputation.
- Salami Tactics-failing to comply with other's wishes to a very small degree so that it is not worth the other's time to carry out the threat. You can do this over and over again.