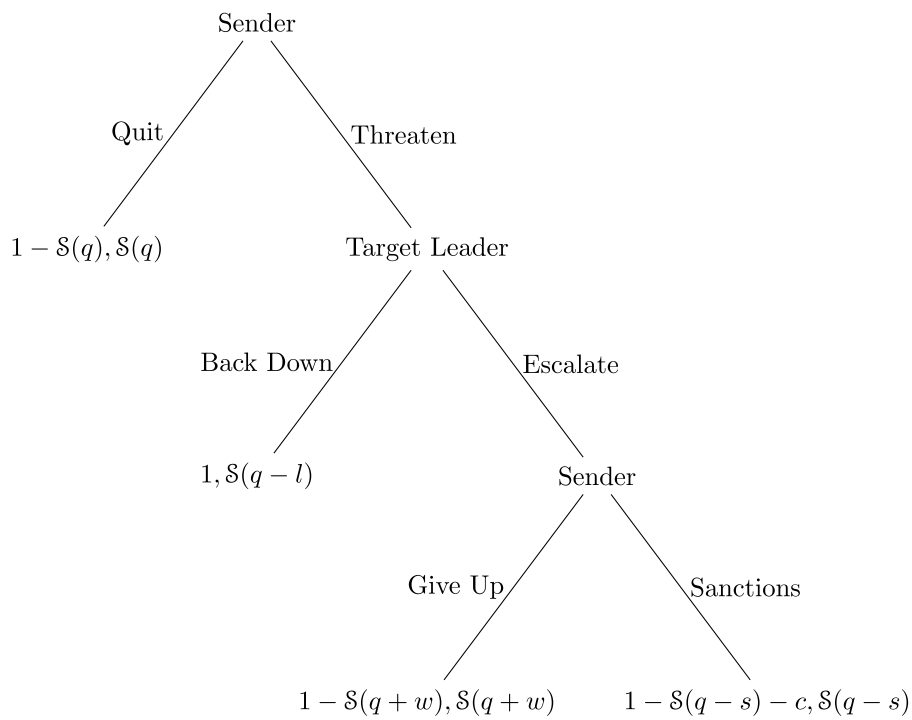
Sanctions, Selection, and Issue Linkage

Due Beginning of Class November 10, 2014

Group Work Encouraged, But Write Up Must Be One's Own

No Late Work Accepted

1) Consider the following sanctions game:



The interaction is as follows. The sender state dislikes a policy that the target leader has implemented and wants change. It is considering sanctioning the leader to convince the leader to give up the policy or foment a domestic uprising against the leader.

Meanwhile, the leader simply wants to stay in office. As such, the target leader's payoffs are the probabilities he stays in office. Thus, if the sender quits without issuing a threat, the leader stays in power with probability $\mathcal{S}(q)$, with q reflecting the status **Q**uo. If the sender issues a threat and the target backs down, he stays in power with probability $\mathcal{S}(q - l)$, with l reflecting the leader's **L**oss in the crisis. If the sender issues a threat, the leader escalates, and the sender gives up, the leader stays in power with probability $\mathcal{S}(q + w)$, with w reflecting the leader's **W**in in the crisis. Finally, sanctions occur, the leader stays in power with probability $\mathcal{S}(q - s)$, with s reflecting the **S**anction's effectiveness.

The sender's payoffs are more complicated. If the leader backs down, the sender earns 1, reflecting how it achieves its aims. For the remaining outcomes, the sender can only obtain its goals if the leader loses power. As such, its payoffs in those cases are the probability the leader loses office. Additionally, the sender pays a cost c if it imposes sanctions so as to reflect the loss of trade efficiency.

a) Let $\mathcal{S}(q) = .8$, $\mathcal{S}(q - l) = .6$, $\mathcal{S}(q + w) = .9$, $\mathcal{S}(q - s) = .8$, and $c = .05$. (It may help to redraw the game tree with these payoffs explicitly written in.) What is the outcome of this game? Explain your answer.

b) Now suppose sanctions are more likely to cause the leader's removal, i.e., $\mathcal{S}(q - s) = .7$. Hold all other parameters at the same values as before. What is the outcome of this game? Explain your answer.

c) Now suppose sanctions are yet more likely to cause the leader's removal, i.e., $\mathcal{S}(q - s) = .5$. Hold all other parameters at the same values as before. What is the outcome of this game? Explain your answer.

d) Using the answers from above, explain why the sanctions we observe are not the most effective sanctions in principle. In answering this question, make sure to explain the strategic logic of why we fail to observe the most effective sanctions in practice.

2) Recall that one way international institutions can promote cooperation is by linking multiple issues together. This question verifies that intuition using a repeated prisoner's dilemma.

a) Consider the prisoner's dilemma below:

	Left	Right
Up	$2, 1$	$-2, 4$
Down	$4, -2$	$0, 0$

Let the probability the game continues to the next iteration be p. What is the minimum value of p necessary for the players to sustain mutual cooperation? (To answer this question, find the minimum value of p necessary for player 1 to be willing to sustain cooperation. Then find the minimum value of p necessary for player 2 to be willing to sustain cooperation. The answer is the *maximum* of these two values.)

b) Consider the prisoner's dilemma below:

	Left	Right
Up	$1, 2$	$-2, 4$
Down	$4, -2$	$0, 0$

Again, let the probability the game continues to the next iteration be p. What is the minimum value of p necessary for the players to sustain mutual cooperation?

c) Consider the prisoner's dilemma below:

	Left	Right
Up	$3, 3$	$-4, 8$
Down	$8, -4$	$0, 0$

Once more, let the probability the game continues to the next iteration be p. What is the minimum value of p necessary for the players to sustain mutual cooperation?

d) Note that the game in part c is the summation of the games from parts a and b. In essence, the game ties cooperation decisions on the issue from part a together with cooperation decisions on the issue from part b. Suppose $p = .65$. Are the players better off keeping the issues separate or tying them together?